

# INTED **2024**

18th **International  
Technology, Education and  
Development Conference**

4-6 March 2024  
Valencia (Spain)

## **CONFERENCE PROCEEDINGS**



***Sharing the Passion for Learning***

**INTED** **2024**

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PROCEEDINGS**

***Sharing the Passion for Learning***

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## Preface

The INTED2024 Conference Proceedings contain the papers presented at the 18th International Conference of Technology, Education and Development, held in Valencia, Spain, from the 4th to the 6th of March 2024. INTED takes place annually and its aim is to bring together academics and researchers to continue the exchange of innovative ideas and research. Participants from over 78 countries joined INTED2024 to learn about the changing world of education and learning technologies.

INTED's focus is on Education and Educational research. Since many international education experts attended the conference, participants were able to network and collaborate with other delegates from around the world, participating in thematic sessions, networking activities, workshops and interactive sessions. The keynote speeches are available at IATED Talks: [iated.org/talks](https://iated.org/talks).

The INTED2024 Proceedings, exclusively in English, are included in the IATED Digital Library: [library.iated.org](https://library.iated.org). The INTED2024 International Program Committee was composed of lecturers and researchers from multiple countries. A blind peer review process was followed to guarantee the quality of the final publication, in which the following points were evaluated: information content, relevance to the educational field, general structure, clarity of contents, originality, and relation to the conference topics and disciplines.

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We wish to extend our most sincere thanks to all who contributed to the INTED2024 Proceedings. Thanks for your dedication and for sharing your passion for learning.

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Science Popularization and STEM Education  
English as a Medium of Instruction  
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From COVID to Construction: Creating a Sense of Belonging  
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Generative AI in Education  
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Pedagogical Innovations  
Generative AI Chatbots  
MOOCs & Open Educational Resources  
Professional Development of Teachers  
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# CITIZENSHIP EDUCATION IN INITIAL TEACHER TRAINING: PERCEPTIONS OF THOSE TRAINING TO TEACH

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## Abstract

Promoting citizenship education in the school environment involves developing competencies, skills, knowledge, and attitudes that enable students to be active, responsible, active, informed, and critical citizens. Citizenship education generally covers various themes, such as ethics, values, human rights, social justice, inequalities, interculturalism, and participation, which aim to prepare students to be conscious members of society, capable of contributing to building fairer and more reflective communities. In addition, citizenship at school can involve democratic practices in school management, allowing students to participate in decisions that affect the educational environment. In the early years, children's initial experiences of citizenship at school have a significant impact on the formation of attitudes, values, and social skills, and teachers are a cornerstone in promoting and understanding concepts related to citizenship. We assume that citizenship education is essential in initial teacher training, as it plays a fundamental role in the holistic development of citizens. This study aims to understand what future teachers think about citizenship education at school and what their role will be as disseminators of citizenship practices. Twenty-four students of initial teacher training took part in the study. The results, collected through a questionnaire survey, reveal that citizenship is not learned simply through rhetorical processes, through transmissive teaching, but through experienced/participatory processes. It is recognized that education for citizenship must be present in the school culture itself, adjusted to a logic of participation and full co-responsibility and accountability. The need to invest in citizenship issues and integrate them more clearly into initial teacher training is highlighted.

Keywords: Citizenship, education, teacher training.

## 1 INTRODUCTION

Education for citizenship, as well as the development of skills and the acquisition of new knowledge in all areas, are major aims of schools. Promoting the growth of children as active and participatory citizens is a challenge for different sectors of society and for educational institutions.

Although it is a matter of shared responsibility, educational institutions can play a central role in this challenge, promoting opportunities for democratic practices and thus becoming plural and privileged places for promoting education for global citizenship. Understanding this centrality in the field of education implies recognizing the complexity of the challenges facing society and involves building a climate conducive to citizenship, with educational institutions being assumed as spaces for the (trans)formation of aware, critical, responsible, involved, and participatory citizens, as ensured by the Citizenship Education Working Group (GTEC) [1] in the National Citizenship Education Strategy (ENEC).

Teachers, as the main educational actors, need to feel prepared to carry out this difficult but attractive task of educating for citizenship in citizenship in a more assertive way. Considering citizenship issues and, above all, integrating them into initial teacher training could be decisive in building the citizen school we want. However, Perrenoud exposes the lack of clarity on this matter, i.e. it is not clear (nor agreed) that adding some units on learning citizenship to initial teacher training plans can, on its own, solve this problem, adding, however, "to become a true trainer of democracy, schools and teachers must acquire new skills and knowledge" [2, p.42].

