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CIVIC KNOWLEDGE AMONG STUDENTS AT TEACHER EDUCATION AND NON-TEACHER EDUCATION FACULTIES

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Abstract/Izvleček

The study examined whether civic knowledge differs between students of teacher education and non-teacher education faculties, and among students of different teacher education study programs. A survey was conducted with 256 students from two public universities in the Republic of Srpska using a demographic questionnaire and a Civic Knowledge Test. Results revealed significant differences in civic knowledge across faculties, with the highest scores among Faculty of Philosophy students and the lowest among Faculty of Electrical Engineering students. Significant differences were also found across teacher education programs: pedagogy students achieved the best results, while informatics and philosophy students achieved the lowest.

Keywords:
civic competences, civic knowledge, teacher education, non-teacher education faculties.

Državljanska vednost študentov pedagoških in nepedagoških fakultet

V raziskavi smo preučevali, ali se državljanska vednost razlikuje med študenti pedagoških in nepedagoških fakultet ter med študenti različnih pedagoških študijskih programov. Izvedena je bila anketa, v kateri je sodelovalo 256 študentov z dveh javnih univerz v Republiki Srbski, pri čemer sta bila uporabljena demografski vprašalnik in test državljanske vednosti. Rezultati so pokazali statistično značilne razlike v državljanski vednosti med fakultetami; najvišje rezultate so dosegli študenti Filozofske fakultete, najnižje pa študenti Fakultete za elektrotehniko. Statistično značilne razlike so bile ugotovljene tudi med pedagoškimi programi: študenti pedagogike so dosegli najboljše rezultate, študenti informatike in filozofije pa najnižje.

Ključne besede:
državljanske kompetence, državljanska vednost, izobraževanje učiteljev, nepedagoške fakultete.

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Introduction

The European Reference Framework defines eight key competence areas, among which interpersonal and civic competences are included (Council of the European Union, 2006). In this document, civic competences are defined as a broader concept than interpersonal ones, since they are manifested at the social level and can be understood as "a set of competences that enable individuals to participate in the civic life of society" (Council of the European Union, 2006, p. 12). Although the European Reference Framework represents an important normative basis for understanding civic competences, the definition provided remains general and descriptive, without more detailed elaboration of individual elements that would make these competences operational and applicable in concrete social contexts (Sladoje Bošnjak and Jerković, 2025). Consequently, general curriculum frameworks such as the European Reference Framework require further operationalization at the national and school levels. As Protner and Štefanc (2014) argue, the successful implementation of citizenship education depends on translating broad competence statements into clearly defined learning outcomes, curriculum content, teaching methods, and assessment criteria. Such operationalization enables adaptation to local social and educational contexts, reduces the risk of divergent interpretations of curriculum objectives, and provides teachers with clearer guidance for planning and delivering instruction. While this approach provides an important normative foundation for shaping educational policies at the European level, it does not fully capture the complexity of how civic competences are developed and enacted by individuals. A more comprehensive understanding therefore requires theoretical frameworks that examine the structure and constituent dimensions of civic competences in greater depth. One such framework is proposed by Mile Ilić, who conceptualizes civic competences as "interdependently intertwined civic knowledge, skills (abilities), attitudes and beliefs (virtues), and capacities that enable an individual to effectively participate in social life" (Ilić, 2012, p. 45). Civic education plays a key role in developing critical thinking, social awareness, and the capacity for active participation in social processes. Higher education should not be focused exclusively on acquiring professional knowledge and skills in specific fields, but also on developing competences that enable students to become responsible and informed citizens. Different study programs and faculties may provide different opportunities for acquiring civic knowledge, depending on the extent to which topics related to civic education, democracy, and social responsibility are integrated into curricula.

Civic knowledge and competences are among the key outcomes of modern education, especially in the context of democratic societies that strive for active citizen participation in public life, respect for human rights, and the development of critical thinking. Contemporary educational theories emphasize that civic education includes not only knowledge of political and legal systems but also the development of values, attitudes, and skills necessary for responsible and engaged social action (Torney-Purta, 2002; Banks, 2017; UNESCO, 2015).

