

Proceedings of the  
International scientific conference

# **“GLOBAL COMPETENCIES FOR THE 21ST CENTURY”**

Osijek, November 14 - 15, 2022.

Zbornik radova  
Međunarodne znanstvene konferencije

# **“GLOBALNE KOMPETENCIJE ZA 21. STOLJEĆE”**

Osijek, 14. - 15. studenoga, 2022.

Urednici:  
prof.dr.sc. Marija Sablić  
Kristina Horvat,  
doktorandica pedagogije  
Bruno Matijašević,  
doktorand pedagogije  
Antonija Vukašinović,  
doktorandica pedagogije



FACULTY OF HUMANITIES AND SOCIAL SCIENCES  
JOSIP JURAJ STROSSMAYER UNIVERSITY OF OSIJEK  
Postgraduate university study program  
Pedagogy and Contemporary School Culture  
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izv.prof. dr.sc.Renata Jukić

izv.prof.dr.sc. Višnja Rajić

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## Preface

The book of Proceedings entitled *Global Competences for the 21st Century* was created as a result of an international scientific conference organized by the doctoral students of the *Pedagogy and Culture of the Contemporary School Postgraduate Doctoral Programme* enrolled in the academic year 2021/2022. The Proceedings of the international scientific conference *Global Competences for the 21st Century* comprise of scientific findings within which pedagogy is observed as a contemporary scientific discipline. In the 21st century, students live in a rapidly changing complex and heterogeneous world. Such rapid societal, economic, technological, ecological, cultural and demographic changes bring about many new opportunities, but also great challenges. In order to successfully deal with frequent changes and use the opportunities offered by the ever-increasing connectedness in the world, young people today need competences such as the ability to recognize and appreciate intercultural differences and use their advantages more than ever. Global competences are not specific competences, but rather a combination of knowledge, skills, attitudes and values that are successfully applied in direct, virtual or mediated encounters with people of different cultural origin or while engaging with global issues, i.e. situations in which individuals need to think about problems that go beyond state borders and have great implications for current and future generations. The aim of the Proceedings is to emphasize the importance of developing global competences of both students as well as policy-makers. The scientific papers in the Proceedings indicate the importance of developing global competences in an education that includes mutual understanding, connecting the local and the global, critical thinking and readiness for new challenges brought about by the future. The Proceedings bring valuable scientific conclusions with a prediction of the needs of the education system in the future, including teacher competences and an alignment of the competence needs of the labour market and the education system. In addition to this, the papers present different methodological approaches within which it is possible to determine and understand a research phenomenon in depth and more objectively. Since the *Global Competences for the 21st Century* conference is international, the scientific papers are published in English. The twenty papers in the Proceedings were written by 26 authors of various scientific and professional interests. We hope that the papers published in the Proceedings will contribute to a harmonious life in multicultural societies as well as success in the changing labour market. Furthermore, we believe that the results of individual papers will be useful for an efficient and responsible use of media platforms as well as support of the goals of sustainable development. The special value of this



Proceedings is the synergy between young scientists who, with joint efforts and the support of experienced professors, have a common goal: to promote a better understanding of the world and to empower readers for expressing their views and for participating in the society.

prof.dr.sc. Marija Sablić

# ON THE REFORM OF MINORITY LANGUAGE EDUCATION IN HUNGARY: PUBLIC EDUCATION ARENAS, CURRICULUM CHANGES, KEY COMPETENCIES

Dr.sc. Timea Bockovac, Assistant Professor

Faculty of Humanities and Social Sciences, Josip Juraj Strossmayer  
University of Osijek

## Abstract

The paper discusses the current changes in the educational content of the Framework Curriculum for National Minorities in Hungary, which followed the introduction of the new National Core Curriculum (NAT 2020) with the aim of determining and improving the key competencies of students. In Hungary, the Croatian minority is considered autochthonous, with a high degree of cultural autonomy and a functional education system. After a quantitative analysis of the valid documents, there are answers given to the following questions in the course of the present paper: which student competencies are emphasized in the new framework programs and can the changes actually contribute to the development of their linguistic-communicative competencies in order to successfully meet the declared learning outcomes.

**Keywords:** minority education, Hungarian Croats, National Core Curriculum, linguistic competence

## Introduction

Reforms of the educational system usually bring long-term consequences and affect the whole society, especially the national and minority ethnic groups whose languages are primarily preserved today and nurtured in institutionalized frameworks due to the accelerated assimilation processes. Therefore, a prerequisite for the cultural autonomy of a minority group is a functional educational system which provides the optimal organization of classes and content in order to develop student competencies in accordance with the minority education strategies. In Hungary, the rights of minorities are determined by the *Act No. CLXXIX On The Rights of Nationalities* from 2011 [2011. évi CLXXIX. törvény a

nemzetiségek jogairól] and the last educational reform at the primary and secondary school levels which was implemented in 2020 by the introduction of the new *Nemzeti alapterv* or NAT [*National Curriculum*]. However, the document does not mention either the issue of teaching minority languages or the education in minority languages, which were subsequently regulated by a special legal act, a government decree, which stated that new curricula and teaching materials for minority education had to be developed based on the NAT in an extremely short period of time. The present paper describes the forms and types of minority education in Hungary with the methods of description and source analysis of the basic of legal documents that regulate teaching content of minority schools. It presents the current changes at the level of the framework curriculum for Croatian-Hungarian bilingual minority secondary schools in Hungary.

## Croats in Hungary

According to the Act No. CLXXIX On The Rights of Nationalities, Croats are considered as *honus ethnicum*, a native ethnic group in Hungary, which consists of several ethnic groups speaking different dialects, which are also geographically separated from each other and situated in Zala county in settlements along the river Mura, in the southern part of Somogy and Baranya counties along the Drava river, around Pécs, Baja, Kalocsa, Sopron and Szombathely (Sokcsevits 2008: 744). Their numbers originate from the statistical data of the national census, which, however, is known to underestimate the actual number of members of nationalities and minority groups (Lajtai 2020:547). As a consequence of the favorable social and minority policy changes of the last three decades, the continuous increase in the number of Croats in Hungary is clearly visible in the category of nationality, since in 2001 there were 15 620 inhabitants who claimed they were of Croatian nationality, in 2011 this number increased to 26 774 people. However, if these data are compared with those registering the number of native speakers, a continuous decrease is visible, which is in opposition with the data concerning the national identity. In 2001, 14 345 people and in 2011 there were 13 716 persons who indicated Croatian was their mother tongue (Bockovac 2018). The nationality data from the census create a legal basis for the establishment of local governments, greatly influence the degree of cultural autonomy and self-determination, define the arenas of language use and media coverage, and facilitate the exploration of different processes within the community. As long as the official data points to the loss of the language, or is considerably smaller than the real data according to the National Croatian Local Government, which states that there are between 50 000 and 80 000 Croats living in Hunga-

ry, public education and public educational institutions will have an outstanding role in strengthening the identity, and (re)teaching Croatian as a national language.

## Teaching the Croatian language in Hungary

In Hungary, the bilingual ethnic education is part of the public education, which is organized taking into account the living areas of the ethnic communities, and depends to a large extent on the (language) political developments (e.g. the declaration of Croatian and Serbian as independent languages), the demand for foreign language learning, from the country's supportive language policy, the market value of the language, as well as the parental attitude.

The current educational system of Croats in Hungary was most influenced by the regime change and the creation of the independent Croatia in 1991, as political events induced significant changes in language policy, which led, among other things, to the transformation of the educational structure and the introduction of a new language policy. This actually deals with the decision regarding the teaching of languages as a language of study and the regulation of the deployment of competences in order to directly affect the linguistic and cultural characteristics of certain groups (Vámos 2008: 21). Section IV paragraph 19 of the *Act No. CLXXIX 2011 On The Rights of Nationalities* states that ethnic communities have the right:

- a) to the establishment and functioning of institutions, to taking them over from other bodies within the framework of the law,
- b) to kindergarten upbringing, primary school education, nationality dormitory care, high school, vocational high school, vocational school upbringing and education, higher education, and are also entitled
- c) to initiate and contribute to the creation of the conditions for supplementary nationality education through the national local government.

In the context of the above legislative background and the guaranteed language rights, it can be said that the participation in Croatian (native) language, education (public and higher) is guaranteed for the Croatian community in Hungary. There have been equal educational opportunities and the use of cultural services established, they can run their institutions within the legal framework, and in justified cases they can also take them over from other bodies. The National Croatian Local Government currently runs several institutions, among which there are three schools - the Miroslav Krleža Croatian Kindergarten, Primary School,

High School and College in Pécs; the Croatian Language Kindergarten, Primary School and College in Hercegszántó; and the Mate Meršić Miloradić Croatian Kindergarten in Primary school, Szombathely.

Upon publishing the 110/2012 (VI. 4.) Government Decree on the publication, introduction and application of the National Core Curriculum on January 31, 2020, the final provisions of 17/2013. (III. 1.) EMMI decree on the issuance of the guidelines for kindergarten and school education of national minorities expired. According to point 3, paragraph 8, point 1, the upbringing and education of national minorities can be organized according to the following forms of education:

- a) education in the mother tongue,
- b) bilingual nationality education,
- c) minority language teaching nationality education,
- d) Roma/Gypsy nationality education in Hungarian,
- e) supplementary nationality education.

The Amendment of the EMMI Regulation 20/2012 (VIII. 31.) On the Functioning of Educational Institutions and the Use of Names of Public Educational Institutions as a supplement to the said document states several changes:

(7) Nationality school education can be organized according to the following forms of education:

- mother-tongue education: with the exception of the Hungarian language and literature, as well as foreign languages, educational work is carried out in the language of the nationality;
- bilingual nationality education: in addition to the mother tongue and literature, at least three subjects determined by the pedagogical program must be taught in the language of the nationality in at least fifty percent of the number of mandatory weekly hours reduced by the number of Hungarian language and literature and foreign language hours;
- minority language teaching nationality education: education in the standard language teaching nationality education, the language of instruction is the Hungarian language, and the subjects of nationality language and literature and folklore are taught in the language of the national minority; in the extended language teaching nationality education, at least three subjects must be taught in the language of the nationality, the proportion of the nationality language and literature, as well as the classes in the nationality language, make up at least thirty-five percent of the weekly hours;

- Roma/Gypsy nationality education in Hungarian: ensures that Roma or Gypsy students learn about the cultural values of the Roma and Gypsy ethnic group, the history, literature, fine arts, music, dance culture and traditions of the Roma or Gypsies; and
- supplementary nationality education: a school ensures the acquisition of nationality language and literature, as well as the nationality folklore, which can be organized as an organizational unit of a specific school, by establishing a separate language teaching nationality school or by employing traveling teachers; the nationality education regulations of language teaching regulate its content and time frame.

According to the KIR STAT 2020/2021 [A köznevelési statisztikai adatszolgáltatás] of October 1, 2021, Croatian education in Hungary takes place in seven counties, is carried out in two types and at two levels. Of the 35 primary schools, six have two teaching languages, meaning they are functioning according to the bilingual nationality education, whereas 29 have a minority language teaching nationality education, or a traditional program. Croatian as a national language is not taught in any school in Hungary in the form of the mother tongue education or in the supplementary nationality education form (Bockovac 2018:15). The number of students in the academic year 2022/2023 was 1 917, out of which 1 726 were elementary school students, and 172 were high school students attending bilingual secondary schools, the Miroslav Krleža Croatian High School in Pécs (106) and the Croatian High School in Budapest (72).

Having taken a closer look at the educational infrastructure, it can be concluded that the number of schools with two languages of instruction is fairly small, and that they are concentrated in three regions outside of the Hungarian capital, in which a significant proportion of members of the Croatian minority lives, i.e. the South Transdanubia, the Bács-Kiskun County, and the Western Hungary region. Institutions teaching Croatian as a national language are attractive due to the benefits of maintaining the contact with the mother country and to the favorable educational policy environment as well, but their difficulties include financing, ensuring high quality human resources, continuous development of teaching aids and materials, maintaining the class sizes and expanding the number of teachers. In addition to the maintenance of the institution, the promotion of the national minority language teaching school programs can also be a part of the community language policy, with the national local governments playing a major role in raising awareness of the legal minority rights and supporting their implementation.

## Changes in the Curriculum Regulations

In recent decades, the National Core Curriculum has been amended several times (in 1990, 1995, 1998, 2003, 2007, 2012), and the currently valid National Core Curriculum has been prepared on the English model and entered into force on January 31, 2020. It includes the content changes that began in 2018 to a great extent. The 110/2012 Government Decree on the Publication, Introduction and Application of the Current National Core Curriculum (VI. 4) includes the repeal of the "Guidelines" (EMMI Decree 17/2013. III. 1) concerning minority preschool education and minority school education. Since this decree included the provision of the time frame necessary for the teaching of the national minority language and literature, as well as the folklore of the national minority, the basic principles of nationality kindergarten education, as well as the detailed development tasks for each nationality, it became necessary to revise the guidelines for nationality education, which gave the opportunity to modify the curriculum contents.

In the limited time frame of a few months available, under the coordination of the Croatian Center for Pedagogy and Methodology and the Nationality Pedagogical Education Center, the working group of professional and practising teachers of the Croatian nationality developed and submitted its proposals for the content changes of the "Guidelines". The structure of the new document, published in April 2020, differently from the previous one, separates the developmental tasks and the public education content, the first incorporating the oral and written comprehension, oral and written text creation, the development of learning strategies, and the second referring to the native language culture, the proficiency in the national minority language, as well as the literary culture and the development of moral and aesthetic sense through the interpretation of literary works.

According to the old structure, the developmental tasks consisted of seven larger units: speaking skills, understanding, interpreting and creating oral texts, reading and reading comprehension, writing skills, creating texts, developing the learning strategies, language studies, native language culture, literary culture interpretation of literary works, development of judgement, moral, aesthetic and historical sense. The new structure of the guidelines assigns the six aspects under two main headings:

### I. Developmental tasks:

#### I.1. Oral and written comprehension

#### I.2 Oral and written text composition

#### I.3. Developing the learning strategies

## II. Public education content

### II.1 Native language culture, minority language proficiency

### II.2. Literary culture, the development of moral and aesthetic sense by interpreting literary works

The structural change of the Guidelines meant merging some areas of competence, e.g. in the area of ethnic folk knowledge the acquisition of knowledge, learning, critical thinking and reflection together form the *Learning and thinking competence* area. The communicative competence area was expanded to include the personal and social competence. The competence of spatial and temporal orientation remained in the subject of the national folklore studies (in agreement with the other nationalities), despite the fact that it has not been included in the competences of the subject of Hungarian homeland and folklore studies. The *Competences of judging ability, and the development of moral, aesthetic, and historical sense* in the language and literature of the national minority has been included into the area of general subjects contents and integrated into the field of literary culture, the development of moral and aesthetic sense through the interpretation of literary works. It was not particularly highlighted, but some competences were given a more prominent role in the new regulation, such as the development of social competence, creativity and digital competence. It is important to mention that in the high school, the areas of development and student expectations that were previously connected to grades 9-12 have been divided into two sets, namely to grades 9-10, and 11-12, thus aligning with the division of the competences.

In accordance with the guidelines and the amended core curriculum, there were the framework and local curricula developed, which were introduced into the educational system from the academic year 2020/2021 in the 1st, 5th and 9th grades. The framework curricula of the minority education in the Croatian language regulate the contents of the subjects Croatian ethnographic studies grade 1-4, Croatian folk studies grade 5-8, Croatian folk studies grade 9-12, Croatian language and literature (native and bilingual) grade 1-4, Croatian language and literature (native and bilingual) grade 5-8, Croatian language and literature (native and bilingual) grade 9-12, Croatian language and literature (minority language learning program) grade 1-4, Croatian language and literature (minority language learning program) grade 5-8, Croatian language and literature (minority language learning program) grade 9-12.

The following chapter presents the major changes in the core curriculum regulating the contents of the subject Croatian language and literature in the schools



according to the native language and bilingual nationality education from grades 9–12. Based on the data of a quantitative research conducted in 2017 (Bockovac 2018), 72.2% of bilingual high school students are Hungarian native speakers, and only 17.3% have Croatian native language competence. The change in the course content is justified therefore by the level of the students' Croatian language competence when they are starting their high school studies, for the purpose of which the new pedagogical document places much greater emphasis on the language use and the general language competence, particularly the interpretation, understanding and creation of oral and written texts, and the development of general interaction skills. For the purpose of the communication-oriented language teaching, general topics have been included in the framework curriculum (especially in high school, where, in addition to literary texts, other scientific, popular youth, entertainment and informative texts have also been included) as well as other public, social issues, current topics, and socially responsible texts encouraging environmentally conscious behavior. Another change is the higher proportion of teaching units that strengthen language competence and communication, thematic sections aimed at creating oral and written texts that develop reading comprehension, and areas containing exercises that promote interaction skills and functional language use.

Since the 5/2020 (I. 31.) Government Decree on the Publication, Introduction and Application of the National Core Curriculum did not include guidelines for determining the obligatory number of teaching hours for the education of national minorities, the 110/2012 (VI. 4.) amendment to the Government Decree defines in paragraph 8, point 5, the provisions on limiting the weekly and daily workload of students as follows:

"The sum of the student's compulsory and optional teaching hours in the school that carries out national minority education is the time frame defined for one teaching week in paragraph (3) from grades 1 to 8 with a maximum of three teaching hours per grade, from grades 9–12 the teaching hours may increase by a maximum of four teaching hours (...) The sum of the student's compulsory and optional teaching hours together with the deviations mentioned in paragraphs (4) - (7) in one teaching week can be the most a) twenty-four in the first to third year, b) twenty-five in the fourth year, c) twenty-eight in the fifth and sixth grades, d) thirty in the seventh and eighth grades, e) thirty-four in the grades nine to thirteen."

It is important to point out that according to paragraph 8, in the case of any form of education, thirty-seven teaching hours per year of the number of hours prescribed for skill subjects can be reassigned to the education of the ethnic lan-

guage and literature or ethnic folklore. In other words, the national minority language and literature is taught 5 hours per week, and is supplemented by 1 hour of popular knowledge in both types of minority education. It is possible to deviate from this number of teaching hours upwards, as long as the total number of hours thus obtained does not exceed the maximum number of hours prescribed in the decree.

The changes that took place affected both the structure and content of the framework curriculum, the regrouping of topics and the alteration of the proposed number of hours (2x296 hours in total) affected the subjects of Hungarian language and literature, language and literature of the German national minority, as well as the content of the framework curriculum of the mother country.

The previous framework curriculum for Croatian language in grades 9 and 10 suggested for the first thematic history of the Croatian language up to the end of the 18th century. The topics that were discussed within the available class time frame of 23 hours were the overview of the beginnings and important stages of the Croatian writing system, the reading of the Croatian language memories, the changes in the Old Slavic phonemes, and the differences within the individual dialects. This content has been now transferred to the 12th grade and is to be taught in fewer class hours. Within the remaining hours, the topics of the interpretation and comprehension of oral and written texts should be covered in 10 teaching hours, followed by the creation of oral and written texts in another 30 hours.

In addition to the order of the topics, the most important change in content compared to the older framework curriculum is that the teaching of the descriptive grammar does not start in the 9th grade, the suggested number of recommended teaching hours for certain topics is just a fraction of what it was before. For example, the stylistics is reduced to 8 teaching hours instead of a relatively high 19 hours, rhetoric has been downsized from 19 to 5 hours. Instead, more class hours can be devoted to the creation of oral and written texts (17 teaching hours) as well as to the content regarding the general knowledge (35 hours) covering the wide range of personal topics, community life, school, education, media, environment, economy, politics and history.

Instead of the previous literature classes, there are *Literary culture* classes suggested in the document, starting with a 6-hour introduction and continuing with the contents of *Arts, Literature as art* (7 teaching hours), followed by the different genres in the old and new framework curriculum in almost the same number of teaching hours. The amount of source texts did not change signifi-

cantly either, but at the same time, there is an increase in freely selectable, recommended, contemporary content.

The most significant difference between the old and the new framework is the relocation or removal of certain topics, such as the Bible, and Ancient Roman and Greek literature. The chronological overview however remained, as did the list of canonical Croatian authors listed in the requirements for the graduation examination in Croatian language and literature, such as Marin Držić (being taught 12 hours instead of 17 hours) and Ivan Gundulić (being taught 10 hours instead of 13 hours). There is 15%-50% decrease in the number of teaching hours devoted to periods of literary history, e.g. the Medieval Croatian literature, Humanism in Croatia (5 teaching hours instead of 6), Croatian Renaissance literature (10 teaching hours instead of 20 hours), The Croatian Enlightenment (10 teaching hours instead of 16). Only a few topics have experienced a more significant reduction and these are the Croatian folk poetry, for which is now a teaching span of 8 hours instead of the previous 16 hours recommended. The overview of world literature and the reading and comparative analysis of the selected works of the European literature are based on the selected paragraphs from these literary works, the number of items that need to be learned by heart has also decreased. There is one author (Ivan Goran Kovačić) who was definitively removed from the curriculum but his works are replaced by more contemporary texts that can be motivating and can promote experience-oriented reading as well as practical text creation.

**Table 1.**

*Changes in the content and structure of documents regulating the education of Croatian as a national language*

<b>The examined document</b>	<b>National Core Curriculum (NAT 2012)</b>	<b>National Core Curriculum (NAT 2020)</b>
basic structure	same (educational goals, development areas; literacy areas; key competence areas)	same (educational goals, development areas; literacy areas; key competence areas)
competence areas	aesthetic art awareness and expressiveness	creativity, creative work, self-expression and cultural consciousness competencies
	effective independent study	learning competencies
	native language communication, foreign language communication	communication competences (native and foreign language)
	natural science and technical competence	mathematical thinking competencies

	is initiative and entrepreneurial competence	employee, innovative and entrepreneurial competencies
	social and citizen competence	personal and social relational competencies
<b>The examined document</b>	<b>7/2013. (III. 1.) EMMI regulation on the publication of the directive on the preschool and school education Education of the Croatian nationality</b>	<b>Guidelines for the kindergarten and school education of the nationalities Education of the Croatian nationality</b>
Development tasks	<ol style="list-style-type: none"> <li>1. Speaking skills, understanding, interpreting and creating oral texts</li> <li>2. Reading, understanding written text</li> <li>3. Writing, composition</li> <li>4. Development of learning ability</li> <li>5. Native language culture, the language knowledge</li> <li>6. Literary culture, interpretation of literary works</li> <li>7. Development of judgement, moral, aesthetic and historical sense</li> </ol>	<p><b>I Development tasks:</b></p> <p>I.1. Oral and written comprehension</p> <p>I.2 Oral and written composition</p> <p>I.3. Developing the ability to learn</p> <p><b>II. Public education content</b></p> <p>II.1 Native language culture, nationality language knowledge</p> <p>II.2. Literary culture, the development of moral and aesthetic sense by interpreting literary works</p>
<b>The examined document</b>	<b>The Croatian Nationality Education Framework Curriculum in line with the 2012 NAT - for native language and bilingual nationality education in grades 9-12</b>	<b>The content regulator matching the 2020 NAT Croatian nationality education – native language and bilingual nationality education framework curriculum of grades 9-12</b>
<b>structural differences</b>	thematic unit	thematic unit
<b>alteration of teaching hours</b>	teaching hours	recommended teaching hours
<b>subject curriculum</b>	prior knowledge	learning outcomes
	development goals	development tasks, knowledge
	connection points	suggested activities
		reduction of content (e.g. less memorizing by heart)

		omitting contents
		creation, interpretation/comprehension of oral and written texts
		several new thematic units, freely selectable content
		greater proportion of teaching units that strengthen language competence
		more exercises promoting interaction skills and functional language use

## Conclusion

It can be said that the new framework curriculum of the Croatian language tries to meet the criteria of active learning that is of particular importance to the implementation of the National Core Curriculum and promotes learning based on student cooperation. However, further additions regarding team teaching or teaching methods supported by digital technology are most needed. The framework curriculum changes that align with the education of the national minorities are necessary, although they are not sufficient. There is no doubt that the teachers are facing a great challenge in terms of differentiated learning organization procedures and the lack of digital teaching tools. Thus, the preparation of basic pedagogical documents marks the beginning of a new phase of the national minority Croatian language education. Continuous professional dialogue and the joint efforts of the public educators and teacher training arenas are necessary in order to make the learning of the Croatian language more accessible and its teaching more effective, especially due to the fact that the teaching methods of Croatian as a foreign language can no longer be excluded from this process. Since the degree of language assimilation has not decreased despite the favorable legal environment, and in the absence of the national language measurements, without any reliable data on the students' language and communication competences, it is timely and necessary to develop a modern national language strategy based on the foundations of the language education and curriculum policies.