Initial teacher training can raise awareness of issues such as social and moral responsibility, community involvement, and political knowledge, among others, but "true transformations can only come from self-transformation" and a process of personal and social growth for each individual [2, p.43].

It is important to get future teachers to collectively reflect on an exhaustive debate on citizenship and become aware of their responsibility as educators for citizenship, seeing it as one of their priority tasks.

It is also imperative to deepen our knowledge of democracy and participation, and, to this end, we must exercise citizen, participatory, meaningful, and active learning, in which all those who call themselves citizens can reflect, act, and cooperate responsibly.

Awakening future teachers to the exercise of democratic citizenship, contributing to the formation of a responsible and transformative civic conscience, and creating moments to reflect on the issues inherent in citizenship could be the start of any preparation in initial training. In this way, we corroborate Zhao's idea when he states that

cultivating global citizenship requires teachers to have a global perspective, model cultural sensitivity, model global citizenship, and engage students in educational activities aimed at developing global citizenship. Teachers should be able to explain to students how people in different parts of the world are interdependent, why caring about others is beneficial to ourselves, and what we can do to ensure a peaceful and sustainable world for all human beings. Furthermore, teachers should have the knowledge and ability to guide students to consider global problems such as international terrorism, human conflicts, trade disputes, environmental issues, and health issues from multiple perspectives [3, p.427].

In this sense, and because citizenship must be learned through citizenship, and must be something more than a subject, it must be lived and experienced in environments where citizenship really happens, whether at school, at home, or in society [4].

Teachers can take on the educational mission of participating in a fairer and more equitable world, but recognizing their growing responsibility in the formation of citizens calls for changes in educational practices, especially those based on the values that underpin the rules of participatory democracy, attitudes, and operational skills for life together. This reflection highlights the fact that citizenship is not learned passively.

## **2 METHODOLOGY**

The research carried out made it possible to find out the opinion of 24 students in initial teacher training about citizenship education and their preparation to deal with it in the future. To collect the data, we used a questionnaire consisting of multiple-choice questions, open questions, and closed questions. To process the data, we used descriptive statistical analysis and content analysis, trying to interpret it considering the theoretical basis of the subject. In the content analysis, we chose to include some of the students' narratives. These appear in the corpus of the text identified with an alphanumeric code (E1,..., E24).

## **3 RESULTS**

Regarding the characterization of the students who collaborated (participants) in this study, it can be seen that they are aged between 20 and 50, with a higher prevalence between 20 and 25 (58.3%). They are mostly female (83.3%) and belong to three teacher training master's degrees, namely: a master's degree in preschool education and teaching in the 1st cycle of basic education (66.7%); a master's degree in teaching in the 1st cycle of basic education and teaching mathematics and natural sciences in the 2nd cycle of basic education (16.3%) and a master's degree in teaching in the 1st cycle of basic education and teaching Portuguese, history and geography of Portugal in the 2nd cycle of basic education (16.3%). They attend the 1st and 2nd years of the master's degrees. These master's degrees are running in the 2023/2024 academic year at a higher education school located in the northern region of mainland Portugal.

When the students were asked if they had had any curricular units (CUs) during their initial training that dealt with citizenship content, the answers were very divergent, as we can see in Figure 1.

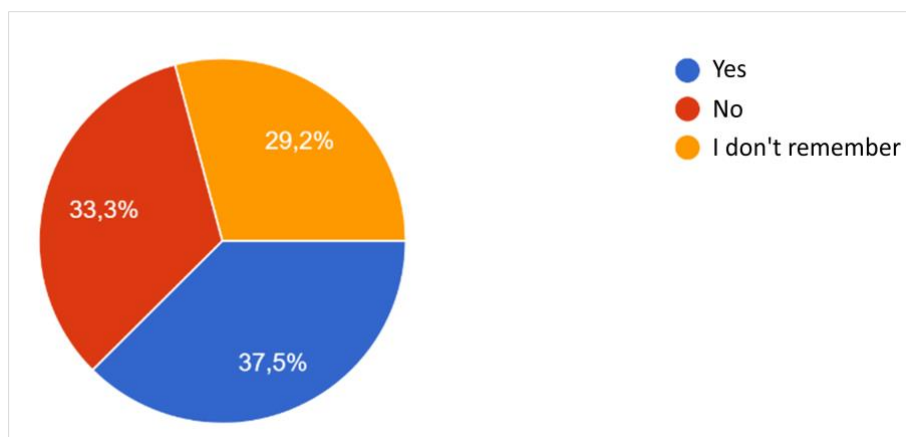


Figure 1. Presence/absence of content on citizenship in Curricular Units in initial teacher training courses.