Although civic education is traditionally associated with primary and secondary education, an increasing number of studies highlight the importance of higher education in developing civic competences among young people (Council of Europe, 2018). Universities are increasingly seen as spaces where, alongside professional and vocational knowledge, critical awareness, social responsibility, and readiness for active participation in democratic processes are developed (Shephard and Egan, 2018). The importance of study programs that systematically integrate social, ethical, and democratic content into teaching is particularly emphasized, as this content contributes to deeper conceptual understanding of civic issues and a higher level of student civic engagement (Banks, 2017). Research also indicates significant differences in the level of civic knowledge and engagement among students of different academic disciplines. Students in social sciences and humanities, as well as teacher education programs, generally show higher levels of civic competences compared to students in technical and STEM fields, which is associated with different curricular orientations and dominant pedagogical approaches (Labov, Brenner and Middlecamp, 2019; Dauer, Sorensen and Wilson, 2021). Programs focused on quantitative and analytical skills often insufficiently address issues of democracy, ethics, and social responsibility, which may result in lower levels of civic knowledge and weaker civic self-efficacy among students in these fields (Murphy and Kelp, 2023). In the context of the Republic of Srpska and the region, empirical research on civic knowledge among students from different faculties and study programs is relatively scarce. Therefore, it is important to examine the extent to which the educational context, type of faculty, and study program influence the development of students' civic knowledge. This paper will examine whether there are differences in civic knowledge among students from different faculties, as well as whether civic knowledge among students in teacher education programs differs significantly depending on the study program. Based on the results, recommendations will be offered for improving civic education at the higher education level, with the aim of developing students into informed, critically thinking, and socially engaged citizens.

Method

The aim of this study was to determine whether there are significant differences in the level of civic knowledge among students of different teacher education and non-teacher education faculties, as well as among students of different study programs within teacher education faculties. Accordingly, the following research tasks were set:

1. To examine whether there are differences in civic knowledge among students of different faculties;
2. To determine whether the level of civic knowledge among students of teacher education faculties differs significantly depending on the study program.

The study started from the following hypothesis: It is assumed that there is a significant difference in the level of civic knowledge between students of teacher education and non-teacher education faculties, and that there are differences in civic knowledge among students of teacher education programs depending on the study program.

Sample (participants)

A survey research method was used, and the sample included a total of 256 students from two public universities in the Republic of Srpska. The sample included students from teacher education programs (Faculty of Philosophy, Faculty of Natural Sciences and Mathematics) – 120 respondents, as well as students from non-teacher education faculties (Faculty of Electrical Engineering and Faculty of Agriculture) – 126 respondents.

Instrument

The following instruments were used in the study: a questionnaire for collecting demographic and academic data and a Civic Knowledge Test for students. The test consists of thirteen key questions assessing students' civic knowledge. The reliability coefficient (Cronbach's alpha – α) of the instrument was 0.89.

Since the assumptions for the application of parametric tests were not met, the non-parametric Kruskal-Walli's test was used to determine statistically significant differences between the examined groups. SPSS software was used for statistical analysis.

Results and Discussion

Starting from the assumption that the educational context may significantly influence the development of students' civic competences, differences in the level of civic knowledge among students from different faculties were examined. For this purpose, the Kruskal-Walli's test was applied, and the results are presented in Table 1.

Table 1
Differences in Civic Knowledge among Students of Different Faculties

Faculty	N	M	χ2	df	p
Faculty of Philosophy	108	145.95			
Faculty of Electrical Engineering	104	111.87			
Faculty of Agriculture	22	131.55	11.829	3	0.008
Faculty of Natural Sciences and Mathematics	22	118.41			
Total	256				

Results of the Kruskal-Wallis Test indicate a statistically significant difference in ranks depending on the faculty attended by students ($\chi^2(3) = 11.829$, $p = 0.008$). The highest mean rank was achieved by students of the Faculty of Philosophy ($M = 145.95$), while the lowest mean rank was recorded by students of the Faculty of Electrical Engineering ($M = 111.87$), suggesting possible differences in attitudes or achievement depending on the faculty.

A subsequent post-hoc analysis (Dunn's test with Bonferroni correction) showed that a statistically significant difference was found only between students of the Faculty of Philosophy and students of the Faculty of Electrical Engineering, while all other differences did not reach the level of statistical significance after adjustment for multiple comparisons. These results indicate that students of the Faculty of Philosophy, on average, achieve significantly higher results (i.e., have more positive scores) on the examined variable compared to students of the Faculty of Electrical Engineering.

Students of the Faculty of Philosophy demonstrate a higher level of civic knowledge compared to students of other faculties primarily because their study programs include more content related to civic education, and some programs include courses directly related to civic education (Education for Democracy, Methodology of Civic Education for Democracy). In general, study programs at the Faculty of Philosophy engage students in the study of human, value-based, and social issues, fostering deeper conceptual understanding as well as stronger verbal and social competences.

Education in the humanities and social sciences is not oriented exclusively toward the transmission of facts, but rather toward value-based and conceptual understanding of content (Shephard and Egan, 2018), which aligns with the finding that students of the Faculty of Philosophy demonstrate "higher civic knowledge" compared to students from other faculties in the sample, whose programs are less focused on social and ethical issues and civic education content.