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## GLOBAL COMPETENCIES IN EDUCATION: A SYSTEMATIC REVIEW OF LITERATURE

Marinela Boras, Katarina Božučanin, Silvija Galić

PhD students of Postgraduate program of Pedagogy and Culture of Contemporary School

Faculty of Humanities and Social Sciences Osijek

### Abstract

Global competencies are multidimensional and lifelong style of learning which includes value systems, social skills, knowledge and thinking skills. Globally competent people are able to successfully and respectfully engage in interactions with other people, consider local, global and intercultural issues, understand and respect different worldviews from their own, and act responsibly with the goal of sustainability and collective well-being. Educational institutions have a key role in developing global competencies of children and young people by giving them opportunities to critically consider global developments in the world, as well as in their surroundings, teaching children and young people how to use digital information and media critically, effectively, and responsibly, encouraging intercultural sensitivity and contributing to the understanding of one's place in the community and the world. The aim of this paper is to provide a systematic review of the scientific and professional literature on global competencies in education, from primary to lifelong learning. A systematic review of the literature includes papers published on the Web of Science network platform in the period from 2018 to 2022.

**Keywords:** global competencies of educators, global competencies of preschool teachers, global competencies in primary education, global competencies in secondary education, university global competencies, global competencies for lifelong learning

### Introduction

Contemporary societies are marked by new global trends - technological, cultural, economic, and ecological changes that are part of the rapid and uneven wave of globalization. These growing global changes require generations of individuals who can easily engage in effective global problem solving while simultaneously participating in local, national, and global civic life. They call for more relevant, stronger, and self-directed learning that will prepare young people for life, com-



petition, and cooperation in this new global scenario. More precisely, preparing our youth for full participation in today's and tomorrow's world requires that we nurture their global competencies (Boix Mansilla and Jackson, 2011). According to the definition of the World Health Organization, life skills are "the abilities for adaptive and positive behavior that enable individuals to cope effectively with the demands and challenges of everyday life". More specifically, life skills include a group of interpersonal skills and psychosocial competencies that help people make informed decisions, solve problems, think creatively and critically, build relationships, communicate effectively, empathize with others, and manage their own lives in a healthy and productive way (Harshvardhan and Manju, 2015). In the domain of psychosocial and interpersonal skills, UNICEF lists the ten most important life skills: skills for building self-awareness, empathy and dealing with stress and emotions, problem-solving skills, effective communicational skills, critical thinking, interpersonal skills, creative thinking, and decision-making skills. Life skills, as such, are generic skills and are relevant to many different experiences through life. More precisely, life skills are skills that each person already possesses, but they need to be taught through various situations in everyday life, in order to improve the quality of life of each person for the global betterment of the nation (Harshvardhan and Manju, 2015). Boix Mansilla and Jackson (2011) emphasize that global problems affect all people regardless of social or national affiliation and extend from trade to human rights, poverty, environment, and geopolitics, and they reveal to us how truly different regions of the world are interconnected. Global competencies rely on knowledge about global problems that affect lives on a global, but also on the local level, including intercultural knowledge. They are representing multidimensional and lifelong learning style. Globally competent people can consider global, local and cross-cultural problems, appreciate and understand different worldviews and points of view, and respectfully and successfully engage in interactions with others as well as act responsibly with the aim of collective well-being and sustainability (PISA, 2018). When discussing global competencies in education, it is important to note that school plays a key role. Every educational institution should encourage students to try to understand the most important current problems. Such effective education about global competencies provides students with opportunities to mobilize and share skills, knowledge, attitudes, and values by exchanging ideas about global issues in school or outside the classroom. Such education also enables interacting with people of different cultural backgrounds. Every school or other educational institution that wants to nurture global competencies should be focused on clear and achievable learning goals. All educational staff should be included in discussing the attitudes and values that drive autonomous learning and encourage responsible action. They should choose not

only topics that are significant on a global level, but also skills that contribute to a better understanding of the world and facilitate interaction in cross-cultural contexts. The Declaration on Global Education from Maastricht (2002) states: "Global education is education that opens eyes and minds to the realities of this globalized world and moves them towards the realization of a world in which justice, equality and human rights are a fundamental value.". "Global education includes development education, human rights education, sustainability education, peace education, conflict prevention and intercultural education as a global dimension of civic education" (cited in Cabezudo et al. 2008/2012, p.12).

## Theoretical framework

In the 21st century, in a time of rapid changes and progress, it is extremely important for all people, especially educators, to follow global changes and educate youth about them. Due to globalization of the world, global problems are of high importance. Therefore, it is extremely important to prepare students for a new world. Education for globalism and development of global competencies are extremely important for the progress and betterment of the human society.

Rieckmann (2013) tried to answer the question which individual competencies are crucial for understanding the most important problems in the society around the globe, such as injustice, poverty, loss of biodiversity and climate change. Education for sustainable development could be the key for developing these crucial competencies as they enable individuals to help the society progress in a more sustainable direction. In a two-round Delphi study, which lasted from September 2008 to February 2009, seventy selected experts from Europe (UK and Germany) and Latin America (Mexico, Chile and Ecuador) defined a range of key competencies needed for education for sustainable development. They discussed about twelve key competencies for sustainable development and the top three key competencies were critical thinking, anticipatory thinking and systematic thinking. The study also revealed minor differences between the European and Latin-American participants. The European experts gave more importance to competencies associated with empathy and change of perspective, and Latin-American experts gave more importance to competencies closely related to participation and cooperation.

Hu, Pazaki and Velandar (2014) tried to estimate students' level of global competencies in their study. The study was conducted at a state university in the Northeast region of the United States. The main focus of this research was global citizenship, along with global competitiveness and cooperation, and global

awareness. Twelve faculty members, who are full time professors at the university, were selected through a "snowball sampling method". They were invited to participate in a focus group research to assess students' knowledge and skills regarding global competencies. The results of this study suggest that many students do not possess sufficient knowledge and information about global competencies. This study also discussed various institutional and cultural barriers that are considered to contribute to insufficient level of global competencies among students.

Camilleri (2016) reviewed benefits and challenges of global education and intercultural interaction among students participating in eTwinning projects between various European countries. The results showed that the teachers are eTwinning<sup>1</sup> leaders and agents of social change, but that they also lack formal training or continuous teacher education to teach in multicultural societies and promote global competencies. This study also showed the importance of equipping students with twenty-first century skills and important role eTwinning plays in it.

Engel, Fundalinski and Cannon (2016) focused on exploring how global citizenship and education about competencies is defined and practiced within US education policy with a particular focus on the local elementary and secondary school levels.

Turturean (2013) tried to determine the most important competencies for teachers by literature analysis. The author concluded that the most important competencies for teachers were psycho-pedagogical and psycho-relational ones, which highlight the need to establish partnership relation with students, to communicate effectively and empathize with them, and to be open to students' suggestions in order to improve educational approach.

Wong and Yunus (2021) presented a systematic literature review to examine students' perception of the use of board games in learning, as well as the use of board games in improving their speaking skills. The databases searched were Google Scholar, ERIC, and SAGE Journal in the period from 2017 to 2021. 35 articles were selected and it was found that board games had several positive effects on students' speaking performance, such as improving their speaking competence, increasing their motivation to speak, and increasing interpersonal interactions among students. The authors suggest further research on teachers' opinions about the use of social games in teaching and speaking.

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<sup>1</sup> The eTwinning action is an initiative of the European Commission that aims to encourage European schools to collaborate using Information and Communication Technologies by providing the necessary infrastructure.

Zain and Aiyub (2021) presented a systematic literature review to analyze the competencies that teachers should have to be able to educate students for sustainable development. WoS and Scopus databases were searched and 208 papers were selected. Based on the thematic analysis, three main competencies needed for education for sustainable development were intrapersonal competencies of teachers, professional competencies, and specific competencies of teachers for sustainability. The results of this research helped formulating strategies for improving the competencies of teachers for education for sustainable development.

## A systematic literature review

A literature review is of high importance for any researcher dealing with a research problem. Improving knowledge about a specific topic must be based on previous knowledge about it. By reviewing the relevant literature, one understands the depth and breadth of the investigated problem and at the same time defines the shortcomings that need to be investigated (Paré et al. 2015). There are three types of literature review. The first one is the most common literature review or theoretical background, which is usually part of an article in a magazine that provides theoretical foundation and helps put the research question in focus. The second type of literature review is the one we find in graduate or academic theses, i.e. literature review for theses. The third literature review is an independent literature review whose sole purpose is to review the existing literature on a specific topic. This type of literature review is conducted using a rigorous systematic standard and is called a systematic literature review and can be an original and valuable research paper. A good systematic literature review creates a solid starting point for all researchers who decide to pursue a particular topic. The first step in creating a good systematic literature review is to clearly define the purpose and intended goals of the review, that is, to state the purpose of a particular systematic literature review. Furthermore, it is important that all authors working on the literature review are familiar with and agree on the data collection and processing procedure. Also, the authors must be explicit in describing the literature search, as well as justify and explain how the comprehensiveness of the search was ensured. The next step requires clarification for the inclusion and exclusion of a particular study in a systematic literature review. The criteria for inclusion and exclusion in the review are objective, explicitly stated and consistently implemented so that the decision to include or exclude certain studies is clear to the readers. After identifying all included studies, researchers should systematically extract applicable information from each study. The next step is the synthesis of the studies, that is, the analysis that includes combining

the facts extracted from the studies using the appropriate technique, qualitative or quantitative or a combination thereof. The last step is writing a systematic review, which implies adherence to standard principles when writing scientific articles, and the procedure of a systematic literature review itself needs to be described in sufficient detail so that the research results can be independently reproduced (Okoli and Schabram, 2010).

## Methodology

By using a systematic literature review, papers in the field of global competencies in education published in the period from 2018 to 2022 were selected. The researchers searched the WoS (Web of Science) database based on keywords: global competencies of educators, global competencies of preschool teachers, global competencies in primary education, global competencies in secondary education, university global competencies and global competencies for lifelong learning.

Through the initial search, the researchers found 190 papers based on the selected criteria (given keywords and the time period). After further manual search, 92 papers were selected. Three researchers participated in the selection of papers. They independently searched the database by using given keywords (each researcher was given his own keywords to search the database) and selected papers. If the paper included different levels of education, the researchers jointly decided into which category the paper belongs. After a joint analysis of the papers, the researchers agreed on the inclusion/exclusion of the papers.

The researchers selected the papers based on the following criteria:

- a) the papers were published on the WoS portal in the period from 2018 to 2022
- b) the papers discuss global competencies in education from primary to tertiary educational level

**Table 1.**  
*Searches*

	<b>Keywords</b>
1.	"global competencies of educators"
2.	"global competencies of preschool teachers"
3.	"global competencies in primary education"
4.	"global competencies in secondary education"
5.	"university global competencies"
6.	"global competencies for lifelong learning"

**Table 2.**

*Inclusion Criteria*

Papers had to:
1. be published on the Web of Science portal
2. be published between 2018 and 2022
3. be written in English
4. discuss global competencies in education

**Table 3.**

*Exclusion Criteria*

Papers that:
1. discuss global competencies in other fields

In the analysis of the papers, the researchers tried to determine:

1. In which year are the most papers published?
2. At what level of education are the most papers published (primary, secondary or tertiary education)?
3. Which type of the paper is the most represented?
4. Which thematic area is the most represented?
5. Which countries have the most paper about global competencies in/for education?

## Results and discussion

**Table 4.**

*Years of publication of the papers*

<b>Year of publication</b>	<b>Paper</b>
2018	22
2019	15
2020	16
2021	20
2022	19
<b>Total</b>	<b>92</b>

The most papers (22) were published in 2018, and as many as 10 of them were on the topic of the university's global competencies. In 2019, a decrease in the number of papers was recorded, but since then the number of papers on the topic of global competencies has been increasing (it should be noted that November

and December 2022 were not taken into account, as the search was carried out in October 2022).

**Table 5.**

*Number of papers by keywords*

<b>Keywords</b>	<b>Paper</b>
global competencies of educators	5
global competencies of preschool teachers	7
global competencies in primary education	9
global competencies in secondary education	21
university global competencies	46
global competencies for lifelong learning	5
<b>Total</b>	<b>93<sup>2</sup></b>

Half of the papers (50%) published on the topic of global competencies refer to university global competencies, and 22% to global competencies in secondary education, which is 72% of the total published papers (which can be seen in the table on the next slide). Half of the papers (50 %) published on the topic of global competencies refer to university global competencies and 22% to global competencies in secondary education.

**Table 6.**

*Number of papers by type*

<b>Type of paper</b>	<b>Paper</b>
Article	63
Book Chapter	3
Book Review	1
Proceedings Paper	24
Review	1
<b>Total</b>	<b>92</b>

The most represented papers are articles, followed by proceedings papers. Articles account for more than 68% and Proceedings Papers for 26%, which are almost all published papers.

<sup>2</sup> The number of papers by keywords is ninety-three because one paper appears as a searching result for two keywords.

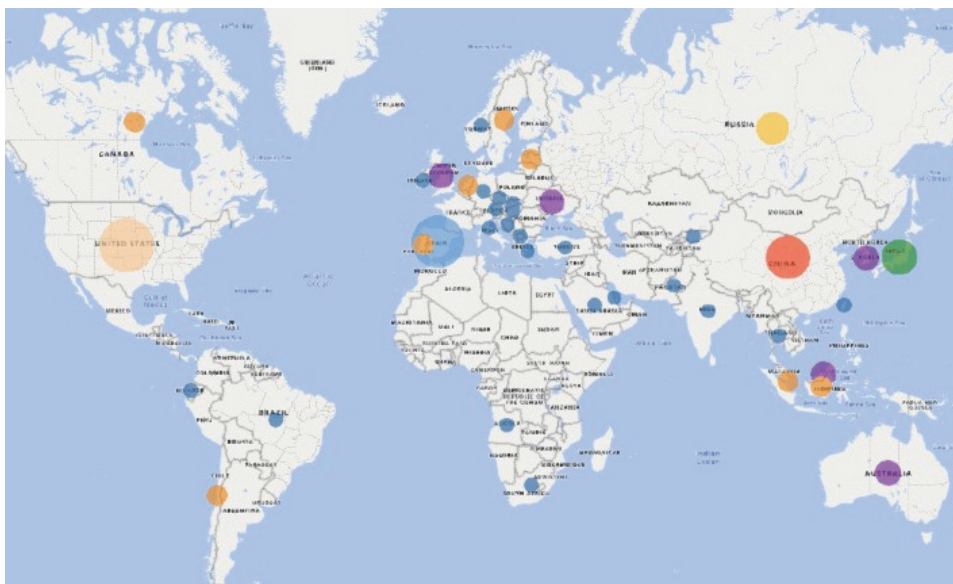
**Table 7.**
*Number of papers by country*

<b>Country</b>	<b>Paper</b>	<b>Country</b>	<b>Paper</b>
United States	14	Bosnia & Herzegovina	1
Spain	13	Brazil	1
China	9	Czech Republic	1
Japan	6	Ecuador	1
Russia	5	Germany	1
Australia	3	Greece	1
Malaysia	3	Hungary	1
South Korea	3	India	1
Ukraine	3	Ireland	1
United Kingdom	3	Italy	1
Canada	2	Kyrgyz Republic	1
Chile	2	North Macedonia	1
Indonesia	2	Norway	1
Latvia	2	Pakistan	1
Netherlands	2	Saudi Arabia	1
Portugal	2	Slovakia	1
Singapore	2	South Africa	1
Sweden	2	Taiwan	1
Angola	1	Thailand	1
Austria	1	Turkey	1
Bahrain	1	Total	101 <sup>3</sup>

The largest number of papers on the topic of global competences in education was published in the USA, Spain, China, Japan and Russia, a total of 47 papers, which is more than 46% of the total published papers on the subject in the whole world. Thus, five countries published almost half of the total published works in the world on the topic of global competences in upbringing and education.

<sup>3</sup> The number of papers by country is 101, not 92, because some papers were written by a group of authors from different countries or they did a research on education in various countries.





**Figure 1.**

**Table 8.**

Continent	Paper
Europe	40
Asia	36
North America	16
South America	4
Australia	3
Africa	2
<b>Total</b>	<b>101<sup>4</sup></b>

About 40% of the papers come from Europe, 35% from Asia and 16% from North America, which is about 91% of the total published papers on the topic of global competencies in education.

<sup>4</sup> The number of papers by continent is 101, not 92, because some papers are the work of several authors from different continents.

**Table 9.**

*References by specific areas of global competencies*

Global competencies area	References
Teachers' education (13)	1. Byker & Ezelle-Thomas (2021)
	2. Gough et al. (2018)
	3. Iurina & Gorlova (2018)
	4. Jurgena et al. (2021)
	5. Lopez & Morales (2021)
	6. Lopukhova et al. (2020)
	7. Marinic & Valek (2018)
	8. Melnyk et al. (2021)
	9. Morris & Brougham (2021)
	10. Paine (2019)
	11. Rebollo-Quintela & Losada-Puente (2021)
	12. Rocha & Paixao (2018)
	13. van Werven et al. (2021)
Sustainable Development (6)	14. Albareda-Tiana et al. (2018)
	15. Beleslin & Travar (2022)
	16. Jimenez & Alvarez-Hevia (2021)
	17. Lochner (2021)
	18. Sehyeon et al. (2018)
STEM <sup>5</sup> (2)	19. Kim & Nam (2022)
	20. Carracedo et al. (2018)
Language competencies (5)	21. Salvatierra & Cabello (2022)
	22. Cao & Meng (2020)
	23. Cho & Joo (2020)
	24. Kjellgren (2020)
	25. Ramsey-Tyson & Abdysheva (2022)
	26. Sakamoto & Roger (2022)
Intercultural competencies (29)	27. Arfani & Nakaya (2019)
	28. Balnaves (2018)
	29. Brisbois & Pereira (2019)
	30. Byker & Putman (2019)
	31. Cao & Meng (2020)
	32. Chan et al. (2022)
	33. Chong et al. (2022)
	34. Ganley et al. (2019)
	35. Gomez-Jarabo & Sosa (2018)

<sup>5</sup> science, technology, engineering i mathematics

Intercultural competencies (29)	36.	Guillen-Yparrea & Ramirez-Montoya (2022)
	37.	Hanesova & Kubisova (2019)
	38.	Heng & Yeh (2022)
	39.	Herzog-Punzenberger et al. (2020)
	40.	Hofmeyr (2021)
	41.	Huang et al. (2021)
	42.	Huber et al. (2018)
	43.	Jalali et al. (2019)
	44.	Kang et al. (2018)
	45.	Klimova & Kopus (2019)
	46.	Lopez (2019)
	47.	Malkova & Maslennikova (2019)
	48.	Maslennikova (2021)
	49.	Moskal & Schweisfurth (2018)
	50.	Papadopoulou et al. (2022)
	51.	Pimpa & Heffernan (2020)
	52.	Raval et al. (2020)
	53.	Shin (2022)
	54.	Wang & Sun (2022)
	55.	Xu (2022)
ICT <sup>6</sup> (18)	56.	Diz-Otero et al. (2022)
	57.	Dzhurylo & Shparyk (2019)
	58.	Fox (2019)
	59.	Gales & Gallon (2018)
	60.	Herrera et al. (2022)
	61.	Jancheski (2020)
	62.	Leite et al. (2020)
	63.	Munro et al. (2018)
	64.	Naicker et al. (2021)
	65.	Ndubuisi & Marzi (2021)
	66.	Ndubuisi et al. (2020)
	67.	Ota & Murakami-Suzuki (2022)
	68.	Pozo et al. (2021)
	69.	Rodriguez-Sanchez & Gonzalez-Torres (2019)
	70.	Shliakhovchuk (2018)
	71.	Subarno & Dewi (2018)
	72.	Wong et al. (2021)
	73.	Zogla (2020)

<sup>6</sup> information and communications technology

Global competencies for the 21st century (19)	74.	Abbas et al. (2018)
	75.	Amutio et al. (2020)
	76.	Bailey et al. (2022)
	77.	Chan et al. (2021)
	78.	Choo (2020)
	79.	Diachkova et al. (2021)
	80.	Elgeddawy (2018)
	81.	Giuinti et al. (2019)
	82.	Hong (2020)
	83.	Jones (2018)
	84.	Kjellgren & Keller (2018)
	85.	Kuhn et al. (2020)
	86.	Kurath & Sipos (2021)
	87.	Peixoto-Pino et al. (2019)
	88.	Radzi et al. (2022)
	89.	Silva et al. (2022)
	90.	Sukani & Abd Karim (2018)
	91.	Ueda et al. (2021)
	92.	Worthington (2018)

As for the thematic area that is most represented in the reviewed papers, the results show that these are intercultural competencies (29 papers), global competencies for the 21st century (19), ICT (18), teachers' education (13), sustainable development (6), language competencies (5) and STEM (2).

When analysing global competencies in early and preschool education, as well as in primary education, the results of this systematic literature review show the following findings: the largest number of papers deal with the topic of global competencies for the 21st century. Kuhn et al. (2020) conducted a mixed method study with preschool children (19 participants) in which the results show a significant connection between the childrens' challenging behavior and their lack of global competencies. Furthermore, Sukani et al. (2018) conducted a study involving 50 educators about their global competencies in teaching children at the global level of the 21st century. Peixoto-Pino (2019) conducted a study on a sample of 30 teachers and 430 students. The research dealt with globalizing approaches and interdisciplinary projects in the teaching of physical and health education in primary school. The results have shown that coordinated teachers, with a joint pedagogical initiative, can organize and implement an interdisciplinary project on a curricular recognized and socially necessary educational subject. The author also emphasized the importance of involving the entire educational community for this type of action to initiate a more reflective and ef-

fective teaching and learning process. Research by Giunti et al. (2019) aimed to describe the first results of a multiple case study approach that investigated the impact of service learning (SL) on teaching and learning practices. The study highlighted that when the SL approach is properly implemented in accordance with quality standards, global citizenship can really become the background that integrates the curriculum and the disciplines.