Of the students who took part, 33.3% said yes, 29.2% said no and the remaining 29.2% said they couldn't remember. Those who answered "yes" indicated the name of these Curricular Units. However, when we checked the answers given against the course syllabuses, we concluded that only one, the Citizenship and Education course, would be correct.

Figure 2 shows the students' perception of their preparedness to work on citizenship issues when they become educators or teachers.

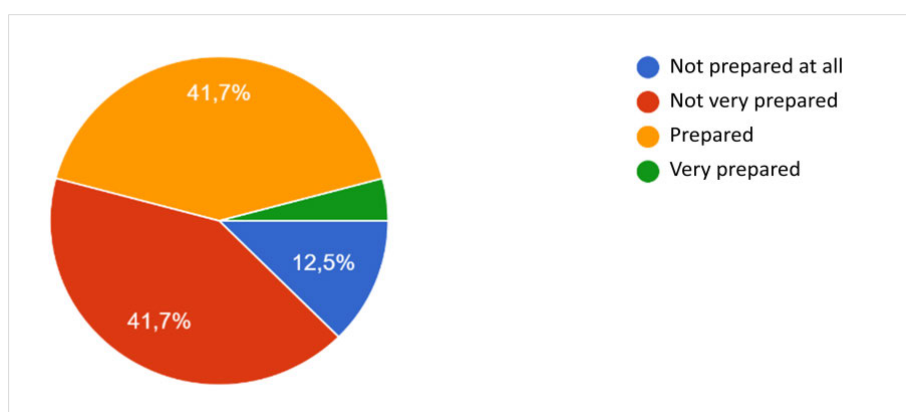


Figure 2. Preparing students to work on citizenship issues with children.

Analyzing the graph in Figure 2, we see that only 4.1% of respondents feel very prepared, explaining, for example: "I feel that as a responsible citizen, I will be able to pass on these values so that my students are responsible citizens" (E15). And 41.7% say they feel prepared, but their explanation is based on some aspects that indicate the need for better preparation throughout their training, as the following speeches show: "I feel prepared, but I think I could have had more curricular units in this area" (E23); "I have the ability to address some everyday issues, but perhaps on some questions I can't elaborate as I would like" (E20).

On the other hand, 41.7% said they felt "poorly prepared" and 12.5% "not prepared at all". Their claims were essentially based on the lack of specific training to help them understand how to work with citizenship in the classroom, as can be seen in the following responses:

I think it would be important to address these citizenship issues in a curricular unit (E6).

Because I still don't have enough in-depth knowledge to deal with citizenship issues in a school context (E10).

I think the fact that it wasn't covered in the degree course makes me feel insecure about tackling it (E16).

I feel that I haven't had any experience in this subject, so I'm not prepared to pass on issues related to citizenship (E21).

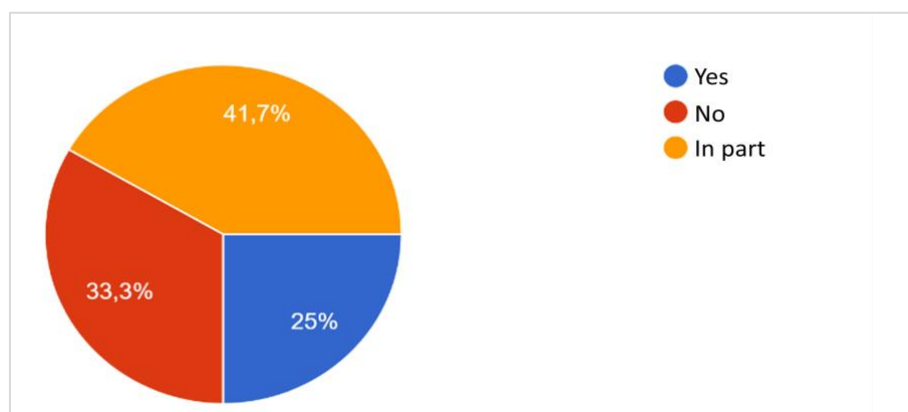


I feel that I have little grounding in citizenship issues, and this makes me less prepared to deal with them (E24).