Social sciences and humanities disciplines encourage the development of critical thinking, enabling students to recognize and analyse social problems and phenomena (Škorić and Škorić, 2020). In contrast, students of electrical engineering, agriculture, and natural sciences and mathematics may show lower levels of civic knowledge or social engagement primarily because their study programs include civic education or related activities to a lesser extent. These faculties generally do not include courses focused on social or civic aspects, as the emphasis is placed on quantitative and analytical skills rather than on social engagement and reflection (Labov, Brenner and Middlecamp, 2019). Civic education, politics, ethics, and social systems are most often not integrated into their study programs.

There is also clear scientific evidence that students in STEM fields exhibit lower levels of self-efficacy regarding civic engagement, which may be one reason for their lower level of civic knowledge (Dauer, Sorensen and Wilson, 2021; Murphy and Kelp, 2023; McKim et al., 2022; Chang, You and Chang, 2023).Furthermore, the study examined whether there was a significant difference in civic knowledge among students of different study programs at teacher education and non-teacher education faculties.

Table 2

Differences in Civic Knowledge among Students of Different Teacher Education Study Programs

Study program	N	M	χ2	df	p
Primary Teacher Education	35	64.40	12.711	4	0.013
Pedagogy	59	75.43			
Philosophy	12	45.92			
Informatics	9	37.22			
Mathematics and Informatics	15	61.63			
Total	130				

The results presented in Table 2 show a statistically significant difference in the level of civic knowledge among students enrolled in different teacher education study programs ($\chi^2 = 12.711$, df = 4, p = 0.013).

The study programs included Primary Teacher Education, Pedagogy, Philosophy, Informatics, and Mathematics and Informatics, with Informatics and Mathematics and Informatics representing two distinct study programs. Since $p < 0.05$, it can be concluded that the observed differences in civic knowledge are associated with the study program attended by the students.

According to the indicators presented in Table 2, students enrolled in the Pedagogy program achieved the highest mean rank (M = 75.43), followed by students of Primary Teacher Education (M = 64.40) and Mathematics and Informatics (M = 61.63). Lower mean ranks were observed among students of Philosophy (M = 45.92), while the lowest level of civic knowledge was recorded among students of the Informatics program (M = 37.22). However, post hoc comparisons (Dunn's test with Bonferroni correction) revealed that only students enrolled in the Pedagogy program demonstrated significantly higher civic knowledge than students enrolled in the Informatics and Philosophy programs. All other pairwise comparisons were not statistically significant.

These findings suggest that although there are observable differences in mean ranks across study programs, statistically significant differences are limited to specific comparisons. In particular, the relatively high mean rank of students in Mathematics and Informatics (M = 61.63) did not reach statistical significance in post hoc testing. Numerous studies indicate that programs emphasizing conceptual understanding, critical thinking, and social awareness tend to foster higher levels of civic knowledge (Shephard and Egan, 2018). In this regard, Pedagogy and Primary Teacher Education programs are particularly oriented toward educational content related to democracy, ethical and moral education, and the development of social competences, including courses directly focused on civic education (e.g., Education for Democracy, Methodology of Civic Education for Democracy), which may contribute to higher levels of civic knowledge (Banks, 2017; Torney-Purta, 2002; UNESCO, 2015).

The higher level of civic knowledge among Pedagogy students may also be interpreted in relation to their professional motivations and value orientations toward helping professions, which often include altruistic values and a focus on the common good (Richardson and Watt, 2006; Klassen et al., 2011). In addition, teacher education programmes are characterized by a stronger emphasis on social, humanistic, ethical, and intercultural dimensions of education, fostering values such as inclusion, social responsibility, and respect for diversity (Licardo and Peček, 2020).

These orientations are closely related to important components of civic competences and may provide students in pedagogical programmes with greater opportunities to develop civic knowledge and awareness. Overall, these results highlight that differences in civic knowledge across study programs are present but selective, and they primarily reflect the advantage of students enrolled in the Pedagogy program.

These findings have important implications for university pedagogy and student career orientation. Higher mean values among students of pedagogy (M = 75.43), primary teacher education (M = 64.40), and mathematics and informatics (M = 61.63) may reflect specific personal or motivational characteristics relevant to professions oriented toward working with people, which is consistent with previous findings on differences among students in different academic disciplines (Holland, 1997; McCrae and Costa, 2008).