Furthermore, van Werven et al. (2021), Rebello-Quintella et al. (2021), and Jurgena et al. (2021) discussed teachers' education and professional development for global education, while the development of necessary competencies for global education was studied by Melnyk et al. (2021). The influence of pedagogical digital changes, which require digital competencies from teachers and educators, was studied by Zogla (2020), while Pozzo et al (2021) indicated that the use of information and communication technologies (ICT) is reproductive and not constructive, which prevents effective integration of digital technologies into the curriculum for students to acquire the 21st century competencies. Shliakhovchuk (2018) examined fun games and serious video games (games designed for a primary purpose other than pure entertainment) to suggest ways video games could be used in classrooms for promotion of cultural values, human rights, peace in the world, reduced stereotyped thinking and prejudices and develop critical thinking. Balnaves (2018) discussed the process of developing the virtual world of Minecraft for children to participate in it on a global level and the purpose of this paper was to inform about the similarities in intercultural frameworks according to the Australian curriculum for teaching intercultural competencies in primary schools, which are an essential part of curriculum. Education for sustainable development in preschool and primary education was dealt with by Lochner (2021), who studied the impact of education for sustainable development through virtual school gardens and the mutual exchange of students' experiences. Jimenez et al. (2021) emphasized the importance of developing scientific skills of the next generation of young people to ensure global ecological sustainability and the ability to solve many global problems caused by narrow scientific thinking.

When analysing global competencies in secondary education, the results of this systematic literature review show the following findings: twenty papers were published in the area of global competencies in secondary education and their topics were various. The authors mostly conducted research in the fields of teachers' education and sustainable development, which is an important global topic. After teachers' education, sustainable and environmental education, the papers mostly dealt with ICT skills. Other topics included 21<sup>st</sup> century skills, interculturalism, English language skills and other global competencies. Education for sustainable development not only in preschool and primary education, but also in secondary

education was dealt with by Lochner (2021) who studied the impact of education for sustainable development through virtual school gardens and the mutual exchange of students' experiences. Kim and Nam (2022) discussed environmental education, while Sehyeon et al. (2018) discussed the effect of social problem solving education for sustainable development. Radzi et al. (2022) discussed sustainability and global citizenship. Their focus was on the progress towards a sustainable nation by using Climate Change Education and Actions.

According to Jones (2018), international skills and competencies are valuable tools for teaching in secondary education. Chan (2021) evaluated generic competencies among secondary school leavers. Silva et al. (2022) discussed 21st century skills on examples of challenges of the Border Educational Centers. Hong (2020) conducted research in six secondary schools about the need for global citizenship education. Shin (2022) discussed education for competencies based on human rights by the practical discourse of civil democracy education. Jancheski (2020) presented ICT projects in education, while Dzhurylo and Shparyk (2019) discussed ICT competencies of secondary school teachers and students in the context of education informatization. Marinic and Valek (2018) focused on transformation of teaching of economic subjects from the Framework Education Programme to School Education Programme. Ramsey-Tyson and Abdysheva (2021) discussed the new face of the English language, while Cho and Joo (2020) discussed transversal competencies on a case study on practices in English education.

Rocha (2018) conducted a research about teachers' education. Subarno and Dewi (2019) addressed the challenges of vocational high school teachers. Wong et al. (2021) conducted a research about secondary school teachers' psychological status and competencies in e-teaching during Covid-19, while Diz-Otero et al. (2022) also addressed the Covid-19 pandemic by researching digital competencies of teachers in secondary education. Amutio et al. (2020) tried to predict academic performance through relaxation-meditation-mindfulness and emotional competencies. Herzog-Punzenberger et al. (2020) conducted a research about teachers' responding to cultural diversity. Their focus was on the assessment of practices, challenges and experiences in secondary schools. Ganley et al. (2019) conducted a research of the impact of international teachers on students' geo-cultural knowledge and intercultural receptiveness.

When analysing university global competencies and global competencies for lifelong learning, the results of this systematic literature review show the following findings: five papers were published in the area of global competencies for lifelong learning and their topics were global competencies for the 21st century and information and communications technology (ICT). The findings

that Elgeddawy (2018) found in his research suggest that integrating a mix of skill-based humanities, social sciences, natural sciences and mathematics core curriculum courses into higher education curricula improves students' global learning, thinking and future employability. Bailey, Ledger, Thier and Pitts (2022) re-examined the ways of measuring global competencies in the Program for International Student Assessment (PISA) and identified some inconsistencies. The authors call for continued critique of the global competencies measurement. Ndubuisi and Marzi (2021) published their findings on the Intercultural Competency Modules (ICMs) that improved intercultural, virtual-collaboration, and discipline-based skills. Ndubuisi, Khan, Marzi and Edun (2020) introduced the use of the Knowledge Community and Inquiry (KCI) pedagogical model to design an inter-cultural learning course for student participants in the International Virtual Engineering Student Teams (InVEST) project. Gales and Gallon (2018) compared traditional learning and communication processes and contexts to new strategies and learning situations adapted to a hyper-connected world. The authors propose universal pedagogical principles designed for a globalised society where human-machine interaction is becoming commonplace.

Forty-six papers were published on the topic of university global competencies, of which as many as twenty-three were on the topic of Intercultural competencies, ten on the topic of ICT, seven on the topic of Teachers' education, six on the topic of Global competencies for the 21<sup>st</sup> century, three on the topic of Language competencies and one on the subjects of STEM and Sustainable Development.

## Conclusion

Global competencies are present at all levels of education and most papers discuss more than just one competence. As far as preschool education and primary education are concerned, the authors mostly write about global competencies for the 21<sup>st</sup> century, professional education for teachers for global competencies, intercultural and ICT competencies, and least of all about global competencies for sustainable development, which are important in this globalized and accelerated world.

On the other hand, as far as global competencies in secondary education are concerned, the authors mostly write about global competencies for sustainable development as sustainability is a global issue. Other well represented topics are professional education for teachers for global competencies, development of ICT and 21<sup>st</sup> century skills for global competencies. In the field of university global competencies and global competencies for lifelong learning, the authors mostly write about intercultural and ICT competencies.



In the analysis of the papers is determined in which year were the most papers published (2018), at what level of education were the most papers published (tertiary education as half of the papers refer to university global competencies), which type of the paper is the most represented (article), which thematic area is the most represented (intercultural competencies) and which countries have the most papers about global competencies in/for education (United States and Spain).

Global competencies are a focal point for many researchers, especially in the field of education. Through this systematic review of literature, it was shown that global competencies are extremely important at all levels of education - from primary to tertiary education. Although the number of published papers varies from field to field, as well as from year to year, it can be concluded that global competences are the topic of research by many authors and that the interest in this topic is not waning.

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## Appendix

**Table 10.**  
*Included papers*

ID	Author	Publication Title	Year of Publication	Keyword	Type of Paper	Global competencies area	Country	Continent
1.	Zogla, I.	Topical Problems of Pedagogy: How these change in digital environments	2020	global competencies of educators	Proceedings paper	ICT	Latvia	Europe
2.	Xu, MB.	Migration, Religion and Early Childhood Education	2022	global competencies of educators	Book Review	Inter-cultural competencies	China	Asia
3.	Lochner, J.	Educators' intentions for learning in Virtual School Garden Exchanges: a comparison with the aims of Education for Sustainable Development	2021	global competencies of educators, global competencies in secondary education	Article	Sustainable Development	Germany	Europe
4.	van Werven, IM., Coelen, RJ., Jansen, EPWA., Hofman, WHA	Global teaching competencies in primary education	2021	global competencies of educators	Article	Teachers' education	Netherlands	Europe
5.	Rebollo-Quintela, N., Losada-Puente, L.	Competencial model of the teacher in early education	2021	global competencies of educators	Article	Teachers' education	Spain	Europe
6.	Beleslin, TP., Travar, M.	The Importance of the OMEP ESD Rating Scale for Building Future Preschool Teachers' Professional Competencies in Bosnia and Herzegovina	2022	global competencies of preschool teacher	Article	Sustainable Development	Bosnia & Herzegovina	Europe

7.	Salvatierra, L., Cabello, VM.	Starting at Home: What Does the Literature Indicate about Parental Involvement in Early Childhood STEM Education. Education Science	2022	global competencies of preschool teacher	Article	STEM	Chile	South America
8.	Melnyk, N., Maksymchuk, B., Gurevych, R., Kalenskyi, A., Dovbnya, S., Groshovenko, O., Filonenko, L.	The Establishment and Development of Professional Training for Preschool Teacher in Western European Countries	2021	global competencies of preschool teacher	Article	Teachers' education	Ukraine	Europe
9.	Jurgena, I., Cedere, D., Kevisa, I	Comparative Study on the Understanding of Responsiveness in Pre-School Teachers in the COVID-19 Emergency Situation (2018-2020)	2021	global competencies of preschool teacher	Proceedings paper	Teachers' education	Latvia	Europe
10.	Kuhn, M., Boise, C., Marvin, CA., Knoche, LL.	Challenging Behaviors and Executive Function in Preschool-Aged Children Relationship and Implication for Practice	2020	global competencies of preschool teacher	Article	Global competencies for 21st century	United States	North America
11.	Sukani, MA., Abd Karim, AH.	Competency Teaching and Learning 21st Century Education : Preschool Teacher	2018	global competencies of preschool teacher	Proceedings paper	Global competencies for 21st century	Malaysia	Asia
12.	Worthington, M.	Foundations of Knowledge: Children's Cultural Ways of Knowing Mathematics	2018	global competencies of preschool teacher	Book Chapter	Global competencies for 21st century	Netherlands	Europe
13.	Jimenez, A., Alvarez-Hevia, DM.	Perception of primary school students toward learning about science: the Case of Spain	2021	global competencies in primary education	Article	Sustainable Development	United Kingdom	Europe



14.	Pozo, JI., Echeverria, MPR., Cabellos, B., Sanchez, DL.	Teaching and Learning in Times of COVID-19: Uses of Digital Technologies During School Lockdowns	2021	global competencies in primary education	Article	ICT	Spain	Europe
15.	Guillen-Yparrea, N., Ramirez-Montoya, MS	Intercultural competencies development for professional collaboration: a systematic literature mapping from 2016 to 2021	2022	global competencies in primary education	Proceedings paper	Intercultural competencies	Spain	Europe
16.	Choo, CSS.	Examining models of twenty-first century education through the lens of Confucian cosmopolitanism	2020	global competencies in primary education	Article	Global competencies for 21st century	Singapore	Asia
17.	Giuntini, C., Chipa, S., Orlandini, L.	The Impact of Service Learning in Teaching - Learning Practice	2019	global competencies in primary education	Proceedings paper	Global competencies for 21st century	Italy	Europe
18.	Peixoto-Pino, L., Rico-Diaz, J., Giraldez, VA.	Development and application of an interdisciplinary project on accident prevention promoted from the Physical Education Area in the stage of Early Childhood on Primary Education	2019	global competencies in primary education	Article	Global competencies for 21st century	Spain	Europe
19.	Abbas, N., Asiq, U., ul Haq, MA.	Gap between acquired and required English learning objectives for the primary school students: Empirical evidence from Sargodha (Pakistan)	2018	global competencies in primary education	Article	Global competencies for 21st century	Pakistan	Asia
20.	Balnaves, K.	World Building for Children's Global Participation in Minecraft	2018	global competencies in primary education	Proceedings paper	Intercultural competencies	Australia	Australia
21.	Shliakhovchuk, E.	Using Video Game in Intercultural, Diversity and Inclusion Education	2018	global competencies in primary education	Proceedings paper	ICT	Spain	Europe

22.	Jones, S.L.	International skills and competencies: tools for teaching in secondary education	2018	global competencies in secondary education	Proceedings paper	Global competencies for 21st century	United Kingdom	Europe
23.	Chan, K., Ng, M., So, J. and Chan, V.	Evaluation of generic competencies among secondary school leavers from the new academic structure for senior secondary education in Hong Kong	2021	global competencies in secondary education	Article	Global competencies for 21st century	China	Asia
24.	Hong, Y.	Do the conditions in Chinese secondary school education imply a need for global citizenship education? An exploration of six secondary schools in Jiangsu	2020	global competencies in secondary education	Article	Global competencies for 21st century	China	Asia
25.	Dzhurylo, A.P. and Shparyk, O.M.	ICT Competence for Secondary School Teachers and Students in the Context of Education informatization: Global Experience and Challenges for Ukraine	2019	global competencies in secondary education	Article	ICT	Ukraine	Europe
26.	Rocha, J and Paixao, F	Secondary School in Angola. Searching for Possibilities and Challenges for Teachers' Education	2018	global competencies in secondary education	Proceedings paper	Teachers' education	Angola	Africa
27.	Wong, K.Y., Sulaiman, T., Ibrahim, A., Mohd, A.G.K., Husain, O.H. and Jaafar, W.M.W.	Secondary school teachers psychological status and competencies in e-teaching during Covid-19	2021	global competencies in secondary education	Article	ICT	Malaysia	Asia

28.	Sehyeon, K., Son, Y-A.; EUN-JU, L., Kim, K., Kim, B., Nam, Y. and Choi, S.	The Effect of Social Problem Solving Education for Sustainable Development (SPS-ESD) Instruction Models on Elementary and Secondary School Students' ESD Competencies Improvement	2018	global competencies in secondary education	Article	Sustainable Development	Japan	Asia
29.	Shin, M. H.	Practical discourse of civil democracy education in the elementary and the secondary school through the lens of competency education: based on human rights	2022	global competencies in secondary education	Article	Intercultural competencies	China	Asia
30.	Marinic, P. and Valek, J.	Transformation of the Framework Education Programme to the School Education Programme with the Focus on Education of Economic Subjects in Czech Republic	2018	global competencies in secondary education	Proceedings paper	Teachers' education	Czech Republic	Europe
31.	Cho, B. and Joo, J. Y.	A Case Study on Practices of Transversal Competency in English Education in Korea	2020	global competencies in secondary education	Article	Language competencies	South Korea	Asia
32.	Radzi, S.N.F., Osman, K. and Said, M.N.M.	Progressing towards Global Citizenship and a Sustainable Nation: Pillars of Climate Change Education and Actions	2022	global competencies in secondary education	Review	Global competencies for 21st century	Malaysia	Asia
33.	Ramsey-Tyson, J.M. and Abdysheva, C.	The new face of English in the Kyrgyz Republic	2022	global competencies in secondary education	Article	Language competencies	Kyrgyz Republic	Asia

34.	Herzog-Punzenberger, B., Altrichter, H., Brown, M., Burns, D., Nortvedt, G.A., Skedsmo, G., Wiese, E., Nayir, F., Fellner, M., McNamara, G. and O'Hara, J.	Teachers responding to cultural diversity: case studies on assessment practices, challenges and experiences in secondary schools in Austria, Ireland, Norway and Turkey	2020	global competencies in secondary education	Article	Intercultural competencies	Austria, Ireland, Norway, Turkey	Europe
35.	Amutio, A., Lopez-Gonzalez, L., Oriol, X. and Perez-Escoda, N.	Predicting academic performance through relaxation-meditation-mindfulness and emotional competences	2020	global competencies in secondary education	Article	Global competencies for 21st century	Spain	Europe
36.	Jancheski, M.	ICT Projects in Macedonian Education from 2005 to 2019	2020	global competencies in secondary education	Proceedings paper	ICT	North Macedonia	Europe
37.	Silva, A.M., Garcia-Docampo, L., Silva, S.M. and Moledo, L. MdM.	Challenges of the Border Educational Centers of Portugal and Spain Towards the "21st Century Skills"	2022	global competencies in secondary education	Article	Global competencies for 21st century	Portugal and Spain	Europe
38.	Kim, J. and Nam, Y.	Effect of Board Game Design Activity for Environmental Education on High School Students' Environmental Knowledge, Environmental Literacy and Creative Engineering Problem Solving Propensity	2022	global competencies in secondary education	Article	Sustainable Development	South Korea	Asia
39.	Diz-Otero, M., Portela-Pino, I., Dominguez-Lloria, S. and Pino-Juste, M.	Digital competence in secondary education teachers during the COVID-19-derived pandemic: comparative analysis	2022	global competencies in secondary education	Article	ICT	Spain	Europe
40.	Subarno, A. and Dewi, A.S.	The Challenge of Vocational High School Teachers in Indonesia	2018	global competencies in secondary education	Proceedings paper	ICT	Indonesia	Asia

41.	Ganley, D., Kula, S.M. and Kallemeyn, D.	How US students' geo-cultural knowledge and intercultural receptiveness is impacted through contact with international teachers	2019	global competencies in secondary education	Article	Intercultural competencies	United States	North America
42.	Fox, E	Mobile Technology: A Tool to Increase Global Competency Among Higher Education Students	2019	university global competencies	Article	ICT	United States	North America
43.	Sakamoto, F; Roger, P	Global Competence and Foreign Language Education in Japan	2022	university global competencies	Article; Early Access	Language competencies	Japan	Asia
44.	Byker, E.J; Putman, SM	Catalyzing Cultural and Global Competencies: Engaging Preservice Teachers in Study Abroad to Expand the Agency of Citizenship	2019	university global competencies	Article	Intercultural competencies	United States	North America
45.	Kang, JH; Kim, SY; Jang, S; Koh, AR	Can college students' global competence be enhanced in the classroom? The impact of cross- and inter-cultural online projects	2018	university global competencies	Article	Intercultural competencies	South Korea, United States	Asia, North America
46.	Cao, C ; Meng, Q	Chinese university students' mediated contact and global competence: Moderation of direct contact and mediation of intergroup anxiety	2020	university global competencies	Article	Intercultural competencies	China	Asia
47.	Hanesova, D; Kubisova, L	Service learning methodology in building global competencies of university students	2019	university global competencies	Proceedings Paper	Intercultural competencies	Slovakia	Europe
48.	Naicker, A; Singh, E; van Genugten, T	Collaborative Online International Learning (COIL): Preparedness and experiences of South African students	2021	university global competencies	Article	ICT	South Africa	Africa

49.	Kjellgren, B; Keller, E	Introducing Global Competence in Swedish Engineering Education	2018	university global competencies	Proceedings Paper	Global competencies for 21st century	Sweden	Europe
50.	Heng, L; Yeh, HC	Interweaving local cultural knowledge with global competencies in one higher education course: an internationalization perspective	2022	university global competencies	Article	Intercultural competencies	Taiwan	Asia
51.	Malkova, IY; Maslennikova, OG	Internationalization of the Curriculum as a Resource for Building Global Competence of Master's Graduates	2019	university global competencies	Article	Intercultural competencies	Russia	Asia, Europe
52.	Gomez-Jarabo, I; Sosa, MJC	Development of global competence among students of education through the practicum subject	2018	university global competencies	Article	Intercultural competencies	Spain	Europe
53.	Leite, SN; Rover, MRM; Soares, L; Matheus, FC	Losses and gains in experiential education in a university pharmacy in Brazil: Lessons from a pandemic	2020	university global competencies	Article	ICT	Brazil	South America
54.	Huber, T; Brown, R; Roberson, PS	INTERCULTURAL COMPETENCY Crossing Borders Between Laredo, Texas, USA, and Ahmednagar, India	2018	university global competencies	Article; Book Chapter	Intercultural competencies	United States	North America
55.	Moskal, M; Schweisfurth, M	Learning, using and exchanging global competence in the context of international postgraduate mobility	2018	university global competencies	Article	Intercultural competencies	United Kingdom	Europe
56.	Papadopoulou, K; Palaologou, N; Karanikola, Z	Insights into Teachers' Intercultural and Global Competence within Multicultural Educational Settings	2022	university global competencies	Article	Intercultural competencies	Greece	Europe
57.	Diachkova, Y; Sazhiko, L; Shevchenko, L; Syzenko, A	Global Issues in ESP Classroom: Challenges and Opportunities in Higher Education	2021	university global competencies	Article	Global competencies for 21st century	Ukraine	Europe

58.	Chong, M; Gan, BKS; Menkhoff, T	Enhancing students' global competence through international business study missions	2022	university global competencies	Article	Intercultural competencies	Singapore	Asia
59.	Albareda-Tiana, S; Vidal-Ramontol, S; Fernandez-Morilla, M	Implementing the sustainable development goals at University level	2018	university global competencies	Article	Sustainable Development	Spain	Europe
60.	Cao, C; Meng, Q	Exploring personality traits as predictors of English achievement and global competence among Chinese university students: English learning motivation as the moderator	2020	university global competencies	Article	Language competencies	China	Asia
61.	Raval, MS; Kaya, T; Zaveri, M; Sharma, P	Experiments with Multinational Cross-Course Project	2020	university global competencies	Proceedings Paper	Intercultural competencies	India	Asia
62.	Chan, SCF; Ngai, G; Yau, JHY; Kwan, KP	Enhancing the impacts of international service-learning on intercultural effectiveness and global citizenship development through action research	2022	university global competencies	Article	Intercultural competencies	China	Asia
63.	Byker, EJ; Ezelle-Thomas, V	Preparing Teacher Candidates with Global Competencies: Taking Action on the Global Water Crisis with Service Learning	2021	university global competencies	Article	Teachers' education	United States	North America
64.	Pimpa, N; Heffernan, M	Challenges in Transnational Business Education: Learning and Teaching Perspectives from Australia and Singapore	2020	university global competencies	Article	Intercultural competencies	Thailand; Australia	Asia; Australia
65.	Kjellgren, B	Ways and Benefits of Closing the Gap: Aligning Language and Communication Teaching with the Technical Curriculum	2020	university global competencies	Proceedings Paper	Language competencies	Sweden	Europe

66.	Paine, LW	Missing voices and possible dialogues: problems and possibilities for teacher education	2019	university global competencies	Article	Teachers' education	United States	North America
67.	Ueda, Y; Kourakata, I; Tsuboi, N; Suzuki, T	Multicultural and Multi-disciplinary Project-based Learning with Industry Focus: Fostering Globally Competent Engineers	2021	university global competencies	Article	Global competencies for 21st century	Japan	Asia
68.	Hofmeyr, AS	Rethinking the concept of global human resources in the Japanese higher education context	2021	university global competencies	Article; Early Access	Intercultural competencies	Japan	Asia
69.	Lopez, TB; Kemp, AF; McKenzie, R	Building authentic intercultural awareness in the business classroom	2019	university global competencies	Article	Intercultural competencies	United States	North America
70.	Jalali, Y; Muller, R; Lohani, VK	Development and Contribution to Students' Intercultural Skills: A Case Study of an International Collaborative Site	2019	university global competencies	Proceedings Paper	Intercultural competencies	United States	North America
71.	Maslennikova, OG	Pedagogical Conditions for Internationalizing the Curriculum as Measures to Improve the Effectiveness of the Pedagogical Activity at a Research University	2021	university global competencies	Article	Intercultural competencies	Russia	Asia, Europe
72.	Gough, HL; Janega, N; Abu Dalo, M	Journaling and Reflection as Education Tools for Engineering Study Abroad	2018	university global competencies	Article	Teachers' education	United States	North America
73.	Arfani, JW; Nakaya, A	Meanings of International High School Education in Indonesia and Japan	2019	university global competencies	Article	Intercultural competencies	Japan; Indonesia	Asia