Another student refers to the collective and shared responsibility in addressing citizenship but stresses that "I don't feel prepared because I don't know how I'm going to work on a topic, which although it's everyone's responsibility, I would have to study and do more research on these issues" (E18).

The above statement reveals the idea that citizenship education is transversal, based on the assumption that teachers are also citizens and, like other people in society, can collaborate extensively to make children and young people more participatory and socially committed.

When the students were asked if they had had the necessary training to show them how to approach citizenship, Figure 3 shows the result.



*Figure 3. Adequate training (or not) to deal with citizenship issues.*

Most participants (41.7%) said "to some extent", and 33.3% said they had not had such training, which could really show that these future teachers may feel more embarrassed or even fearful and uncomfortable in these matters.

On the other hand, 25% of the students answered yes. It seems to us that these future teachers looked at the issue of citizenship training from a formal perspective and we think that they were referring to non-formal and informal education contexts because in this specific case, the perception of the necessary training could have been different.

There seems to be a prevailing idea among students that the promotion of citizenship learning is limited to formal education, neglecting the contribution of other institutions and socialization agencies in the sphere of social and personal life.

In relation to the question about the possible contribution of educators and teachers in developing skills of participation, critical thinking, and responsibility in an educational environment, all the students surveyed recognize this responsibility. To confirm this assertion, we've noted a few narratives:

Classroom practices can contribute to making children participative, critical, and responsible (E12).

[Teachers] have the opportunity to create an educational environment that promotes the active participation of students, encouraging them to express their opinions and make decisions (E14).

[Teachers] share knowledge and skills and in education encourage the formation of an organized society (p.23).

What stands out is the idea that teachers will be indispensable when it comes to shaping people and the values of citizenship, moving towards a more participatory and dialogical pedagogy, placing the emphasis on the child and their holistic development, as one student points out, referring to the role of the teacher, namely that they support "the holistic growth of the child (...) [and they] play an active role in their development and with help (...) they can achieve goals". (E2).

In this sense, there is also the consolidated idea that teachers "are facilitators of the learning process" (E11) and "should be mediators in accessing knowledge and (...) be concerned about having a more informed student, capable of giving their opinion and making themselves heard" (E18).

## 4 CONCLUSIONS

Citizenship education has been at the center of countless discussions, including initial teacher training courses since their aim and purpose is to train educators and teachers who are capable of developing citizenship education beyond the school environment.

The data indicates a clear concern on the part of future educators/teachers with the issue of citizenship, recognizing its relevance in the formation of more socially committed and active citizens. Perhaps this is why they consider citizenship education to be a fundamental component of initial teacher training, although they recognize that they don't feel prepared to do it in the best way.

Most of the students, future educators/teachers, reveal that they feel the need for more guidance and a more in-depth knowledge of citizenship issues so that they feel more competent in working with children in this area. It seems to us that there is a clear awareness of the specific nature of this training and that some feel more prepared than others.

Citizenship is not learned through rhetorical processes, through transmissive teaching, but through reflective, participatory, and (trans)formative processes.

It is recognized that education for citizenship must be present in the school culture itself, adjusted to a logic of participation and with the full co-responsibility and accountability of the actors involved. In this sense, it is recommended that there is a need to invest in citizenship issues and integrate them more clearly into initial teacher training courses.

## ACKNOWLEDGEMENTS

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## REFERENCES

- [1] Monteiro, R. (coord.), et al., *Estratégia Nacional de Educação para a Cidadania* (ENEC). República Portuguesa, Ministério da Educação – Direção Geral de Educação, 2017.
- [2] Ph. Perrenoud, *Escola e cidadania. O papel da escola na formação para a democracia*. Porto Alegre: Artemed Editora, 2005.
- [3] Y. Zhao, Preparing Globally Competent Teachers: A New Imperative for Teacher Education. *Journal of Teacher Education*, 61(5), 422–431, 2010.
- [4] A. Bolívar, *Educación para la ciudadanía*. Barcelona: Editorial Graó, 2007.