It is noteworthy that philosophy students showed one of the lowest levels of civic knowledge. Although philosophy programs are expected to develop strong critical and analytical competences, in practice they are not necessarily oriented toward practical civic knowledge (Pavel, 2025) but are often focused on theoretical ethics, metaphysics, and logic, and to a lesser extent on political literacy. In this context, the small number of students in this group (N = 12) should also be considered, as it may have influenced the average results.

Similarly, informatics students do not have systematically integrated courses covering civic education, democracy, and human rights, which may partially explain their lower average scores (Council of Europe, 2018; UNESCO, 2015).

Based on the interpreted results, it can be concluded that the initial hypothesis of the study is largely confirmed, namely that there are significant differences in civic knowledge between students of teacher education and non-teacher education faculties, as well as differences in civic knowledge among students of teacher education programs depending on the study program.

The results confirm that civic knowledge does not develop spontaneously but is largely conditioned by the educational context, curriculum, and pedagogical approach. Therefore, civic education should be viewed as a shared responsibility of all faculties, rather than as the exclusive territory of social sciences and humanities disciplines.

Limitations of the Study

Although the study provides valuable insights into the level of civic knowledge among students of teacher education and non-teacher education faculties, several limitations should be noted when interpreting the results.

The research was conducted on a sample of students from two public universities in the Republic of Srpska, which limits the generalizability of the findings to the broader student population. Future studies should include a larger number of universities and a more balanced sample of respondents from different regions and fields of study. Some subgroups of respondents were small, particularly students of philosophy and informatics, which may have affected the stability of statistical indicators and reduced the possibility of more precise identification of differences between groups.

This study had a cross-sectional design, which means that causal relationships between study programs and the development of civic knowledge cannot be established. Longitudinal research could provide deeper insight into changes in civic competences over the course of studies. Furthermore, the study focused exclusively on the knowledge component of civic competences, while other important dimensions such as civic attitudes, values, skills, and actual social engagement were not included. This partially limits a comprehensive understanding of students' civic competences.

Finally, the study did not include additional variables that could have significantly influenced the development of civic knowledge, such as socioeconomic status, political interest, participation in volunteer activities, media literacy, or prior experience in civic education. Future research should incorporate these factors to achieve a more complete understanding of the development of civic competences among students. A longitudinal study of students' civic competences would also make a significant contribution to scientific knowledge.

Conclusion

Despite the stated limitations, these results have significant implications for university teaching, curriculum planning and innovation, and educational policy. The identified differences in the level of civic knowledge among students of different faculties and study programs indicate that the development of civic competences is not a random process but is conditioned by the structure and orientation of study programs.

These findings support maintaining and further strengthening courses such as *Education for Democracy* and *Methodology of Civic Education* in pedagogy and teacher education programs at universities in the Republic of Srpska.

The results also indicate the need to integrate elements of civic education into all study programs, especially in STEM and technical faculties. This does not necessarily require introducing new compulsory courses, but rather the development of interdisciplinary modules and elective subjects. The high achievement of students in teacher education faculties confirms that programs encouraging critical thinking, conceptual understanding, and social awareness contribute to higher levels of civic knowledge, which can serve as a model for curriculum innovation.

The findings emphasize that the university is not only a place for acquiring professional qualifications but also a space for developing active and responsible citizenship. In this context, the role of universities is to develop institutional strategies for civic education, encourage critical thinking, dialogue, and student social engagement, and provide opportunities for practical involvement in the community, for example through volunteering and civic projects.

The results of this study provide empirical support for the need to strengthen civic education institutionally at the higher education level. The findings may be useful for education policymakers in developing national civic education strategies, defining minimum standards of civic competences for first-cycle university students, and promoting interdisciplinarity in higher education curricula.

At the same time, the results create space for further empirical research. Deeper insights could be achieved by combining quantitative and qualitative research approaches. It would be particularly valuable to examine the relationship between students' civic competences and their learning motivation, social engagement, value orientations, and the dominant teaching methods and instructional systems used at universities. This study suggests the need for further exploration of interdisciplinary approaches in higher education and the effects of specific courses on the development of students' civic competences.

Author Contribution Statement

Both authors have read and approved the final version of the manuscript.

Data Availability Statement

The article is based on archival sources or other non-digitalized sources listed in the reference section.

Statement on the Use of Generative AI Tools

Autors confirm that no generative AI tools were used in the preparation of this manuscript to generate text, data, code, analyses, interpretations, or visual content. The entire content of the manuscript is the result of the authors' own scientific and scholarly work.

Informed Consent Statement

The authors confirm that all participants were adequately informed about the purpose of the study, the procedures for participation, data processing, and their rights, and that they voluntarily consented to participate in the study. The reseach was conducted anonymously.

Declaration of Conflicting Interests

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