74.	Ota, E; Murakami-Suzuki, R	Effects of Online Problem-Based Learning to Increase Global Competencies for First-Year Undergraduate Students Majoring in Science and Engineering in Japan	2022	university global competencies	Article	ICT	Japan	Asia
75.	Lopukhova, Y; Makeyeva, E; Kuzovenkova, K	Internalization of teacher education as a part of a university internationalization strategy	2020	university global competencies	Proceedings Paper	Teachers' education	Russia	Asia, Europe
76.	Herrera, YR; Maygual, MAV; Romero-Rodríguez, JM; Alonso-García, S	Practice, training, and teaching competence in the exercise of the virtual academic modality	2022	university global competencies	Article	ICT	Ecuador	South America
77.	Morris, K; Brougham, RM	Reconceptualizing Spanish Teaching and Learning in Disruptive Times: Transformations from Curriculum Redesign	2021	university global competencies	Article	Teachers' education	United States	North America
78.	Carracedo, FS; Soler, A; Martin, C; Lopez, D; Ageno, A; Cabre, J; Garcia, J; Aranda, J; Gibert, K	Competency Maps: an Effective Model to Integrate Professional Competencies Across a STEM Curriculum	2018	university global competencies	Article	STEM	Spain	Europe
79.	Klimova, I; Kopus, T	Designing online course for curriculum internationalizing: blended learning format	2019	university global competencies	Proceedings Paper	Intercultural competencies	Russia	Asia, Europe
80.	Wang, XX; Sun, WY	Unidirectional or Inclusive International Education? An Analysis of Discourses From US International Student Services Office Websites	2022	university global competencies	Article	Intercultural competencies	China	Asia
81.	Kurath, G; Sipos, N	Competencies and success measured by net income among Hungarian HE graduates	2021	university global competencies	Article	Global competencies for 21st century	Hungary	Europe

82.	Lopez, MM; Morales, PRL	From Global South to Global North: Lessons from a Short-Term Study Abroad Program for Chilean Teacher Candidates in English Pedagogy	2021	university global competencies	Article	Teachers' education	United States, Chile	North America, South America
83.	Rodriguez-Sanchez, JL; Gonzalez-Torres, T	Improving interaction and communication in university students through the use of mobile apps	2019	university global competencies	Proceedings Paper	ICT	Spain	Europe
84.	Huang, YX; Zhu, JB; Chen, B	Investigating the Impact of Engagement in Prior International Learning Experiences on Engineering Students' Learning Outcomes	2021	university global competencies	Article	Intercultural competencies	China	Asia
85.	Iurina, M; Gorlova, E	Adopting 21st century competencies for a technical university curriculum	2018	university global competencies	Proceedings Paper	Teachers' education	Russia	Asia, Europe
86.	Brisbois, MD; Pereira, HR	Bridging the Atlantic: Optimizing the health of vulnerable community aggregates through international student exchange	2019	university global competencies	Article	Intercultural competencies	United States, Portugal	North America, Europe
87.	Munro, V; Morello, A; Oster, C; Redmond, C; Vnuk, A; Lennon, S; Lawn, S	E-learning for self-management support: introducing blended learning for graduate students - a cohort study	2018	university global competencies	Article	ICT	Australia	Australia
88.	Elgeddawy, M	University students' perceptions of a core curriculum program in a constructivist learning environment: the case of Saudi Arabia	2018	lifelong learning global competencies	Proceedings Paper	Global competencies for 21st century	Saudi Arabia	Asia
89.	Bailey, L; Ledger, S; Thier, M; Pitts, CMT	Global competence in PISA 2018: deconstruction of the measure	2022	lifelong learning global competencies	Article; Early Access	Global competencies for 21st century	Bahrain	Asia

90.	Ndubuisi, A; Marzi, E	InVEST: Equipping Engineering Students with Professional Competencies and Interpersonal Skills	2021	lifelong learning global competencies	Proceedings Paper	ICT	Canada	North America
91.	Ndubuisi, A; Khan, R; Marzi, E; Edun, O	A KCI Approach to Promote Inter-cultural Competencies for International Virtual Engineering Student Teams (InVEST) International Virtual Engineering Student Teams (InVEST)	2020	lifelong learning global competencies	Proceedings Paper	ICT	Canada	North America
92.	Gales, NL; Gallon, R	Event horizon: helping students to learn what nobody knows yet	2018	lifelong learning global competence	Article; Book Chapter	ICT	Spain	Europe

## WHAT ARE TEACHERS SUPPOSED TO KNOW WHEN TEACHING AUTISTIC CHILDREN?

Nataša Dolović

Angerona, private educational and rehabilitational practice

### Abstract

Education of children with autism spectrum conditions (ASC) presents a major challenge to teachers as they encounter more neurodiverse children in their classrooms and find more and more difficult to follow well established teaching methods and strategies. The teacher finds herself or himself in a situation that requires not only professional but also cognitive and psychosocial flexibility, which is quite different from the one they teach typical developed (TD) children. It is extremely important to learn the biological and psychosocial features of autism itself in relation to the level of its specific support needs (according to the DSM-V classification). By acquiring literacy as well as encouraging intellectual and cognitive skills, children with ASC increase their everyday functionality and greater readiness for life, independence and autonomy, and thus the possibility of employment, which is a goal for every parent and professional, hopefully.

**Key words:** education, autism, terminology for ASC

*„Putting kids who are on the spectrum in the same classroom as their nonautistic peers and treating them the same way is a mistake. For elementary school children, being in the same classroom with their normal peers is good for socialization. The teacher can bring in higher level work in subjects the child excels at. But if a school treats everyone the same, guess what: The person who's not the same is going to stand alone. That person will be marginalized in the classroom. And once that happens, it won't be long before that student is marginalized for good—sent to a separate classroom or even a separate school. And suddenly the Asperger's kid might find himself in the same program as a bunch of nonverbal kids.” (148-149)*

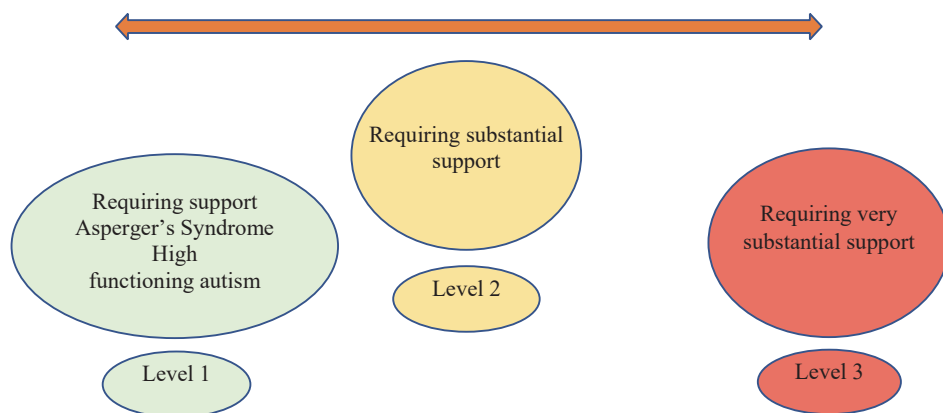
Temple Grandin

## Introduction

Global competences of 21st century in education of children and young students require a different perception of children's skills and learning abilities with regard to increasing neurodiversity among them. Teachers are challenged by that neurodiversity and quite often their existing methods and strategies are not enough in educating young minds. Professional, cognitive, and psychosocial flexibility is required in better understanding and acceptance of child's individuality. Therefore, the quality of education depends not only on the national curriculum but also on teachers' readiness to adapt and evolve. To increase the effectiveness of school work, it is necessary to focus on the value systems of educational goals, such as altruism, integrity, courage, sustainability, uniqueness, support, flexibility, and improvement. Accordingly, changes must be introduced that will benefit students. However, achieving these aims requires introspective constructive criticism of the current school system and the formal study programmes of teachers and preschool teachers. The contemporary approach to the culture of inclusive education emphasizes respect for the diversity of all students included in the classroom (Ivančić & Stančić, 2013).

## Autism Spectrum Conditions (ASC)

Autism Spectrum Conditions (ASC) are set of complex neurodevelopmental neurodiversity with onset in early childhood affecting social cues understanding, communication and language in general, especially the pragmatics, the ability of sensory modulation, emotional regulation and executive cognitive functions (American Psychiatric Association, 2013). The Diagnostic and Statistical Manual of Mental Disorders (DSM-V), used by clinicians and researchers to diagnose and classify mental disorders (APA, 2013) concise previously four disorders (autism, Asperger's syndrome, childhood disintegrative disorders, and PDD-NOS-pervasive developmental disorder not otherwise specified) into one unique descriptive term of autism spectrum disorders under three levels (APA, 2013) which should maximizes diagnostic sensitivity and specificity in young children (Wiggins, Rice, Barger, Soke, Lee, Moody, Edmondson-Pretzel & Levy, 2019).



**Figure 1.**  
*Autism Spectrum Conditions according to DSM-V (APA, 2013)*

Figure 1. illustrates the different levels of the autism spectrum as defined by the diagnostic criteria in the DSM-V manual. These levels are based on the level of support required in everyday living, social communication, and restricted and repetitive behaviours. It is important to note that given the existing spectrum of conditions, determining the boundaries between levels can be challenging, and requires significant expertise on the part of the diagnosing professional. The Autism Diagnostic Observation Schedule-Second Edition (ADOS-2) is a standardized assessment tool used to diagnose ASC in both children and adults. Based on the results of the ADOS-2 protocol, the level to which a child belongs can be determined. It is important to note that the severity levels of autism spectrum condition (ASC) in children under the age of 5 can vary greatly, but are relatively stable by the age of 3 (Pierce, Gazestani, Bacon, Barnes, Cha, Nalabolu, Lopez, Moor, Pence-Stophaeros & Courchesne, 2019; Ozonoff, Young, Landa, Brian, Bryson, Charman, Chawarska, Macari, Messinger, Stone, Zweingenbaum & Iosif, 2015). The effectiveness of educational rehabilitation procedures depends on the type of procedures applied, the education level of parents or caregivers, and to a lesser extent, the amount of procedures. Quality is more important than quantity in educational and rehabilitation procedures. It is not uncommon for an autistic child to attend numerous therapeutic procedures but not make expected progress, or even regress. This is why the quality of the educational rehabilitation approach should be given priority over quantity, especially if it includes the education of parents or caregivers, which is one of the most important factors. If a child is not included in appropriate educational rehabilitation processes, or if these processes are inadequate, the child may experience an increase in their specific support needs level, going from L2 to L3 or from L1 to L2, meaning that

their developmental state is deteriorating. On the other hand, if the child is included in effective educational rehabilitation procedures, they may experience a decrease in their specific support needs level going from L2 to L1 or from L3 to L2, meaning that their developmental state is improving. This indicates that the child requires less support in their everyday activities and is likely to achieve better developmental outcomes. Please check the grammar and spelling

**Table 1.**

*Levels of ASC in social communication and restricted, repetitive behaviours*

<b>Levels of ASC</b>	<b>Social communication</b>	<b>Restricted, repetitive behaviours</b>
<b>Level 1</b>	<ul style="list-style-type: none"> <li>- often without support</li> <li>- late diagnosed or false diagnose (ADHD)</li> <li>- atypical social overtures</li> <li>- odd and unsuccessful friendships</li> <li>- always start regular school system</li> </ul>	<ul style="list-style-type: none"> <li>- inflexibility of behaviours</li> <li>- difficulty switching between activities</li> <li>- impairment in understanding social cues</li> <li>- difficulty in executive functioning</li> <li>- often co-occurring obsessive and compulsive disorder and intense interest</li> <li>- high risk for mental health issues</li> </ul>
<b>Level 2</b>	<ul style="list-style-type: none"> <li>- more significant verbal and non-verbal difficulties</li> <li>- social impairments even with supports in place</li> <li>- limited or no social initiations (except for imperative purposes)</li> <li>- difficulties of language pragmatics</li> <li>- regular schools under adapted curriculum</li> </ul>	<ul style="list-style-type: none"> <li>- inflexibility of behaviour</li> <li>- difficulty coping with change</li> <li>- distress and/or difficulty changing focus or action with possibility of aggressive and auto aggressive behaviours</li> </ul>
<b>Level 3</b>	<ul style="list-style-type: none"> <li>- severe deficits in verbal and nonverbal social communication skills cause severe impairments in functioning</li> <li>- very limited initiation of social interactions</li> <li>- usually, non-verbal</li> <li>- in need of constant care and support</li> <li>- education in specialized centres</li> </ul>	<ul style="list-style-type: none"> <li>- inflexibility of behaviour--difficulty coping with change</li> <li>- distress and/or difficulty changing focus or action with possibility of aggressive and auto aggressive behaviours</li> <li>- significant difficulties of language pragmatics</li> <li>- great distress/difficulty changing focus or action</li> </ul>

Source: Adapted from APA (2013)

## Suggested terminology for ASC

Croatia was the third country to sign and, one year later, ratify the United Nations' Convention on the Rights of Persons with Disabilities (CRPD). According to the CRPD, 'disability' is not just the impairment that a person has, but the result of the interaction between the person's impairment (which is not only physical) and their environment. Given the significance of this convention, it is crucial to address people with disabilities in a way that preserves their dignity. Nowadays, we use terms like 'individuals or people with disabilities' and 'children with developmental delays'. Unfortunately, such suggestions have not been made for individuals with ASC, as they are considered to have an 'invisible disability' (Hurley-Hanson, Giannantonio & Griffiths, 2020) despite their growing incidence.

The most commonly used term in Croatia is 'autism spectrum disorders', as suggested by the DSM-V (APA, 2013). Psychiatrists and other medical professionals often use the term 'pervasive developmental disorder', which is based on the medical model of disability. This is contrasted with the social model of disability, which argues that we should do everything we can to help people with disabilities become as involved as possible in social, educational, and working life, to the extent that they want it. The social model provides the basis for the concept of 'neurodiversity', which acknowledges that the human brain is different from person to person, and that this uniqueness constitutes a biological and neurological difference, rather than a pathological condition (Singer, 2017; Baron-Cohen, 2017). Those who embrace the social model will more often use terms like 'autism spectrum difficulties' (ASD) or 'autism spectrum conditions' (ASC), emphasizing the unique heterogeneity within the spectrum itself.

It is also worth noting the language used to show acceptance of people with autism spectrum conditions. Therefore, we must pay attention to the language we use when addressing autistic people (Buijsman, Begeer, & Scheeren, 2022; Monk, 2022; Dwyer, Ryan, Williams & Gassner, 2022) and make efforts to promote diversity, equity, and inclusion in healthcare and other fields. Scientific debates have been ongoing for years, related to the basic human rights of respect and acceptance, so it is expected that there will be differences in terminology preferences. Research has shown that in the social community, people with ASC, especially self-advocates and those who live with them, prefer the term based on "identity-first language". This means that they use the words "autistic", "autistic person" or "autistic individual" because they accept autism as an inherent part of the identity of each individual. On the other hand, many parents and professionals prefer terminology based on "person-first language", which considers autism as a part of an individual's identity. Parents most often do not want their



children to be identified and called “autistic”, but want to put the person before any identifier such as autism (Dunn & Andrews, 2015; Kenny, Hattersley, Molins, Buckley, Povey & Pellicano, 2016). “Well-informed use of terminology can empower and support autistic people, while also changing the attitudes of the broader community” (Monk, 2022: 791).

**Table 2.**  
*Suggestions for researchers and other professionals*

<b>Might be offensive</b>	<b>Preferred to use</b>
Autism spectrum disorder (ASD)	Autism, autistic
Person-first language (person with autism)	Identity-first language (autistic person)
Pervasive developmental disorder (medical approach)	Autism spectrum conditions
Autism symptoms and impairments	Specific autistic experiences and characteristics
At risk of autism	May be autistic; increased likelihood of being autistic
Co-morbidity	Co-occurring
Functioning (e.g., high/low functioning) and severity (e.g., mild/moderate/severe) labels	Specific support needs
Cure, treatment, intervention	Specific support or service
Restricted interests and obsessions	Specialised, focussed, or intense interests
Normal person	Autistic or non-autistic

Source: Monk, 2022: 179.

However, the preferences for terminology should be left to all of us who work and live with autistic individuals. When writing research papers, publications, or blogs, it is suggested to use terms such as “autistic person” or “autistic individual,” as well as “person diagnosed with ASC” or “individual or child with ASC,” as none of these terms are found to be offensive, humiliating, or belittling in any way, and they all accept neurodiversity in the full light of humanity, representing a social model of disability and a model of human rights, which we strive for. It should be emphasized here that the term “autism spectrum disorder” should not be used as the only option offered by the DSM-V, a manual for assessing and diagnosing mental disorders, as it promotes the medical model of disability.

### Teacher’s attitudes toward the inclusion

The concept of inclusion is based on accepting individual neurodiversity in physical and psychological peculiarities. The purpose of such education should be to

create a school with equal opportunities for all, including those with typical and atypical development, regardless of their differences. The concept of inclusion should provide a variety of methods and strategies in which every student finds themselves in a supportive educational environment (Bratković & Teodorović, 2003). Teachers should have appropriate knowledge and skills to implement flexible methods and strategies for each child when they need it. This is the most challenging part of a teacher's competencies in working in inclusion (Bukvić, 2014). Teachers' beliefs "strongly influence the way that teachers teach and the way that they develop as teachers" (Domović, Vidović & Bouillet 2017: 175). There are both positive and negative perceptions of inclusive education in Croatia (Nikčević-Milković, Jurković, & Perković, 2019; Kudek Mirošević & Jurčević Lozančić, 2014). Teachers are generally supportive and open towards children's developmental diversities, but they emphasize inadequate knowledge in teaching such students (Nikčević-Milković et al., 2019; Kudek Mirošević et al., 2014).

The type of developmental diversity of the student might also influence the attitude of teachers (Jury, Perrin, Rohmer & Desombre, 2021a). The authors pointed out more negative attitudes toward the inclusion of students with autism spectrum conditions and cognitive disorders compared to students with motor impairments. Teachers find it harder to accept working with students with potential behavioral and emotional disorders or cognitive disabilities (Jury, Perrin, Rohmer, & Desombre, 2021b; Garrad, Rayner & Pedersen, 2019). This coincides with personal experience and observations when teachers complain the most and do not know how to react when they have a student with behavioral problems, mostly with non-compliance with social rules and very poor attention and concentration. On the other hand, Sosu & Rydzewska (2018) found that 90% of parents have a positive attitude toward the inclusion of their children in the mainstream classroom. 72% of them believe that their children will have life benefits, and 70% of typically developing children will also benefit from that experience (see also Stevens & Wurf, 2020). Although they value inclusion, they are concerned about factors that can limit a child's participation. These factors include inadequate understanding and responding to the child's educational needs, ensuring individualized attention, lack of resources and expert supports, psycho-social evaluations based on a medical model far from the concept of inclusive evaluation, lack of coordination and collaboration among different professionals, and, last but not least, lack of attention to the social and emotional well-being of their children to prevent bullying, which is a growing issue in our educational system (Sosu et al., 2018; Humphrey & Symes, 2010).

## Understanding ASC in the classroom

The Croatian legislation regulates inclusive education for autistic children with varying degrees of success. While autistic children are enrolled in regular school settings in mainstream and special education programs depending on their support needs, there is a lack of adequately educated professional resources to support their inclusion. This has raised questions about their inclusion in recent years, and the relevant ministries and agencies have been inert in providing support and good education for professionals. Primarily issues emerge regarding number of children in the classroom, sensory accommodation, textbook appropriate to their best ways of learning (visual learners), adequately educated assistants, professional support services, team collaboration including parents as partners. As mentioned before, the main features of ASC are social and communication difficulties as well as restricted and repetitive behaviours with narrow interest and low intrinsic motivation for learning new and unfamiliar contents. Accordingly, each child is unique, with their own challenges and strengths. Children with L1 and L2 usually attend regular school with individualized approach or under adapted curriculum, and students with L3 are enrolled in specialized programmes. False or late diagnosis can lead to unrecognized difficulties in authority acceptance, appropriate following of social rules, and emotional instability among L1 students, whose cognitive skills are average or above average. These children have difficulty understanding abstract concepts, irony, sarcasm, metaphors, idioms, and rhetorical questions. They also get easily distracted but can sustain attention, although their focus may be "odd" because they have difficulty deciding what information is relevant. They need guidance through the content of learning, and it is preferable to point out what they need to know. Due to false or late diagnosis, students with L1 are unrecognized even though they exhibit certain difficulties regarding authority acceptance, appropriate following social rules, and significantly emotional instability (Happé, 1995). Although, motor abilities are not part of diagnostic criteria set by the DSM-V, studies have shown that children with ASC, regardless their level of support, have poor motor co-ordination and motor planning, called dyspraxia (Dzjuk, Larson, Apostu, Mahone, Denckla & Mostofsky, 2007) which can affect handwriting skills (Kushki, Chau, & Anagnostou, 2011), and willingness to participate in games during physical education classes. Researches have suggested that autistic children have difficulties in self-regulation since their infancy and if not treated by cognitive and behavioural approach, it may persist up to the adulthood (Bandura, 1991; Gomez & Baird, 2005; Mazefsky, Herrington, Siegel, Scarpa, Maddox, Scahill & White, 2013) due to excitation and inhibition imbalance (Nelson & Valakh, 2015). Poor emotional control cause behavioural issues in the classroom and teachers report

that these issues are of mayor concern and present a challenge to their competencies in classroom management, socially and academically (Jury et al., 2021b; Garrad et al., 2019). Emotional regulation and behavioural issues might be in close relation to sensory modulation. It is widely recognized that children with ASC have unusual sensory modulation (Mamić & Fulgosi-Masnjak, 2012; Roley, Mailloux, Parham, Schaaf, Lane & Cermak, 2015). Sensory modulation or integration refers to the nervous system in which the brain has issues in receiving and responding to the information coming from the environment through our well-known senses (hearing, vision, taste, touch, and smell), and also senses coming from our joints and muscles, and inner ear. Understanding these processes in autistic children are very important due to their sensitivity which can cause overreaction and underreaction (Sapey-Triomphe, 2019).

The fundamental approach when teaching autistic students is cumulative and hierarchical learning, a concept set by Gagné (1968). He proposed that cognitive or intellectual development “depends mainly upon the acquisition of an ordered set of capabilities which build upon each other in progressive fashion through the processes of differentiation, recall, and transfer of learning” (Gagné, 1968:181). It means we cannot teach children the content of the national curriculum if the previous set of capabilities are not established. To ensure the successful inclusion of children with Autism Spectrum Condition (ASC), appropriate methods and strategies should be implemented. However, many teachers lack sufficient training to effectively support neurodiverse students, and may rely solely on resources like books and national curriculum, which do not always account for the unique needs and readiness of children with ASC. This underscores the importance of early intervention and preschool programs. When teachers make decisions without the necessary competencies, problems can accumulate and inclusion attempts may fail. Ultimately, the success of inclusion for autistic children depends on a variety of factors, such as the child’s support needs, academic strengths and weaknesses, communication skills, self-regulation capabilities, and the personal and professional preferences of teachers.

**Table 3.**  
*Usual challenges in the education of children with ASCL1*

<i>Usual challenges in the education of children with ASCL1</i>	
Narrow interests, focused, preoccupied with specific topics (Gunn & Delafeld-Butt, 2016)	Low frustration tolerance and poor coping/emotion regulation strategies (Zantinge, van Rijn, Stockmann & Swaab, 2017)
Hardship in making friends (Calder Calder & Pellicano 2013)	Restricted range of interests (Uljarević, Alvares, Steele, Edwards, Frazier, Hardan & Whitehouse, 2022)
Difficulty with initiating and/or sustaining reciprocal conversations (Peters & Thompson, 2015)	Poor writing skills- fine-motor problems (Rule & Smith 2018; Accardo, Finnegan, Kuder & Bomgardner, 2020)
Pedantic speech (Vogindroukas, Stankova, Chelas & Proedrou, 2022; Ghaziuddin & Gerstein 1996)	Difficulties in attention and concentration (Allen & Courchesne 2001)
Social naivety and literal thinkers (Humphrey & Lewis, 2008)	Academic difficulties with abstract content (Whitby & Mancil, 2009)
Difficulty with learning in large groups (Volkmar, 2011)	Emotional vulnerability (Charman, Ricketts, Dockrell, Lindsay & Palikara, 2015)
Very concrete thinking with difficulties in abstract concepts (Minshew, Meyer & Goldstein, 2022)	Motor clumsiness and dyspraxia (Dziuk, Larson, Apostu, Mahone, Denckla, & Mostofsky, 2007)
Problem-solving abilities tend to be poor (Williams, Mazefsky, Walker, Minshew & Goldstein 2014)	Sensory modulation (Sibeoni, Massoutier, Valette, Manolios, Verneuil, Speranza, & Revah-Levy, 2022), including eating issues Petitpierre, Luisier, & Bensafi 2021)
Vocabulary usually great in AS and HFA but comprehension poor (Gernsbacher, Morson & Grace, 2016)- weak pragmatics	Excitation and inhibition imbalance (Nelson & Valakh 2015)

Source: Adapted from Organization for Autism Research (2017:7)

## Conclusion

It is undoubtedly that teachers positively welcome the inclusion of children with ASC, but it is also obvious that they lack the knowledge and skills to make this inclusion successful. Therefore, in strengthening their competences, it is necessary to emphasize three aspects: personal and professional attitudes, knowledge and skill to implement knowledge to various situations working with neurodiverse children. In order to empower those aspects of competencies, teachers should seek for more knowledge, be ready to include and respect parents despite their subjectivity (knowledge will help to distinguish good information from bad), remember that you, teachers, are the bosses in your classroom, so make an effort to prepare your children for neurodiversity which is included, at the end of the day, we all are different in one way. In the classroom, there is often at least one student who is eager to help with a child with ASC teachers should leverage the power of peer support and use visual strategies to promote social goals and manage behavioural challenges (Spears & Turner, 2010). By developing literacy and cognitive skills, children with ASC can increase their daily living skills, readiness for independence, and ultimately, their employment prospects, which is a goal for both parents and professionals.

*“The teacher who does not understand that it is necessary to teach these children seemingly obvious things will feel impatient and irritated.... These children often show a surprising sensitivity to the personality of the teacher.... They can be taught, but only by those who give them true understanding and affection, people who show kindness towards them and, yes, good humour.” (p.103).*

Hans Asperger (1944)

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## DEVELOPMENT OF KEY COMPETENCIES FOR LIFELONG LEARNING THROUGH WORK WITH CUBETTO ROBOT IN EARLY AND PRESCHOOL EDUCATION

Monika Gudlin

PhD student of Postgraduate program of Pedagogy and  
Culture of Contemporary School  
Faculty of Humanities and Social Sciences Osijek

Ivan Lipanović, prof. mat. i inf.  
Association „Neki novi klinici“, Zagreb

### Abstract

The National Curriculum for Early Childhood and Preschool Education is an official document prescribed in the Republic of Croatia that contains the basic values for the education of children in kindergarten (Nacionalni kurikulum za rani i predškolski odgoj i obrazovanje, 2015, p. 3). It lists eight key competencies for lifelong learning: Communication in mother tongue, communication in foreign languages, mathematical competence and basic competencies in science, digital competence, competence about learning how to learn, social and civic competence, initiative and entrepreneurship, and cultural awareness and expression. This year, the association “Neki novi klinici” and two kindergartens in the city of Zagreb participated in the project “Šareno programiranje - STEAM za najmlađe”. This is an innovative program for learning programming from a young age with the help of the Cubetto robot. Cubetto is a wooden robot made according to the principles of Montessori pedagogy, has no screen, and is a simple didactic learning tool. The project was conducted as part of action research that showed that working with the Cubetti robot promotes and strengthens the development of all eight key competencies for lifelong learning. The paper shows the impact on the development of these competencies in preschool children.

**Keywords:** Cubetti robot, early and preschool education, key competencies, lifelong learning

## Introduction

Knowledge changes from day to day, it is enriched with new concepts and knowledge, and today it is no longer enough just to know, but to be constantly informed and to supplement the existing knowledge. In the past, the acquisition of facts and concepts was the essence of knowledge, today the concept of knowledge is much more complex. Today, you learn how you learn, and this does not just mean factual knowledge, but also the competencies and skills used to acquire knowledge. Learning is a long-term and lifelong process that lasts from birth to the end of life. A person learns every day, every second because every moment means something new and offers the opportunity to acquire new knowledge. This is exactly why the concept of lifelong learning was developed. Lifelong learning is indispensable in today's educational landscape. Lifelong learning refers to all activities for acquiring knowledge, skills, attitudes, and values throughout life with the goal of adopting or expanding them as part of the individual's personal, social, or professional development and activities. To instill the right values and attitudes in children, lifelong learning must be encouraged from the earliest age, from a child's birth. The family, as the child's primary educator, begins to promote the child's lifelong learning, and later educators in early childhood and preschool education settings continue to do so. Simply by being in a stimulating institutional environment, the child learns in a variety of ways. The greatest emphasis is placed on inquiry-based learning, independent action, and learning through play. By being exposed to challenging and stimulating situations on a daily basis, the child develops skills for lifelong learning.

## Key competencies for lifelong learning

Recognizing the importance of promoting lifelong learning, the European Commission has adopted the European Reference Framework, which lists eight key competencies for lifelong learning. The competencies for lifelong learning are adapted, specified, and described in detail in the document Nacionalni kurikulum za rani i predškolski odgoj i obrazovanje (hereinafter NKRPOO), one of the basic documents on which the educational process in kindergartens in Croatia is based. According to NKRPOO (2015), the key competencies for lifelong learning are 1. communication in mother tongue, 2. communication in foreign languages, 3. mathematical competence and basic scientific competencies, 4. digital competence, 5. learning how to learn, 6. social and civic competence, 7. initiative and entrepreneurship, and 8. cultural awareness and expression. Below is a description of all key competencies according to NKRPOO (2015).

Communication in the mother tongue means that the child expresses himself or herself correctly orally and records his or her thoughts, feelings, experiences, and experiences in various activities that are specific and meaningful to him or her. For early childhood and preschool children, writing down includes various forms, since children at this age usually cannot write yet and it is up to the educator to consider how the child can express himself and record his thoughts and experiences (NKRPOO, 2015). Communication in the mother tongue also involves developing the child's awareness of the impact of language on others and the need to use language in a positive and socially responsible way. In kindergartens, this competence is developed in a way that encourages children to interact with all parts of the educational process and to express experiences and situations orally and in writing (graphically).

Foreign language communication in kindergartens is mainly promoted in groups with an integrated foreign language program (NKRPOO, 2015). A child in early childhood and preschool learns a foreign language in a stimulating linguistic context, through play and other purposeful activities, i.e. situational learning, which means that the foreign language is used spontaneously in various everyday situations in kindergarten. The development of this competence also promotes intercultural understanding, i.e. getting to know the cultures and sights of the geographical areas where the foreign language is learned in the group.

Mathematical literacy is developed by encouraging the child to develop and apply mathematical thinking in solving problems, in various activities, and in everyday situations, while scientific literacy is developed by encouraging the child to ask questions, explore, discover, and draw conclusions about laws in the natural world and apply scientific knowledge in everyday life (NKRPOO, 2015). This competence also includes education for sustainable development and awareness of protecting the environment and using natural resources.

In early childhood and preschool, digital literacy is developed by introducing the child to information and communication technology and the ways it can be used in various activities (NKRPOO, 2015). Although digital technology is not yet widely used in children's work and activities in preschools, it is an important tool for a child's learning. With digital technology, the child documents the activities and incentives provided to him/her, and based on this, he/she can self-assess his/her development and progress. The digital technology that is available to educators should also be available to children and should not be presented as something forbidden, but rather children should be taught from an early age how to use digital technology wisely and correctly.

By the competence to learn how to learn, we primarily mean to promote learning in such a way that children independently arrive at solutions to problems and

master the challenges presented to them (NKRPOO, 2015). This implies experiential learning, that is, learning by doing, because it has been shown that such learning ensures that the child remembers for a long time the experiences he or she has had and can later apply them in new situations. To develop this competence, we need to position the child as the active subject of his or her learning and let him or her work on developing metacognitive skills.

Social and civic competence is developed by encouraging the child to behave responsibly, adopt a positive and tolerant attitude towards others, cooperate interpersonally and interculturally, help each other and accept differences, respect oneself and others, and practice effective participation in the development of democratic relationships in the kindergarten, in the community and in society, based on the principles of justice and peacemaking (NKRPOO, 2015). For this competence to develop, the child must be enabled to express his or her views, but also to value and respect those of others.

Initiative and entrepreneurship refer to the child's ability to present and implement his or her ideas in various activities and projects. This includes creativity, innovation, risk-taking, taking initiative and self-organizing his activities, and planning and managing his activities and projects (NKRPOO, 2015). By fostering the development of this competence, we encourage the child to organize activities that involve the presentation of his ideas and creations, which promotes the development of a positive self-image and leads to a higher self-esteem of the child.

Cultural awareness and expression are developed by encouraging the child to creatively express his or her ideas, experiences, and emotions in a variety of artistic settings including music, dance, theater, literature, and visual arts (NKRPOO, 2015). In addition to developing the child's imagination and creativity through this competence, this competence also impacts the development of national consciousness, giving the child a sense of belonging. They also learn about other cultures and promote tolerance and respect for differences based on nationality, race, religion, etc. By including the Bajka kindergarten in the project "Šareno programiranje- STEAM za najmlađe", it was assumed that the use of the Cubetto robot will influence the development of all eight key competencies for lifelong learning.

## Project "Colorful STEM Programming for the youngest"

The association "Neki novi klinici" in cooperation with the kindergarten Sunčana and the kindergarten Bajka from Zagreb has implemented the project "Šareno programiranje- STEAM za najmlađe" in the pedagogical year 21/22. The project



was approved and financed within a tender of the Ministry of Education and Culture for funding association projects in the field of non-institutional education of children and youth. It is an innovative program for learning programming from an early age using Cubetto and RoboWunderkind robots. The goals of the project are to develop an algorithmic mindset and logical thinking, promote creative expression, and educate children with modern digital technologies.

The advantage of the selected learning robots is that they do not use the screen at all (Cubetto) or only to a small extent (RoboWunderkind), they are adapted to the age and needs of the users and represent a holistic approach to education STEAM. A distinctive feature of the project is the emphasis on gender equality, i.e., greater involvement of girls in STEAM. The project involves volunteer students of the Faculty of Teachers (Early and Preschool Education and Teacher Training) who, following the method of socially useful learning, contribute their professional knowledge and skills to the project of the Association. They work on popularizing the program from the youngest ages, and encourage children (especially girls) to get involved at STEAM and participate in working with gifted students. In this way, student volunteers gain practical experience in the application of modern teaching methods and in the use of modern ICT toys (robots) for educational purposes.

Experiences from the program in previous years have shown that there is a great interest in learning programming at an early age and that children are still just children and respond best to activities where they can express themselves, use their imagination and creativity, and work together. In addition, the use of computers and screens for children to learn programming at an earlier age proved to be a major distraction at work. Therefore, the project moved toward innovative technologies that are interactive, interdisciplinary, and human, yet easy to use, suitable for learning the basic logic of programming from an early age, and attractive to both girls and boys.

In the context of popularizing programming, increasing the involvement of girls in STEAM (reducing the so-called “gender gap”), and adapting the program to gifted children in STEAM, it was necessary to select and acquire didactic tools (robots) that are attractive and colorful, that appeal to children, that cover multiple areas of interest, that involves imagination, creativity, storytelling, and collaboration, and whose content is scalable and adaptable to individual users and groups. The focus is also on hands-on and experimental learning (learning by doing) in small groups. The Cubetto robot was selected to work with preschool-aged children. The Cubetto wooden robot was developed according to the principles of Montessori education. Children learn the basic logical concepts of



programming in an experiential and tactile way. At the same time, beautiful, large, and colorful folders with stories and tasks are used to encourage children to imagine, express themselves creatively, and work as a team. The special feature of the Cubetto robot is that it is made of natural material wood, it has that human, warm touch, no screen is used and no code needs to be written. Children do not need to be able to read and write to use it. It is suitable for learning algorithmic thinking skills from preschool age.

## Research participants

As research participants we selected children from the group with an integrated English language program. Communication in a foreign language is one of the eight key competencies for lifelong learning. Therefore, children who are confronted with learning a foreign language on a daily basis during their full-day stay in kindergarten were selected for the research. Promoting openness to multilingualism and learning foreign languages in preschool settings through continuous contact with a foreign language is crucial for systematic awareness of other cultures and for individual and social development (Popek, 2020). These are all values that should be realized through the development of communication competence in a foreign language. 18 children participated in the study. All parents of the children who participated in the study gave their written consent to participate in the project and to disseminate its results.

In addition to the children, an educator from the association, volunteers from the Faculty of Teachers in Zagreb and kindergarten teachers also participated in the study.

## Research methodology

The research has a qualitative character and is aimed at understanding, changing, and improving the pedagogical reality. The basic methodological concept is based on action research. According to Koenig and Zedler (2001), action research is not primarily about knowledge, but about solving practical problems. Action research is research conducted by the participants of the educational process themselves, introducing changes in their practice so that the whole organization can learn from the consequences of these changes (Slunjski and Burić, 2014). Since the educational system aims to improve practice and increase the quality of the educational process as well as the quality of the entire institution, the col-

laboration in the project “Šareno programiranje - STEAM za najmlađe” proved to be an ideal opportunity to introduce innovations and improve pedagogical practice. Kemmis and McTaggart (2007, p. 276) describe the cycle of action research in terms of nine key points: 1) review of current practice, 2) identification of the aspect of practice we want to improve, 3) presentation of next procedures, 4) testing of these procedures, 5) recording of what happens, 6) modification of the plan based on the previously gained knowledge and continuation of the action, 7) observation of what we do, 8) evaluation of the modified action, and 9) so on until we are satisfied with that aspect of our practice. From the above points, it is clear that action research is not a linear process, but all the stages of action research are interwoven in a spiral way and the researcher should take into account the unpredictability of the educational process and the specifics of the institution’s curriculum when conducting the same. According to Jukić (2015), the phases of action research are the creation of a flexible and development plan, action on the basis of the plan, i.e. planned changes, observation and recording of the course of changes, and research reflection. In the planning stage, i.e. the stage of creating a flexible and development plan of action research, it is necessary to determine the research problem, set the research question, determine the baseline values, determine the objectives of the research, develop a concrete action plan, consider and determine the appropriate methodological approach in data collection, and introduce a change plan, the author continues.

At a time when digital technology is rapidly evolving and woven into every aspect of children’s lives, digital technology should also be used in early childhood education settings. In order to use digital technology properly and acceptably, it is necessary to develop high- quality methodological practices that will make this possible. Involvement in the project “Šareno programiranje - STEAM za najmlađe” provided an excellent opportunity to teach children digital technology in a way that is acceptable and appropriate for them. In the NKRPOO, digital literacy is listed as one of the eight key competencies for lifelong learning. Based on current scientific literature, the Cubetto robot was selected from a range of robots to work with preschool children on the project. The Cubetto robot is a screenless robot made of wood that is controlled by a control panel on which different tiles are placed (Sáez et al., 2018; Alsina and Acosta, 2022). By correctly arranging a series of combinations of different tiles, the robot moves in the desired direction and changes its position on the map. The main advantages of this robot are that it allows children to have first contact with the basic concepts of programming and it allows children to learn programming step by step (Sáez et al., 2018). The data of the study confirm that activities to develop mathematical thinking when working with the Cubetto robot promote computational thinking and that the

technology contributes to the development of skills related to computational thinking (Alsina and Acosta, 2022). It was hypothesized that working with the Cubetto robot would also develop the other seven lifelong learning skills, and the action research was designed to prove this.

The main goal of the research is to promote the development of key lifelong learning skills in preschool and elementary school-aged children by working with the Cubetto robot. Accordingly, the following research questions were posed for this work: Did and does working with the Cubetto robot have an impact on the development of key competencies for lifelong learning in preschool and elementary school-aged children?

In order to integrate the project into the regular work of the group, the children started to use other digital technology tools such as laptops, tablets, cell phones, Bluetooth headsets, and others before the arrival of the robot in the group. The aforementioned devices were gradually integrated into the group, and the children used them to document their activities, but also to communicate with children from other parts of Europe. Various studies show that digital resources can help improve children's problem-solving skills, communication, collaboration, creativity, and the development of civic and cultural awareness, as well as create a sense of social responsibility (Lazăr, 2015), which are certainly among the most important goals of education. After conducting the activity, it was decided which data collection procedures and instruments should be used in the research. Researchers can choose different procedures and instruments for data collection: systematic observation and work on documentation, interview, focus groups, sociometric procedures, evaluation and self-assessment, survey and tests, and keeping field notes and a research diary (Jukić, 2015). It was decided to systematically observe and document the process with videos and photos, and to keep a research diary describing the activities and successes in working with the Cubetto robot at each encounter. Keeping a research diary is highly desirable for the researcher to be aware of their role and responsibilities in the project process and for them to eventually carry out reflective practice. It is necessary to compare the initial and final states. Therefore, checklists (Appendix No. 1) are used to monitor the realization of the key competencies for lifelong learning at the beginning and end of the research.

In the phase of the introduction of the planned changes, when planning the way of monitoring the introduced activities, the children's participation in the activities and the competencies for lifelong learning that develop while working with the Cubetto robot will be studied. The aforementioned data will be collected through systematic observation and documentation of the activities during the

work process. Laevers (1994) defines involvement as an activity that is recognizable by (1) the child's concentration and persistence, (2) the child's motivation, fascination, and openness to stimuli, the intensity of the experience at the physical and cognitive levels, the deep satisfaction accompanied by a strong flow of energy, (3) its determination by the child's urge to explore and individual developmental needs, and (4) the outcome that provides evidence that development has occurred. The acquisition of skills is monitored through checklists at the beginning and end of the research, and the results are compared. The final results of the research are determined by comparing the checklist and the investigator's observations recorded in the research diary.

Work with the Cubotto robot was conducted once a week for 45 minutes. This is the amount of time the children were estimated to need to maintain their attention and concentration during the activity. By having the activity once a week, it created anticipation in the children to use the robot again. Six children participated in the one-hour work with the robot. The work in small groups was chosen because it achieves specific, closer cooperation between children, but also between children and teachers, promotes active forms of learning, information is constantly exchanged, different peculiarities of each child come to the fore, different individual learning paths are promoted, and the expectations of educators are reflected in intellectually challenging problems that children try to solve with joint efforts (Vrkić Dimić, 2007). The work was carried out

## Discussion and results and concluding considerations

The research was characterized by the cooperation of kindergarten teachers, educators from the association "Neki novi klinici", volunteers from the Faculty of Teacher Education in Zagreb and children from the group with an integrated program for early learning of the English language. The participants reflected together on the current practice in kindergarten and questioned the obstacles and possibilities for improvement. Following the development of lifelong learning competencies in the research phases, numerous changes from the baseline can be seen in the development of almost all key competencies. The following outlines how and through what activities key competencies for lifelong learning were developed in children while working with the Cubetto robot.

Communication in the native language was developed so that children were encouraged to correctly name the concepts they saw on the map. The children's vocabulary was enriched with new words and concepts: south, north, east, west, galaxy, main plant, etc. The children formed and used complete sentences:

"Cubetto is on the island, but he wants to go treasure hunting," which promotes the acquisition of sentence syntax. The children also answered questions in complete sentences, "Where do we want to go? We want to go to the treasure."

Foreign language communication was developed through a situational approach to learning a foreign language, i.e., activities performed throughout the work with the robot. The children named objects and phenomena in a foreign language (space, city, treasure). The researchers gave the children simple instructions in a foreign language ("Go left/right"; "Find the way to...", "Come back", "Wrong way", etc.), which promoted their understanding. The children also learned the signs for the other parts of the world (E, W, S, N) in English. When moving the Cubetto robot on the map, places from other countries were used (London - Tower Bridge, London Bridge), which helped the children develop intercultural understanding.

Basic math and science skills were developed through learning relationships in space (up, down, front, back), learning the concept of numbers (counting while pointing, counting), developing an awareness of the distance between objects, orientation in space (where to go, where to move), and understanding cause-and-effect relationships.

Digital literacy was developed using a robot and a control panel. The children independently created the instructions for moving the robot: they stacked the tiles on the control panel and created a series of steps that guided the robot to the destination on the map. The children also participated in documenting the use of the robot, recording their work with the robot on their cell phones, and later participated in creating a presentation on the laptop that they later viewed together.

The competence to learn how to learn was developed because the children were primarily the actors in the process of their knowledge. They learn through action and experience, which is very important for children to acquire knowledge. They also learned through the trial and error method (the children try to arrange the pieces correctly until Cubetto reaches the set goal) and they worked on their tolerance for mistakes, which made them understand that mistakes are not a bad thing, but they are the way to success.

Social and civic skills were developed by agreeing with the children on rules for using the robot: wait their turn, raise their hand, speak only to one child, etc., which they later followed. Co-constructive learning was also evident throughout the process: joint participation, agreement, and mutual help to achieve the goal. We also worked on accepting diversity: not everyone can learn to use a robot at

the same pace and express and argue their views, which is very important for developing a child's sense of belonging.

Initiative and entrepreneurship were fostered by encouraging children to try out, present, and test ideas on their own. The researchers asked the children open-ended, thought-provoking questions that allowed the children to express themselves creatively. And by successfully completing the challenge, the robot's arrival at its destination, the children were able to feel a sense of accomplishment, which contributed to the children's positive self-image.

Cultural awareness and expressive skills were developed. The children presented their work with the Cubetto robot while participating in the "Say Hello to the World" project in the partner country, Estonia. Learning about other cultures and countries/cities (landmarks, capitals) that the children imagined on different maps was also characteristic. The children invented and told stories based on the given pictures/concepts and designed the robot esthetically, which encouraged their creativity. The children used their imagination to bring the character of the Cubetto robot to life and give it a role and an identity, which stimulated their imagination.

Comparing the checklists from the beginning to the end of the research, across all the workshops the children went through, it is clear that at the beginning of the workshops, the children adopted only the elements of some key competencies. Later, from workshop to workshop, it was found that each time the children acquired elements of more and more competencies. By the last workshop, it was clear that each child had adopted the elements of all eight key competencies for lifelong learning.

Based on the above research results, we can conclude that working with the Cubetto robot was beneficial for the children and encouraged the development of key competencies for lifelong learning. In addition, the research led to improved educator behaviors that promoted children's overall development, particularly in the cognitive and socio-emotional domains. The research fulfilled its basic purpose, which was to strengthen and develop the potential of children and educators to change pedagogical practice together by enriching it with the introduction of modern digital tools in kindergarten work. This justifies the taboo of using digital technology in kindergartens. By conducting action research, children are given the opportunity to make choices, take action, reflect, and empower themselves. Working with the Cubetto robot can therefore be a good starting point for the process of lifelong learning and the development of active and responsible individuals who will create a sustainable future for themselves and the world in which they will live and work.



The knowledge gained through this action research enabled the validation of the pedagogical activity and, at the same time, contributed to the awareness of all those involved in the educational process about the use of digital technology in kindergarten work and its extensive possibilities for children's development.

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## APPENDIX I.

### CHECKLIST FOR MONITORING THE ADOPTION OF KEY LIFELONG LEARNING COMPETENCIES IN WORKING WITH THE CUBETTO ROBOT

CHILD'S FIRST AND LAST NAME: \_\_\_\_\_

GROUP NAME: \_\_\_\_\_

WORKSHOP LEADERS(S): \_\_\_\_\_

<b>DATE:</b>					
<b>COMPETENCIES</b>					
Communication in the native language					
Communication in foreign languages					
Mathematical competence and basic competencies in natural sciences					
Digital competence					
Learning to learn					
Social and civic competencies					
Initiative and entrepreneurship					
Cultural awareness and exoression					
<i>ADDITIONAL NOTES:</i>					





## SUSTAINABLE DEVELOPMENT PRESENCE IN NURSE EDUCATION

Kristina Horvat

PhD student of Postgraduate program of Pedagogy and  
Culture of Contemporary School  
Faculty of Humanities and Social Sciences Osijek

### Abstract

The efficiency of education depends to a great extent on the teacher, who is the initiator of the educational process. The teacher and their qualification for professional activities in developing global competencies necessary in the 21<sup>st</sup> century also play a significant role in education for sustainable development. To be qualified to implement education for sustainable development, the teacher's formal education must include teaching content related to the given topic. Education for sustainable development is vital at all levels of formal education because it is essential to improve and develop skills and thinking following the psychological and physical development of individuals. In addition to the education system, it is vital to implement sustainable development in the health care system as well. In creating sustainable health care systems of the future, societies must reform the demand for health care services to include caregivers/technicians to reduce the burden of disease by helping people stay healthy and empowering individuals to manage their health (Ostojić, 2015). Sustainable development is one of the cross-curricular topics of the vocational curriculum for obtaining the general care nurse/technician qualification. The education of nurses/technicians in Croatia is carried out by teachers of vocational theoretical content after completing the nursing graduate study. This paper aims to analyze the presence of content and learning outcomes of education for sustainable development in the mandatory and elective courses of the nursing study programs in the Republic of Croatia. At the same time, the initial qualification of vocational teachers for the implementation of sustainable development in nursing education will be presented. The paper uses the qualitative content analysis method, which reveals the deeper meaning of the analyzed text (Kuckartz, 2013). Using this method, 13 courses in 9 study programs were identified with the content and learning outcomes of education for sustainable development. The results show that there is a need for the implementation of education for sustainable development to educate future Masters of Nursing in terms of sustainable development and to implement education for sustainable development within nursing education in Croatia.

**Keywords:** sustainable development, Master's Degree in Nursing, qualitative content analysis

## Introduction

Analyzing vocational education curricula in the 21<sup>st</sup> century from an economic perspective is significant because it could indicate the need to align vocational education with the demands of the economy and labor market. There is an increasing academic interest in sustainable development, especially at the levels where the educational process leans toward acquiring knowledge and skills aimed at sustainable development. There is a need to influence the development of individuals' sensitivity to activities that contribute or do not contribute to the creation of sustainable development. Considering the global modernization of the world in the 21<sup>st</sup> century and the dynamic and complex demands of the labor market, individuals need to be willing to change established skills and develop a new way of thinking regarding the inseparable economic, environmental, and social development of their community and the area where they live and work. The framework for designing policies and strategies for continuous economic and social progress without harming the environment and natural resources to ensure sustainable use of natural resources at the national and international levels is called sustainable development, as explained by a civil society organization that promotes and supports the implementation of sustainability-oriented changes (Održivi razvoj zajednice, n.d.).

In the Decade for Education for Sustainable Development (2005–2014) and the Global Program of Action for Education for Sustainable Development 2015–2019, international organizations such as the United Nations emphasize the importance of education for sustainable development and promote the integration of sustainability at all levels of the education system and in all subjects. The UN has set 17 global goals, and goal 4.7 states that by 2030 "all learners need to acquire knowledge and skills needed to promote sustainable development, including among others through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture's contribution to sustainable development" (FN's Verdensmål for bæredygtig udvikling, 2022).

Nurses/technicians in Croatia are educated in vocational schools and undergraduate and graduate university programs. The education of nurses/technicians in Croatia was initially started by personnel who primarily had no expert education in teaching. Kalauz (2011) notes that Professor Vladimir Čepulić, MD was the first director of the nursing school and designed its first curriculum. In November 1920, he proposed a plan to the Health Department of Croatia, Slavonia, and Međimurje for the establishment of a nursing school. In January 1921, the

first School for Assistant Nurses was founded in Zagreb, and on January 15, 1921, it accepted eight civilian female students and thirty nuns from the Order of St. Vinko Paulski and St. Cross. Jelka Labaš was the first headmistress of the school. Up until then, she was a nurse at the Rudolfinerhaus school in Vienna (Kalauz, 2011). From 1921 to 2022, there were numerous changes in the education of nurses/technicians, the result of which is the fact that nowadays there are 26 schools with a vocational curriculum for obtaining the degree of nurse/technician of general health care. According to the Vocational Education Act (2009), vocational subjects are carried out by teachers of vocational theoretical content, teachers of practical classes, vocational teachers, and teaching assistants. Teachers of vocational theoretical content and teachers of practical classes need to complete a relevant course of study comprising at least 180 ECTS credits or more if prescribed in the curriculum, and have the required pedagogical – psychological – didactic – methodical education comprising 60 ECTS credits as well as meet the other conditions set in the curriculum (passing the professional examination). In addition to the professional qualification to work in the field of their education (medical, biomedical, technical, biotechnical, social sciences and humanities), teachers of vocational theoretical content need to have pedagogical skills that are applied in school and clinical learning environments. Upon completion of the education, the experts can be employed in the institution where they acquired professional knowledge and skills, i.e., in clinical settings. Education should train them to work in such conditions. Livazović (2012) emphasizes the importance of school preparing students to act in the unpredictable circumstances of the future; the curriculum must be more prognostic to promote the optimal development of the student's potential, such as self-knowledge, the development of an awareness of oneself and one's abilities, interests, possibilities, and above all, the creation of a positive image of oneself.

The completion of graduate university studies in nursing should be characterized by the acquisition of teaching competencies in the field of health care and organization, analysis, and research of models of patient care with a holistic approach to the patient and organization of health care in clinical departments and the community (Fakultet za dentalnu medicinu i zdravstvo Osijek, 2022). The nursing studies aim to develop key competencies for management in nursing, i.e., critical thinking, effective communication, conflict resolution, successful delegation, team management, control of financial resources, stress management, and human resources management. Interest is also directed towards deepening theoretical knowledge and perfecting the assessment and problem-solving in clinical cases to increase critical reflection in clinical practice. The university program focuses on the development of skills necessary for the application of procedures based on scientific knowledge (Sveučilište Sjever, 2022).

It is necessary to reflect on the importance of implementing sustainable development in the education of healthcare providers because they can influence the community through activities aimed at treating diseases and preventing the development of diseases, but also through the education of the future healthcare workforce. Ostojić (2015) emphasizes that the activities of public health care providers should be focused on both the economic results of their efforts and the acceptance of economic, social, and environmental practices that offer benefits to employees, patients, the community, and societies. Ostojić (2015) points out that it is important to transform demand for health services by reducing disease and improving health, thereby empowering individuals to manage their health.

According to the Decision on the Adoption of the Curriculum for the Cross-curricular Topic of Sustainable Development for Elementary and Secondary Schools in the Republic of Croatia (2019), the cross-curricular topic of sustainable development includes all three dimensions of sustainability (environmental, social, economic, and their interdependence), and education is responsible to contribute to the creation of a society based on sustainability, as there is scientific evidence of the strong impact of the human population on natural systems and the increase in economic inequality, due to which people cannot decide their destiny. It is education that should prepare students to act in society to achieve personal and general well-being. Vrbičić (n.d.) states that sustainable development requires a new way of thinking that must be based on the agreed values and characteristics of democratic societies. Radyta – Ležaić et al. (2018) also note that it is important to change the way of thinking and acting because sustainable development cannot be achieved only with technological solutions, political regulation, or financial instruments. Such change requires quality education and learning for sustainable development at all levels and in all social contexts. Therefore, teachers are the first agents of change and promotion of sustainable development. They can shape learning to meet the needs of today without compromising the ability of future generations to meet their needs. This is possible by creating a learning environment that directs the student on both teaching and learning. According to Vukelić (2020), education for sustainable development creates an interactive, student-centered environment for learning and teaching, which is a form of transformative pedagogy characterized by elements such as self-directed and self-managed learning, contribution and cooperation, problem orientation, and linking formal and informal learning. Such pedagogical approaches are essential for the development of competencies that are critical for promoting sustainable development. Kostović-Vranješ (2015) points out that modern teacher must be trained to coordinate their professional activity with the changes and demands of the environment. This way, the teacher embraces a

stimulating pedagogical approach that affects the development of competencies for the promotion of sustainable development and prepares students for their personal and professional work in the 21<sup>st</sup> century. The author states that the quality of professional activity is based on competencies acquired through initial education and teaching practice during studies and internships, as well as through various forms of lifelong education and professional development.

## Previous findings

Recently, scientific interest has focused on sustainability and sustainable development in education. In Croatia, research has been conducted focusing on the analysis of specific parts of the curriculum. Of particular note are the global dimensions of sustainable development in the national school curriculum studied by Previšić (2008), while Lay and Puđak (2008) examine the sociological dimensions of education with a focus on sustainable development. Of great value is the research of Jukić (2010), who examines the relationship between curriculum and educational syllabus, while Škugor (2008) examines the representation of the immediate sustainable development in the curriculum of the Faculty of Education in Osijek. Olsson et al. (2020) have shown that it is useful to use the self-perceived action competence questionnaire for sustainable development in monitoring the process of reorientation and initiatives of existing educational systems in terms of student's ability to take independent sustainable action, which could be an important part of the process of empowering young people to be active citizens in their society. Evans and Achiam (2021) have substantiated and qualified the claim that out-of-school educational institutions such as museums, science centers, and zoos play a special role in promoting global sustainability by providing what the formal school system cannot provide due to its specific institutional conditions and operating procedures. They do this by developing the concept of sustainability based on existing manifestations in out-of-school science education. Besnier (2020) presents women's empowerment and children's health as critical strategies for achieving several of the sustainable development program's goals. Her research has demonstrated that women's political empowerment is associated with positive health outcomes for children under the age of 5. This research complements the findings presented by Kuru-villa et al. (cited in Global Public Health). They point to good governance and women's political and socioeconomic participation as important drivers of progress in maternal and child health in low- and middle-income countries. Blossing and Forssten Seiser (2020) examine several factors that influence how practices in schools and kindergartens in Sweden enable or hinder the sustainable devel-

opment of organizations. The authors suggest that school development is sustainable when it enables professional learning among staff. The results of this research point to differences in the way schools and kindergartens are organized. An important finding of this research is the identification of one factor that hinders sustainable development, i.e., the autonomous position of the headmaster in the school. In kindergarten, the headmaster was identified as a factor that contributes to a greater extent to the continuity of development work.

## Methodology

This paper utilized the qualitative content analysis method. Kuckartz (2013) states that the fundamental difference between qualitative content analysis and classical content analysis is that the former focuses on the understanding and interpretation of the text, while the latter is concerned with the apparent and visible content of the unit of analysis (as stated in Vukelić et al., 2021). This paper aims to analyze the presentation of the content and learning outcomes of education for sustainable development in the curricula of graduate university studies in nursing in Croatia. The research was conducted in April and May 2022 in the academic year 2021/2022. The units of analysis are the curriculums of the university graduate studies in nursing. Based on the results of the representation analysis, the aim is to show the initial training of teachers of vocational theoretical content for the implementation of education for sustainable development in the vocational curriculum for obtaining the general care nurse/technician qualification. Elo et al. (2014) suggest three phases in conducting a qualitative content analysis: (I) the preparation, i.e., data collection and selection of units of analysis; (II) the organization or construction of codes and categories and their interpretation; and (III) the reporting phase, i.e., description of findings (as stated in Vukelić et al. 2021).

The units of analysis in the research were mandatory and elective courses of study programs of university graduate studies in nursing in Croatia in the academic year 2021/2022. The research was conducted at The University of Zagreb, Croatian Catholic University, The University of Rijeka, Juraj Dobrila University in Pula, Josip Juraj Strossmayer University Osijek, The University of Split, University North, and The University of Zadar. The study programs of university graduate studies in nursing, which make up the research units, are carried out in the organization of the following higher education institutions: Faculty of Medicine in Zagreb (I), Croatian Catholic University (II), Faculty of Health Studies Rijeka (III), Faculty of Medicine in Pula (IV), Faculty of Dental Medicine



and Health Osijek (V), Faculty of Dental Medicine and Health Osijek – Slavonski Brod (VI), Faculty of Dental Medicine and Health Osijek – Sveta Nedjelja (VII), University Department of Health Studies – The University of Split (VIII), The University of Zadar – Department for Health Studies (IX).

Qualitative content analysis was conducted following the steps of Vukelić et al. (2021), who analyzed the representation of sustainable development in teacher education curricula in Croatia. Vukelić et al. (2021) used the matrix, which was modified for this research. The first step was to identify course titles based on keywords. The second step was to analyze the content, objectives, and learning outcomes of the courses selected in the first step. In the third step, the results were described. The keywords used in by Vukelić et al. (2021) to select courses in the first step were the following: sustainable development, sustainability, sustainable development goals, ecology, environment, human rights, citizenship, social responsibility, literacy (ecological, civic, sustainable development literacy), circular economy and derivatives of the mentioned terms. In the second step, the content, objectives, and learning outcomes of the identified courses were analyzed. Vukelić et al. (2021) specified five thematic units in the analysis matrix: (I) the status of the course; (II) the representation of sustainable development dimensions in the content, objectives, and learning outcomes of the course; (III) the focus on acquiring knowledge about sustainable development and related topics; (IV) the focus on training socially responsible future teachers; (V) the focus on training future teachers to implement education for sustainable development. The thematic units (IV) and (V) were modified because nursing studies focus on health care or educational work in vocational education. Thus, the unit of analysis (IV) focuses on training socially responsible future health service providers and (V) on training future vocational teachers to implement education for sustainable development. The final step is the description of the results.

## Results and discussion

Following the qualitative methodology and the steps described, we identified the courses relevant to this study. All courses listed in the curricula on the official websites of the observed faculties for the 2021/2022 academic year were included in the study. The search included 197 first-year courses and 138 second-year courses from all 10 units of analysis. The keywords mentioned in the previous section of this paper were used for identification. The search identified 10 courses for further analysis: The Faculty of Dental Medicine and Health – Osijek (2),



The Faculty of Dental Medicine and Health – Slavonski Brod (2), The Faculty of Dental Medicine and Health – Sveta Nedjelja (1), Catholic University in Zagreb (2), University Department of Health Studies Split (1), University North (1), The University of Zadar – Department of Health Studies (1). The Faculty of Medicine in Zagreb was excluded from further analysis due to a lack of the necessary information on the study programs. At the time of the research, the second year of graduate study in nursing was not conducted at the Faculty of Medicine in Pula, so only the courses of the first year were analyzed. The course status is not indicated for most of the individual units of analysis (Table 1.).

**Table 1.**

*Total number of courses and courses relevant to this study*

<b>Units of analysis</b>	<b>Total number of courses</b>	<b>Courses relevant to this study</b>	<b>Course status</b>
Faculty of Dental Medicine and Health – Osijek	35	2	-
Faculty of Dental Medicine and Health – Slavonski Brod	25	2	-
Faculty of Dental Medicine and Health – Sveta Nedjelja	25	1	-
Catholic University in Zagreb	31	2	Elective
University Department of Health Studies Split	30	1	Mandatory
University North	38	1	-
The University of Zadar – Department of Health Studies	38	1	Elective

The number of courses identified in the units of analysis is relatively small compared to the total number of courses held. Two courses per unit of analysis is the largest number of courses recognized as related to sustainable development. Faculty of Dental Medicine and Health – Osijek (5.71%), Faculty of Dental Medicine and Health – Slavonski Brod (8%), and Catholic University of Zagreb (6.45%) have the largest number of courses related to sustainable development in their study programs. In the absence of data on the status of courses at the Faculty of Dental Medicine and Health in Osijek and Slavonski Brod, and on the status of courses at the Catholic University in Zagreb (Table 1), it is not possible to tell how many students are taking the courses. Very small deviations were observed in the other units of analysis that have merely one course related to sustainable development. The sustainable development course at Split University Department of Health Studies is particularly noteworthy. The identified course has the status of a mandatory course. The courses included in the second step

of the qualitative content analysis are Quality of Work in Nursing; Globalization and Health; Preventive Medicine and Public Health; Ethical Regulation of the European Commission; Management in Health Care; Public Health and Health Promotion; Health, and Environment. Denona and Cengar (2020) point out that research conducted in schools and universities worldwide has shown that students do not have a sufficiently developed awareness of the issue of sustainable development. The courses related to sustainable development in this research corroborate the author's claims. This will also become more evident in the further steps of this study.

The second step is the analysis of the content, objectives, and expected outcomes of the courses in terms of the dimensions of sustainable development – environmental, social, and economic (Vukelić et al., 2021). During the analysis in this step, the data on study programs was available but incomplete. In some units of analysis, it was found that the content, objectives, or expected outcomes of the course were not specified. In the following units of analysis, the course content is not listed: Catholic University in Zagreb, University Department of Health Studies Split, and University North. The further analysis contains the analysis of the objectives and expected outcomes of the courses.

**Table 2.**

*Number of courses regarding the dimensions of sustainable development*

Units of analysis	Ecological dimension	Social dimension	Economic dimension	Social + Economic dimension	Total number of courses
Faculty of Dental Medicine and Health – Osijek	0	0	1	1	2
Faculty of Dental Medicine and Health – Slavonski Brod	0	0	1	1	2
Faculty of Dental Medicine and Health – Sveta Nedjelja	0	0	0	1	1
Catholic University in Zagreb	0	2	0	0	2
University Department of Health Studies Split	0	0	0	1	1
University North	0	1	0	0	1
The University of Zadar – Department of Health Studies	1	0	0	0	1
<b>Total number of courses regarding the sustainable development dimensions</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>4</b>	<b>10</b>

The analysis shows the dominance of the social dimension of sustainable development (Table 2.). The courses that belong to the social dimension are titled Public Health and Health Promotion, Preventive Medicine and Public Health, and Ethical Regulations of the European Commission. The course Quality of Work in Nursing belongs to the economic dimension. The courses Globalization

and Health and Health Management belong to the social and economic dimensions. It is important to emphasize that not a single course belonging to the environmental dimension was identified. In the research of Vukelić et al. (2021), the dominance of the social dimension of sustainable development was also observed.

The objectives and expected outcomes of the course focus on acquiring knowledge about sustainable development and related topics, training socially responsible future health care providers, and training future vocational teachers to implement education for sustainable development (Table 3.).

**Table 3.**

*Objectives and expected outcomes of the courses*

<b>Unit of analysis</b>	<b>Focus on learning about sustainable development and related issues</b>	<b>Focus on training socially responsible future health care providers</b>	<b>Focus on training future vocational teachers to implement education for sustainable development</b>
Faculty of Dental Medicine and Health – Osijek	0	2	0
Faculty of Dental Medicine and Health – Slavonski Brod	0	2	0
Faculty of Dental Medicine and Health – Sveta Nedjelja	0	1	0
Catholic University in Zagreb	0	2	0
University Department of Health Studies Split	0	1	0
University North	0	1	0
The University of Zadar – Department of Health Studies	0	1	0
<b>Total number of courses regarding objectives and expected outcomes</b>	<b>0</b>	<b>10</b>	<b>0</b>

In analyzing the course objectives and expected outcomes, we found that they are all focused on training socially responsible future health care providers. The courses have clearly stated outcomes, e.g., “design, evaluate, and implement adequate principles and methods of ethical management and socially responsible practice;” “apply ethical and legal principles in health care;” “recognize the im-

pact of environmental factors on health, the global context of public health, and global public health priorities;" "describe the concept of promoting the health of individuals and their environments and the application of salutogenesis in a holistic approach through the activities of the nurse/technician." According to UN Global Goal 4.7, all "learners must acquire knowledge and skills needed to promote sustainable development by 2030". The curricula studied need to be changed to focus more on acquiring knowledge about sustainable development and training future vocational teachers to implement education for sustainable development. Tomczyk et al. (2018), who studied teachers' knowledge of education for sustainable development, confirmed that teachers do not have sufficient knowledge of education for sustainable development, which is related to the findings of this study. It is of great importance to start acquiring knowledge about sustainable development and related topics, as Denona and Cengar (2020) point out.

## Conclusion

The research included study programs of university graduate studies in nursing. These programs are carried out at 10 higher education institutions in Croatia. Through the analysis of 222 courses, 10 courses were identified as related to sustainable development according to the specified criteria. The courses aiming at acquiring knowledge about sustainable development and related topics were not identified. Based on the analysis of the content of mandatory and elective courses of the study programs of undergraduate and graduate university studies in nursing, it can be concluded that the education of future Masters of Nursing is focused only on the education of socially responsible future health care providers. The results of the analysis of representation lead to the conclusion that there is no initial training of teachers of vocational theoretical content for the implementation of education and education for sustainable development in the vocational curriculum for obtaining the general care nurse/technician qualification. The recent challenges of the modern world created by the global pandemic have challenged the long-term sustainability of human activities. Sustainable development is of great importance to the survival of the entire world and is an ongoing concern for everyone. This research presents the initial analysis of the representation of sustainable development in nurse/technician education in Croatia. Ostojić (2015) points out the importance of reshaping demand for health services by reducing disease and improving health, thereby empowering individuals to manage their health. To achieve the proposed transformation of demand, it is necessary to start with changes in the education of teachers and

specialists. The results of this study can serve as a stimulus for education policymakers to engage in an analytical dialog and critically examine whether and in what ways current practices contribute to the implementation of sustainable development for the education of health workers and vocational teachers, and whether the desired results are being achieved.

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# ATTITUDES OF STUDENTS ON INTERCULTURAL COMPETENCE

Martina Horvat

PhD student of Postgraduate program of Pedagogy and  
Culture of Contemporary School  
Faculty of Humanities and Social Sciences Osijek

## Abstract

Global competencies imply a multidimensional construct, a combination of knowledge, skills, abilities and values that apply to global challenges and intercultural situations (OECD, 2018). Contemporary teaching is supposed to prepare students for cultural diversity in contemporary society. That means successfully preparing students to solve problems in the context of rapid social changes, developing communication skills, teaching them how to communicate online responsibly and mastering new technologies. Furthermore, create a concern for global issues, social, political, and economic challenges and sustainable development (OECD, 2018). A prerequisite for successful education for global challenges is the readiness of teachers to live in an intercultural society, which depends on their intercultural competence. Their intercultural competence promotes students' global (intercultural) competencies, starting from the assumption that students learn by example and by model. Therefore, for this purpose, a survey was conducted on the attitudes of second-year graduate students on intercultural competencies, and it included 11 participants from different areas of teacher studies. Qualitative analysis was utilised to evaluate the participants' responses after conducting a short semi-structured interview.

**Keywords:** culture of diversity, educational system, interculturalism, intercultural competence, intercultural sensitivity

## Introduction

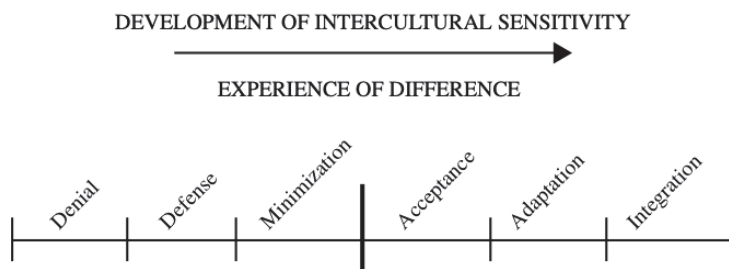
In a contemporary school, students are in constant interaction and communication with students from other cultural and educational backgrounds, and they can build successful relationships with their peers only by developing good communication skills. Global competencies "are a multidimensional and lifelong goal of learning" (NCVVO, 2020: 4), and their ultimate goal is to successfully interact, understand and respect people with different worldviews with the aim of collective well-being and sustainability (NCVVO, 2020). A contemporary school is a place for the devel-



opment of intercultural sensitivity, and teachers play a key role in its development, shaping the school and classroom atmosphere following the idea of coexistence and solidarity in a multicultural society (community). The diversity present in the school is reflected in different "nationality, language, religion, gender, age, level of education, class affiliation, sexual orientation, beliefs, customs, abilities and skills" (Piršl, 2011: 54). Some authors conceptually equate intercultural sensitivity with intercultural competence (Piršl, 2011), but what can conceptually distinguish intercultural sensitivity from intercultural competence is the communication aspect, where the emphasis is placed on the ability to communicate effectively in cross-cultural contexts (Bennet & Bennet, 1993; Piršl, 2014), while according to certain authors (Chen & Starosta, 1996; Chen & Starosta, 2000; Strafon, 2003) the basis of intercultural sensitivity is the affective level, more precisely, emotional response and recognition of cultural diversity and can be interpreted as the emotional aspect of intercultural competence (Chen & Starosta, 2000 as cited in Piršl, 2018). Since there are several common elements between these two terms, the term intercultural competence will be used in this paper, with the assumption that the foundation and basis of the development of intercultural competence is intercultural sensitivity, and it is defined as a set of cognitive, affective and behavioural skills that support effective and appropriate interactions and communication in different cultural contexts (Bennet, 2011; Fantini, 2000). In the understanding of intercultural competence, the importance of intercultural communication is visible, where the success of communication is a reflection of the possession of different knowledge, and the success of communication depends on the success of establishing a common communication context (Mrnjaus at all., 2013). Therefore, a higher level of knowledge about different cultural frameworks implies easier communication. Furthermore, the language barrier is often an impeding factor, and intercultural dialogue implies "an interactive process that implies an open and respectful relationship or interaction between individuals, groups and organizations of different cultural roots or views" (Mrnjaus at all., 2013: 57).

### Intercultural competence (sensitivity): the path from ethnocentrism to ethnorelativism

Intercultural competence is difficult to conceptualize without the most famous DMIS model (Developmental Model of Intercultural Sensitivity) by Milton Bennett (Bennet & Bennet, 1993; Piršl, 2011), which consists of several levels of ethnocentrism (denial, defence and minimization) to ethnorelativism (acceptance, adaptation, and integration) (see Picture 1), and at the very end, the result is intercultural competence.



**Figure 1.**

*Presentation of the DMIS Bennet model (Bennet & Bennet, 1993)*

As can be seen in Picture 1, the different phases complement each other, and the assumption of the development of intercultural competence is intercultural education. The stages of ethnocentrism are characterized by a lack of contact with differences, so it goes from denial to discrimination and stereotyping to equalization according to similarities with others, thus denying one's privileges, while the first stage of ethnorelativism includes the acceptance and recognition of these differences in the context of equal value through more intense experiences with other cultures where necessary adaptation and understanding and acting outside one's own cultural context until the final stage of integration where every problem and action is viewed from the angle of the cultural context and its strengths and limitations are assessed (Bennet & Bennet, 1993; Bennet, 2017). Analyzing the phases of Bennett's developmental model of intercultural competence, it is noticeable that the more frequent and complex the experience with cultural differences, the more certain the development of intercultural competence (Hrvatić, 2018). And intercultural competence is seen as a powerful social tool in the fight against intolerance, xenophobia and ethnocentrism (Fantini, 2000 as cited in Mrnjauš et al., 2013).

When we take into account all the specifics of the concept of intercultural competence and its development path, we can comprehensively define it as the ability to interact effectively and appropriately in different intercultural situations by successfully using intercultural resources (knowledge, skills, awareness and attitudes) (Berardo, 2005 as cited in Mrnjauš et al., 2013). First of all, intercultural education should be consistent, include everyone, and teach the attitude towards oneself, but also towards others (Sablić, 2014), which lays the foundations for understanding others through knowing oneself.

Therefore, in the educational context at the higher education level, it is important to be aware of how much work is done with students, future teachers and professors, on intercultural competence (and/or communication). Their knowledge is

the basis for the further education of future generations, and in order to realize how much work is being done on this, it is necessary to examine the knowledge and attitudes of students about cultural differences, knowledge about interculturalism and attitudes about the development of intercultural competence.

## Review of previous research

Research on intercultural competence at the higher education level relies on questioning the connection between studying abroad and the development of intercultural competence where a positive effect is visible (Stebbleton et.al. , 2013; Maharaja, 2018). Studying abroad increases student contact with others, but has little impact on greater respect for cultural differences or a positive attitude towards diversity, and on the other hand, integrative learning at the higher education level and interactions at faculties contribute more to the development of intercultural competence (Salisbury & Pascarella, 2013). The same was confirmed by research on the development of intercultural competence among students, where it was determined that global learning and interactions at the home college play a greater role in the development of intercultural competence than studying abroad (Peifer et al., 2021). Furthermore, research on this topic highlights the importance of collaborative learning, exposure to ethnically and racially diverse college employees, events of a cultural nature, and opportunities to study abroad (Riley et al., 2015). Studying abroad is emphasized as an important aspect of strengthening intercultural competence, but not the only way to its development, and the importance of education for intercultural competence at the higher education level is emphasized again (Wickline et al., 2020).

From the review of the research, it is evident that the direction of research into the development of intercultural competence among students begins with an analysis of upbringing and education for interculturalism and the opportunities that students have for education abroad (such as the ERASMUS+ program).

## Research methodology

Based on the theoretical review and previous research, the purpose of this paper is to deepen knowledge about the attitudes of students in teacher studies on intercultural competence by examining the approach to their own and other, different cultures. First of all, the reason for examining this topic is the assumption that the attitudes of future teachers largely determine the attitudes of students

and future workers in a dynamic, changing and multicultural environment. In this way, one would get an insight into their basic knowledge about interculturalism in order to know with which predispositions they “go” to work in schools and in which areas they identify that they needed additional support during their higher education. An effort was made to find out the above through a qualitative approach, a semi-structured interview with students of teacher studies. The students participated in the research voluntarily, and it included eleven students from different fields of study (Croatology, History, Philosophy, Sociology and Psychology) who jointly attend the teacher’s **course**. The students are in the second year of the graduate study of teacher education with a social-humanistic orientation.

To conduct a semi-structured interview, questions designed for the needs of this research were used, based on the works read and previous research. After the interview, a descriptive summary of the general impressions during the conversation with the participants was made, and after the end of each conversation, the audio recording was translated into text. The conversation transcripts were further analyzed using a qualitative approach according to the thematic analysis model (Braun and Clarke, 2006). In total, the questionnaire consisted of 16 questions that were guided by the set purpose and goals of the research.

## Research objectives

Based on the theoretical overview of the work, previous research and the set purpose, the following are the goals of the work:

- determine knowledge about interculturalism and the conceptual distinction between intercultural competence and intercultural sensitivity;
- determine and describe the self-assessment of intercultural communication;
- examine ways of understanding other cultures (ethnorelativism and ethnocentrism);
- examine one’s own readiness and assessment of the desirable qualities of a teacher in a contemporary multicultural teaching context.

## Results and discussion

After the interview with the students, a transcript of the conversation was written, and by reading and underlining the key statements, the coding units that

were defined were determined. After that, terms were attributed to given codes, which were grouped into categories and thematic areas were formed: (1) The relationship between interculturalism and multiculturalism; (2) Intercultural communication; (3) Work in the EU (ethnorelativism); (4) Ethnocentrism; (5) Teacher in a multicultural context.

Analyzing the responses of the research participants, it is evident that they all identified interculturalism as the mixing of cultures, and multiculturalism as the existence of several cultures in an area. They see the basic difference between intercultural sensitivity and competence in knowledge - considering competence as the ability and skills to relate to other cultures, and they see sensitivity through an emotional component mostly based on tolerance. Furthermore, all respondents can successfully communicate in English, and partially know German, French and Italian; stressing that they read foreign portals and get information about world events from foreign sources, expressing dissatisfaction and mistrust of the Croatian media. Thus, one research participant emphasizes:

*"I trust foreign [portals] more because ours are not reliable and often do not know what they are writing and talking about, the titles are exaggerated, the content does not match the title".*

To better understand the problem, they take into account a different cultural heritage, and especially emphasize that knowledge of one's own culture is essential for understanding and not judging another culture:

*"I think the problem is, a lot of people don't know their own culture enough to be able to judge other people's cultures. The basis of respecting other people's cultures is knowing your own culture. When we watch some interviews, how many people do not know basic things about Croatian culture and language, how can such a person evaluate, know and appreciate someone else's culture when he does not know his own?"*

They see themselves mostly in the national context, less in the European context, and none as citizens of the "world". Only one participant does not identify with his culture and believes that *"we are all part of a much bigger picture"*.

They consider travelling and going outside the Republic of Croatia useful for work, learning and meeting future business associates and friends, but they do not see their long-term future outside Croatian borders. And they believe that whether someone wants to move outside the Republic of Croatia depends solely on how willing someone is to adapt to different cultural frameworks. Likewise, they believe that those who come into our cultural framework should adapt to us.

The language barrier was especially emphasized as a challenge that prevents further understanding and solidarity towards others. Knowledge of language

is identified as an important aspect and basis of intercultural communication, which they believe could be better developed. In this context, the need for more systematic learning of foreign languages at the higher education level was emphasized - in a diverse range of foreign languages and the possibility of acquiring higher levels of language knowledge.

*“As far as I know, at the end of high school we have a B2 level of knowledge of the English language, why not extend it at university and reach the highest level - improving the language through several semesters, it would be useful for school, the civil sector and learning; so we are no longer a closed cocoon, but open to the wider community, for example, the European Union, and beyond”.*

In the thematic area “Teacher in a multicultural context”, they believe that they are not prepared to work in schools in a multicultural context. Firstly, the participants emphasize that they are not ready to work with children with special educational needs (gifted students and students with developmental difficulties), nor with their parents.

*“We in teacher training are not ready to work with children with special needs, we had one course, one semester, and I think it should be mandatory. We are not sufficiently prepared to work with parents in general, nor with parents of other cultures [...] No one can prepare you, only experience, we do not get enough knowledge in two years at university, the entire education system needs to be reformed so that from the first year on teaching major students are in touch with pedagogical courses.”*

Furthermore, another research participant points out that:

*“If someone has met different cultures outside of the university, it will certainly be easier for them to communicate with those parents because they are familiar with that culture. The basis here is knowing how to communicate with parents in general, then culture and access to other cultures. It is built through experience when we come to school, we meet the parents who will come to us. To know how to solve and understand the problem, it is first, then the approach to culture, only then do we realize that maybe we are not sensitive enough”.*

This shows a certain level of reliance on one's strengths and dissatisfaction with the current approach, emphasizing the importance of a greater number of specialized courses for working with students and parents with difficulties and different cultural heritage. This conclusion is in line with the response of the participant who believes that the faculty cannot play any role in this, but that everything is solely in the experience and how much we encounter different cultures throughout life, and that the family is the primary place of learning inclusiveness:

*"By coming to college, we already have certain ideas and ways of behaving, one course cannot change our experiences, nor can it make us open to teaching students that way. It's a matter of experience and openness to people and contact with other cultures throughout life. Sometimes that doesn't help either, sometimes people stay as they are and can hardly learn theoretically through the course. Theoretical knowledge cannot change the structure of thought, it is unprofitable. We are a homogenous country, but we will become a multicultural nation, and we have to prepare for that, I'm just sceptical about how much people's mindset can be changed, but of course, it's important [...] it's a tricky thing how to encourage empathy in people - some people find it difficult to empathize other people's emotions and these are usually the people who are the cruellest and who lead the whole pack - it's a bit tricky to break it down. That's why you need to enter group dynamics with a hidden curriculum".*

The research participants identified education based on experiential learning, workshops, presentations and awareness of cultural diversity as key. They consider the first step to being the enhanced education of teachers and people in general for life in a multicultural context, and this will then be reflected in children and students:

*"It is important that people change, not only in schools but that people, in general, are educated about different cultures. We are quite homogeneous, we don't want to accept other cultures. Everything that is not ours, everything that is 'abnormal', should be removed. People are afraid, they are not ready to open up to other people and cultures".*

Therefore, the opinion that the lack of knowledge leads to a higher degree of closedness towards other cultures is also visible. The approach to education, where according to the participants it is important to start from an early age, should be experiential:

*"These should be workshops, and presentations, the goal is to teach the integration of other people, acceptance, and tolerance of different individuals. I think it is present now, but the question is how seriously the children take it. Children are starting to automate a lot of things. Let's say, good or bad are these; the approach should be where we confront them with such children [children with difficulties], people, and different cultures, clearly, just so they can see their cultural context. And no, don't do this, don't do that, it doesn't work. It goes in and out, it's important to teach these things through practice - practically".*

During the interview, one participant even cites examples of how discrimination should be taught through exposure, stating:

*"At kindergarten age, for example, children can be made aware of how much the things we do every day are challenging for some people - that someone has crutches, someone*



*is in a wheelchair [...] discriminate against them because of short hair or skin colour, just so they can feel on their own skin what it means to be discriminated against something you can't influence. Maybe then in a situation where they witness discrimination, they will react and protect another person, and they won't even do it themselves".*

The language barrier is highlighted, where it is first pointed out that it is difficult to operate in school without knowing several foreign languages, especially in a situation where students from other countries come to us. Along with courses on methods of working with students with disabilities, gifted students and their parents, learning foreign languages is once again recognized as important.

## Concluding considerations

Intercultural competencies, which are based on knowledge, abilities, skills (and attitudes) on how to develop and maintain a relationship, communicate and be ready for cooperation in a multicultural context, are the basis of a contemporary globalized society. Learning how to live, communicate and maintain a relationship with others is the basis of the development of intercultural competence, and it is built from an early age. Since educational institutions play a key role in its development, more precisely, its key bearers - teachers - it is necessary to base research on the development of intercultural competencies in students and at the higher education level. This qualitative research sought to examine students' attitudes about intercultural competence and, in general, their knowledge about this concept, as well as their willingness to work in a multicultural school environment. With this, they tried to detect a space for support and help to prepare future teachers for what awaits them in a **contemporary** school. This semi-structured interview determined that students need more support in learning foreign languages because they identify it as important for further communication with different cultures. Furthermore, they are looking for help and support in working with students with special educational needs and their parents. In addition, they are ready to work and study outside Croatian borders, but they are not ready to leave permanently. They believe that they should adapt to the cultural specificities of the individual countries they are going to, and they expect the same when someone comes to the Republic of Croatia. They see knowledge of their own culture as the basis of understanding and solidarity towards other cultures, and they consider it important to take into account different (cultural) heritage when evaluating the actions and reactions of others. The results of this research suggest the importance of additional support for students in teacher education, and the necessity of increasing intercultural back-



ground courses at the higher education level, or at least implementing this topic into existing ones.

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## MEDIA PEDAGOGY IN GAME STUDIES

Dr.sc. Dinko Jukić,

Trade and Commercial School “Davor Milas” Osijek, Croatia

### Abstract

The paper researches the role and meaning of digital games in the context of media pedagogy. It is based on the hypothesis that the application of semiotic analysis can decode and show hidden meanings within digital games. The aim of the research is to show, define, decode, and analyze the influence of media messages in the context of media literacy in game studies. The concept of game studies was observed according to Huizinga's game theory and Fink's construct of the game world. The games were viewed from the aspect of culture and pedagogy, i.e., as an opportunity to convey media messages to young people, but also as a potential educational value. The central part of the work starts from decoding the meaning of media messages and media literacy. In media pedagogy, semiotic analysis is especially important because it decodes the messages that young people are exposed to, so there is a special emphasis on the analysis of media semiotics. The aspect of the connotative sign according to Barthes' myth methodology is researched. The paper analyzes the genre of interactive drama. The research is based on relevant, primary sources of digital games that, through semiotic analysis, show the role of parents, family, friends, and society in an educational sense. The results of the research confirm that the deconstructive analysis of the myth and the content analysis of the connotative meaning of digital games in creating a media message is extremely important. The analysed sources point to the conclusion that digital games teach.

**Keywords:** digital game, game studies, media pedagogy, semiotics

### Introduction

The issue of game studies began to be considered more intensively in 2008, i.e., with the publication of the work *What is game studies* (Nieborg & Hermes, 2008), in which the phenomenon of game and gaming is understood as a new form of cultural form. However, this does not mean that the study of play as a philosophical (Fink, 2000), cultural (Huizinga, 1992) and sociological (Caillois, 1965) phenomenon did not exist earlier. Play has always been present in human life. Its value, meaning and symbolism marked the entire civilization, and according to Huizinga (1992, p. 9), the game is older than culture.

It is interesting that both disciplines, cultural studies, and media pedagogy, first began as interdisciplinary critiques of society and later developed into a systematic, cultural-sociological field of media studies. In this sense, game studies are not cultural studies (Nieborg & Hermes, 2008, p. 133) because they offer insight into a new area of culture and society. The same applies to media pedagogy, which should not only be studied from the aspect of criticizing the media, but also from the aspect of interpreting the meaning of messages and educational values (Kübler, 2018, p. 15).

The topic of this study is the research of media pedagogy and game studies from the aspect of deconstructive analysis of myth as a higher form of signifier level. In other words, the paper researches the influence of digital games on users (educators) and their connection with educational values and analyses media pedagogy from the aspect of media semiotics, philosophy of education and cultural theory to show the importance of new, contemporary media in creating, shaping, and deconstructing media competences.

## Research methodology

The paper uses an analytical method (Halmi, 2005, p. 27; Willig, 2013, p. 101-109) which starts from the deconstruction model (Romčević, 2018, p. 627), which analyses the meaning of the digital game phenomenon to get a clearer and more detailed meaning of the game. The study uses the deconstruction method (Culler, 1991, p. 163) as a structure of thought (Romčević, 2018).

Also, the paper uses the method of semiotic deconstruction of myth (Barthes, 2009, p.141-181), game theory according to Huizinga (1992, p. 9-30) and the construct of the world game (Fink, 2000, p. 14-70). The units of analysis are the digital games: *Heavy Rain*, *Life is Strange 2*, *The Walking Dead* and *The Walking Dead: The Final Season*.

Based on new research (Jukić, 2021a, p. 20; Jukić, 2021b, p. 537), we can conclude that certain digital games have an educational role because they influence behavior and the formation of attitudes. However, there is not enough research examining and discussing the role of parenting and upbringing in digital games. Therefore, we start from two hypotheses:

**H<sub>1</sub>:** Semiotic analysis decodes the hidden meanings of digital games

**H<sub>2</sub>:** Digital games have educational value

The aim of the paper is to research, present and analyse the mythical structure of education in the context of media pedagogy. The role of education will be an-

analysed using Barthes' semiotic method, deconstructing the mythical structure. Using the model of Barthes' myth analysis, a more complete understanding of the semiotics of media pedagogy and the identification of educational values is achieved.

The work is based on a qualitative-hermeneutic scientific approach (Mužić, 2004, p. 113) focused on content analysis (Milas, 2009, p. 500-520). The mentioned hypotheses will be used to check whether it is possible to analyse the meaning of digital games by applying media semiotics, but also to identify educational values. Value principles were observed in accordance with the philosophy of pedagogy (Vuk-Pavlović, 2008, p. 21-79; Vuk-Pavlović, 2016, p. 45-61; Polić, 2006, p. 46-54).

## Media and Media Pedagogy

What happens, when the word "media" is combined with the word "pedagogy" (Qvortrup, 2007, p. 2), i.e., when we try to analyse the construct of media pedagogy? The term media is interpreted differently depending on the scientific field. Some authors claim that media theory is a configuration more than it is a definable entity (Steinberg, 2017, p. 59), some that media theory has to be philosophical, but it cannot take its own metalanguage for granted (Mitchell, 2017, p. 12), while others note the aesthetic value of media (Corner, 2019, p. 112) or observe it in the context of philosophical communication (Krämer, 2021, p. 80) or in the context of beauty (Jukić, 2022, p. 44-49). The most cited starting point in the study of media is the quote: Media is a message (McLuhan, 2008a, p.13), but it should not be understood, but in the context of what we do with that message.

McLuhan claims that media transcend us in the context of extensions that we have created ourselves. His understanding of extensions can easily be applied to media pedagogy because users change in parallel with the media. However, every new technology creates a new horizon or virtual environment (Alić, 2009, p. 242). Educational forms promoted by media pedagogy (Hoffmann, 2003) start from the hypothesis of media methodology and media didactics according to which the content is selected, the selection is made and the criteria for whom the media messages are intended are questioned.

The medium is a tool of communication and transmits (mediates) a message (Ingis, 1997, p. 23). In this sense, the medium is a message that depends on the meaning of the interpreter and the very medium through which the message is sent. From the aspect of pedagogy, it is not the same if we learn in an online

environment using various applications as aids or if we learn from books, workshops, and research (Baacke, 1997; Qvortrup, 2007). McLuhan claims that every new medium changes consciousness (2008a, p. 46).

## Media studies

Media is, in the broadest sense of the word, any means of communication. A medium can also be an individual whose function is to transmit a message from one person to another. Therefore, the paradigm: the medium is the message (McLuhan, 2008a, p. 13) is ambiguous. The medium is simultaneously a process of symbolization, a communication code, a data carrier, but also a device for diffusion (Alić, 2010, p. 321). In this sense, the metaphorical understanding of the media as an "extension of the body" that amazes people in any material that is not the human body (McLuhan, 2008a, p. 41) tells us how each such extension affects the psychological and social structure.

Such extensions of our body, which McLuhan (2008a, 2008b) talks about metaphorically, represent extensions of our senses and with the help of the media they act on us and constantly change our perception and experience of the world. An excellent example is the book, as the first medium that today no longer has the power it had (Bauer, 2005, p. 53). Also, one of the most common mistakes when studying the media from the aspect of pedagogy stems from the fact that more emphasis is placed on the act of using the media than on the content of the media itself.

We cannot talk about media pedagogy without understanding media theory, where all forms of technological progress are manifested precisely using media (Inglis, 1997; McLuhan, 2008a). The medium represents the materialization of a certain message and value of information that changes form. There is compatibility between information and media. This compatibility is manifested through a communication channel that is complete if the communicator and the recipient share the media system. Media should not be blind spots (Krämer, 2012, p. 32).

Insufficiently has been written about the quality of content and the meaning of media messages transmitted by digital games (Jukić, 2019; Jukić, 2021a; Jukić, 2021c, Jukić, 2022), and too much in the context of media manipulation and bad influence on young people (Miliša, 2006, p. 43; Miliša and Vertovšek, 2009, p. 16-27; Tolić, 2009a, p. 65-68). The media are no longer just a tool that connects the immediate reality (McLuhan, 2008a, p. 137), they symbolize that reality. This means that we must not ignore the importance of media education, me-

media literacy and media competences. The importance of the media is undeniable. In fact, it is impossible to talk only about the negative sides of the media and not analyse their positive aspects as well.

Media transmit messages. In the context of transmitting messages, media education is crucial because users need to face the media environment in which we are immersed. We take the notion of immersion according to the philosophical understanding of the play of the world (Fink, 2000) and according to Flusser's (2007; 2015) understanding of the world of media, photography, and digital reality, which is built according to codes and symbols. The availability of new media and its constant development poses a new challenge to parents, teachers, and educators. Contemporary society lives immersed in a media world that differs from the world of their parents, teachers, and educators. It is a world that exists in parallel, in the real and the imaginary (digital) world.

## Media Pedagogy

The role of media pedagogy stems from the decoding of media messages (Miliša & Vertovšek, 2009, p. 14). We observe the areas of media pedagogy through the constructs of media education, media culture, media didactics, media studies and media ethics, with the fact that media education (*Medienbildung*) consists of two constructs: media literacy and media competences. For media education to be successful, it is necessary to develop all areas of media pedagogy, especially media literacy as the initial (interpretive and recognizing) stage of media competence (use of media, exchange of media, media reflection) and media semiotics (decoding of media messages, analysis of media content and interpretation of meaning).

However, the effects produced by media content are not always clearly visible and may have a delayed effect. Social reality is determined by the media and, as such, includes all consequences: there is no existence that would be free without the media (Bauer, 2005, p. 54). This means that such reality represents the sum of mixed positions of digital, media and real reality (Polić, 1993; Fink, 2000). What is crucial for media pedagogy is the observation and interpretation of such media and digital constructs (Baacke, 1997, p. 12). What is a question of reality is not always easily noticeable, so it becomes real only when we become aware of the existence of certain constructions. Baacke (1997, p. 12-14) calls these constructions of reality media and thus classifies them in categories of reality that depend on the observer. This is an important distinction in the understanding of media pedagogy and media literacy because, by analysing the constructions



of reality and decoding their meaning, we are offered the possibility of a better understanding of media and education.

It is not the same experience when reading a book, watching a movie, listening to music, or playing a digital game. But also, it is not the same experience when reading the novel *Crime and Punishment*, watching a play, reading a comic, or watching a movie. This means that the same content can be experienced in different ways through media. In this context, we must not observe media pedagogy exclusively from the aspect of media content, because then we limit its essence as a transmitter of a message. The media should be understood more broadly. Media affects all users in different media forms, so we perceive a person differently by reading, watching, listening, or touching them (Mikić, 2015, p. 21). Therefore, in media pedagogy, media presentation, which can present and experience the same phenomenon in a different way, should not be ignored. Every education is a part of media education (Moser, 2006, p. 28) and the influence of the media cannot be avoided (Moser, 2006, p. 32).

Media culture as a part of media pedagogy was introduced in the Croatian National Curriculum in 2019 in the subject of the Croatian language and is based on understanding the text in different social, cultural, and intercultural contexts. The subject area includes three categories: critical attitude towards media messages, understanding of culture and promotion of cultural values. Media are, therefore, extremely important for pedagogy (Büch, 2010), and the task of educational science is to clarify the meaning and consequences of the use of new media. However, in this recognition of media activity, it is necessary to separate media criticism, which is aimed at assessing media activity through the analysis of indoctrination and manipulation within the media (Baacke, 1997, p. 34) and distinguish educational values within the media.

This leads us to the conclusion that the goal of media pedagogy is not only to decode content that can often be manipulative, just as it is not the search for the main culprit of encoding such content but should be based on the concept of media literacy, media education, media ethics and media competencies. One of the key goals of media pedagogy is to recognize content and decode it, and to deconstruct content and form (Jukić, 2021c). The media thus become bearers of symbolic messages, and the role of symbols is manifested through social interactions.

In the context of the analysis of media pedagogy in Croatia, we can observe the influence of the media from two critical aspects: from the aspect of criticizing media manipulation and from the aspect of media pedagogy semiotics. It is in-

interesting that both aspects represent a critical discourse of media pedagogy, according to which they take the position of pedagogy as an advisory discipline that highlights and warns against the excessive influence of the media on society. In this sense, Miliša (2006; 2014) starts from a very sharp criticism of the manipulation of society and the needs of young people. In contrast, German media pedagogues (Baacke, 1997; Bauer, 2007; Qvortrup, 2007; Kurtz, 2020) state that the field of media pedagogy, media literacy and media education must not be exclusively critically oriented, but must offer solutions, develop new media competencies and methods with the help of which they will understand, teach and integrate media in classes, school, colleges and education.

Miliša and Tolić (2009, p. 93) speak very similarly, noting that the fundamental task of media pedagogy is the understanding of symbols. Media pedagogy analyses the values, norms, experiences, and development of the individual (Bauer, 2007, p. 157) and therefore represents a special form of knowledge and action in the educational system (Kurtz, 2020, p. 190). The symbolic meaning discussed by Miliša and Tolić (2009, p. 93-111) is an interpretation of semiotics, which Tolić (2009a, p. 55-72) elaborates in more detail by analysing media communication from the aspect of media manipulation and indoctrination. The key difference is that in the analysis of the role of symbols in media pedagogy, the authors (Miliša & Tolić, 2009, p. 94) rely on sociological symbolic interactionism (Mead, 2003, p. 51-74), while the author (Tolić, 2009a, p. 56) also relies on the French structuralist theory of the sign (de Saussure, 2000).

An even bigger problem is that media pedagogy does not have typical methods (Bauer, 2007, p. 159) that would be distinctive to educational sciences. German authors warn against this (Baacke, 1997, p. 43; Bauer, 2007, p. 160) so that media pedagogy does not become a critical theory over time. Media criticism is normatively oriented and refers to value principles (Kübler, 2018, p. 15). Scientifically based media education has always distinguished and critically dealt with media problems and the tasks of promoting media competence (Kübler, 2006, p. 44-46; Niesyto, 2018, p. 59-61).

Baacke (1997, p. 34) asks the question: Why does the critical rejection of the media find such a strong response among pedagogues and sociologists? The answer he gives is systematic: Because of fear (Baacke, 1997, p. 34). This fear stems from the rejection of new technology, misunderstanding of the media and attempts to preserve existing attitudes. The media are carriers of symbolic messages, and they *massage* (McLuhan, 2008b, p. 10) our senses through extensions (McLuhan, 2008a, p. 41). The central media theory, which stands behind the idea that the medium is a message through which content is transmitted, is even more

significant today. This is reflected in the way we access information compared to how we accessed it before. In this context, media pedagogy represents a special form of knowledge and action (Kurtz, 2020, p. 190).

Media pedagogy can be interpreted through three categories (Qvortrup, 2007, p. 2): theory of media education, theory of media socialisation, and theory of education media. The first category, i.e., theory of media education, includes learning about media, the advantages provided by new media, but at the same time learning to think critically about the media society in which we live. At the same time, the paradox of education arises here, because teachers use media to influence students in order not to be susceptible to mediatized influence (Qvortrup, 2007, p. 2). In this way, we teach students about the media and try to get them interested in them, while, at the same time, we teach them to distance themselves from the media and be suspicious of media messages. This paradox is best described by Luhmann (2004, p. 241) with the term *Bildungssystem* in the meaning of educational system.

The second category proposed by Qvortrup (2007, p. 4-6) notes that teachers must stop treating students as trivial devices. This applies especially to teachers when examining students when the teacher interacts with students as if all knowledge is factual knowledge, although it is well-known that this is not the case (Qvortrup, 2007, p. 4). This also represents a new dilemma within the educational system: the theorem of double contingency. According to Luhmann (1999), social systems use double contingency as stimulus for the restructuring or reconditioning of their own processes (Vanderstraeten, 2002, p. 87). Luhmann claims that the social order can only be resolved through communication. He develops the theory of society as a global communication system according to which our current society can be characterized as a global network (Qvortrup, 2006, p. 346). Since Luhmann builds his theory of power on symbolically generated communication media (Luhman, 2013, p. 40-54), we understand society as a horizon of possibilities that, in the context of media pedagogy, Qvortrup (2007, p. 5) shows as a non-trivial device and non-trivial system.

However, the theorem of double contingency (Luhmann, 1999, p. 134-153) and the theory of power (Luhmann, 2013, p. 88-96) open new questions. How does the transmission of selected possibilities appear to the one who is affected? Even more important for media pedagogy: How is action encouraged in such a system (classroom)? In this context, the speaker and the listener select the possibilities of communication in the communication process. In other words, Luhmann means the communicative power of the speaker who has immediate dominance and acts through the expectations of a symbolically generalized medium. This also means

that media pedagogy, in its critical discourse, goes round and round and creates a paradox of education, simultaneously using the media and defending the use of the media. This is the paradox of pedagogy, i.e., the *Bildungssystem* (Luhmann, 2004, p. 241), which can only be resolved by accepting the media society and the community of students, parents, and teachers in the world of media.

Luhmann's social systems theory incorporates self-reference; his communication theory is explicitly concerned with the exploration of this self-referential constitution of social order (Vanderstraeten, 2002, p. 88). Qvortup presents such a model in a simplified manner through the common denominator "media socialisation", but warns that teaching methods, norms and traditions cannot be passed on from generation to generation. In simpler terms, Qvortup compares the social system to a school class where, according to the theorem of double contingency (Luhmann, 1999, p. 152-153), the role of the educator (teacher) is organized as a process of directed socialization according to the national curriculum.

The third category, the theory of education media, represents the application of media pedagogy and starts from six dimensions (see Table 1) according to which all teaching and all communication is mediated (Qvortrup, 2007, p. 7). Education is a form of communication whose goal is to change the individual and guide him in a certain direction (according to a certain curriculum). From the aspect of media philosophy (Alić, 2009), educational communication is presented as a media code. From a sociological aspect, modern media education requires a teaching interaction system (Luhmann, 2002, p. 192). Educational media is based on the social system of communication according to Luhmann's theory (2013, p. 40-54), which Qvortup (2007, p. 9-12) elaborates and shows through the model of media pedagogy in the form of: the dissemination-medium form, the understanding- medium form, and the effect-medium form.

**Table 1.**

*Premise of Educational Media*

No.	Premise
1.	Teaching is mediated
2.	The medium is functional
3.	Communication is reflexive
4.	Media types are specific
5.	Virtuality and reality are connected
6.	Media genres educate

Source: Adjusted according to Qvortrup, 2007, p. 6-17.

In this sense, teaching is reflexive. However, from the aspect of media pedagogy and media communication, teaching is a game that is a performance in front of an audience (Qvortup, 2007, p. 12). The teacher acts and there is a double reflexivity between the student and the teacher. In the context of the media, we mean education itself, which represents a special form of communication, and was developed because of functional education. This form of media education starts from the educational triangle between student, teacher, and subject. In addition to the above, we understand media education in relation to reality/virtuality (Qvortup, 2007, p. 14). Finally, media genres educate (Mikić, 2015; Jukić, 2021a; Miškov, 2021; Škripcová, 2022).

## Game cultures

Culture is one of the most complex concepts (Williams, 2015, p. 87). Since the very meaning of the term culture is specific because there is no agreed use of the concept of culture (Duda, 2002, p. 9). We can observe culture depending on the aspect of the discourse: anthropological, sociological, philosophical, literary, media. In any case, culture produces meaning in relation to other elements of discourse (Duda, 2002, p. 10). According to Eagleton, we then understand culture (2002, p. 87-94; 2016, p. 15-41) as different forms of culture, but also as social heritage, learned behaviour, symbol and form of learning.

The digital game industry is the most established of all sectors of the emergent new media landscape (Dovey & Kennedy, 2006, p. 2). The phenomenon of digital games reflects the evolution from media studies to game studies. This does not necessarily mean that game studies rejects the theory of media studies but warns us that if we want to better understand game cultures, we must understand where the media comes from. Also, the methods used by cultural studies, as well as media studies (McLuhan, 2008a), should be viewed in correlation with media pedagogy, media philosophy and media semiotics. In the same way, we cannot reject the theories established by media studies, but they should be integrated into the paradigm of game studies.

Modern society is not one big network but consists of smaller networks that mutually influence and interfere with each other (Qvortup, 2006, p. 347). In this sense, digital games are scattered in the digital world and represent different groups and subgroups of educators, students and young people that are directly and indirectly influenced by the media. Starting from the division of media pedagogy into the theory of education media, digital games represent educational potential since they are in the relationship reality/virtuality (Qvortup, 2007,

p. 14). Also, it is possible to observe digital games in the context of the media genre, where certain genres can be used for educational purposes such as adventures, dramas or didactic-methodical games that promote memory, learning and orientation in space. Of course, this does not mean that all digital games are applicable in teaching, education or serve as a model of education, but they warn us that such a medium should not be ignored.

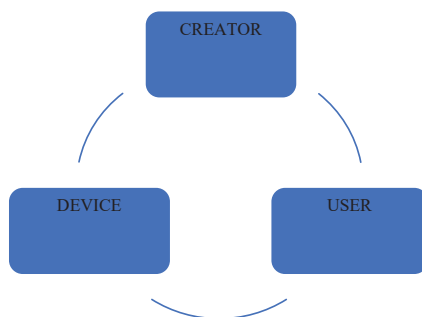
Mikić (2015) draws an analogy between art, film and literature and warns that media content can be integrated into educational, cultural, artistic, and pedagogical goals with proper application, media knowledge and media competence. Qvortup (2007) explicitly states that digital games can be viewed as an educational medium. Digital game called “pervasive game” is placed on the dimension between virtuality and reality (Qvortup, 2007, p. 15). The impact of media pedagogy on the digital world must come from accepting the fact that the digital society exists independently of teachers, parents, and educators. What makes the difference within media education is the fact that media pedagogues must find ways to integrate the digital world, digital games, and digital tools into education.

## Culture of Digital games

Through digital media, reality is created from lived reality (Jukić, 2021b). This means that digital games clearly show that media reality cannot be seen as a reality that is less valuable. Digital games represent aesthetic pleasure and educational value (Jukić, 2022, p. 41-43). Technology is then understood as an integral part of man, as an opportunity for improvement (Baacke, 1997, p. 31).

The concept of digital culture, virtual culture and cyber culture will be considered here as a technologically advanced culture, i.e., as a digital culture. The term digital game requires redefinition. First, digital games are the product of innovative digital technologies and cultural creativity. We see the digital game as a significant role in reshaping communication patterns, social structures, and culture. What is specific to digital games stems from the fact that digital games encourage their users to become authors and to produce game content (Kerr, 2006, p. 3). The term digital game (video games or computer games) is understood here as a broader term for the entire field of digital games that includes arcade, consoles, computer, video, mobile games in all their diversity. From the aspect of media theory, we understand digital games as different media that appear in digital culture.

Digital games can be viewed as cultural objects (Griswold, 2013, p. 15-24). A cultural object is part of a connected, large system of culture. Although the digital game is part of the cultural system, Griswold pays attention to the cultural object individually. People creates a cultural object; they are the ones who add meaning to it. All others in this communication process are participants and users who build a relationship with the cultural object through experience. However, not all digital games are cultural objects, just as not all cultural objects are digital games. When a cultural object becomes visible, it enters discourse and communication and becomes an object. A cultural object should have creator, user, and device (Figure 1). Therefore, a cultural object is not a natural product of society, it is a product of an individual, collective and organization (Griswold, 2013, p. 72).



**Figure 1.**  
*Cultural object component of digital game*

As can be seen from Figure 1, the first group are creators, i.e., artists, performers and everyone who creates a digital game. The second group is the users of the cultural work, all those who play digital games or are connected to digital games. The third group is the electronic devices that send the signal on which digital games are produced. The components of a cultural object form a common triangle that connects the producer, consumer, and service provider. The same can be compared in the context of a literary work, only then it is about the artist, reader, and publisher (Jukić, 2018, p. 424).

In this context, we understand the digital game as a higher form of media reality, as a text, and we understand the users of such text as interactive audiences (Jenkins, 2002, p. 157-163). It should be noted that digital games can be viewed in the context of narratology (Kinder, 2002, p. 119-124) because digital games realize their narrative through text, image, and sound. However, according to Barthes (2009), such a narrative can be found in painting, and advertising and therefore can be applied to digital games. In this sense, we view the narration as cutscenes (when it appears in the form of a shorter film track), inside the game



(dialogue of the characters), and outside the game (tutorial). The term media text was used to signal a narrow focus on the conventions and physical form of a media message, or to signal a broader focus on the form of the message combined with the meanings as interpreted by the user/audience (Kerr, 2006, p. 20).

## Game semiotics

Everything we can know in the world is known with the help of the media (Krämer, 2012, p. 31). According to McLuhan, we accept that the content of media is always some other media. The content of human speech is a thought process, and the content of a certain digital game represents a specific worldview and educational value. Such an educational value may be in discrepancy with the current understanding of values, but it certainly represents a certain message that needs to be decoded. And precisely such a “message” is the change that McLuhan (2008a, p. 14) talks about. In the context of semiotics, we decode such a message thanks to Barthes’s myth structure, which we apply to decoding media content and hidden meaning within digital games to show educational values.

According to the structuralist theory of myth (Barthes, 2009, p. 143-181), myths generalize the user’s experience to achieve a consensus of meaning. This means that mythic analysis provides a deconstruction of archetypes with the help of which we decode meanings. Applying Barthes’ methodology of myth semiotics to digital games (Jukić, 2021a), we view myths as cultural signs. Such cultural signs have default meanings that are encoded in digital games. Myth is speech (Barthes, 2009, p. 143). The term speech in the context of myth semiotics means any discourse in the context of digital games. The task of media pedagogy is to decode hidden meaning systems through the analysis of connotative meaning.

Myth does not determine the subject of the message, but the way in which that message is expressed. Therefore, digital games can become a myth because each message can change from a closed existence to a meaning. For a digital game to become a myth, specific conditions are needed. The fundamental condition that is necessary in decoding the myth is the acceptance of the theory according to which the myth is a message (Barthes, 2009, p. 143). This means that the myth has no substantive boundaries but formal boundaries. In this sense, digital games can be a myth because they are suggestive (Jukić, 2021a, p. 15).

A mythic statement arises from content that has already been reworked to make it suitable for a new presentation. From the semiotic aspect, the relationship between two members, one of which is the signifier (*signifiant*) and the other the signified (*signifié*), forms the basis of the sign. This relationship concerns the



equal value of objects that are of different nature (Saussure, 2000, p. 98-101). However, from the point of view of myth theory (Barthes, 2009, p. 146), this is not about the expression of the marked member, but about the correlation that unites the members. In other words, there is a signifier, a signified, and a sign which is the associative set of the first two members.

Every object can move from a closed, silent existence to an oral state that opens the possibility for society to appropriate it (Barthes, 2009, p. 146). Table 2 shows the semiological structure of the digital game myth. The first level of meaning is the denotation level, which is understood as a sign, and the second level (decoding) is presented in the form of a connotative sign, i.e., a myth.

**Table 2.**

*Semiotics structure of myth in digital game*

<b>Signifier</b>	<b>Signified</b>
The thing or idea we evoke	An idea in the user's mind
<b>Denotation (Sign)</b>	
Denotative sign	
<b>Connotative signifier</b>	<b>Connotative signified</b>
The second level of the evoked idea	The second level of idea in the user's mind
<b>Connotative sign (Myth)</b>	
Decoded meaning	

From the above, there are two semiotic systems in the myth, one of which is dependent on the other. What is a sign in the first system becomes a signifier in the second. The first level contains a factual system in which objects are labelled, while the second level represents a symbolic system in which connections with meaning are established. What is specific to Barth's method of myth analysis is the introduction of two levels of signification: denotation and connotation. Denotation implies a literal meaning, and connotation an associative one. Myth is produced at the level of connotation.

## Digital games analysis and discussions

The analysis of the mythic structure is presented in Tables 3.-6. In the first part of the analysis of digital games, decoded mythical structures are presented (see Table 3.-6.) that will serve to evaluate the hypothesis of hidden meaning. The second part of the analysis will evaluate the hypothesis of educational values (see Table 7.-8.) based on the content analysis and the decoded myth.

Table 3. shows a semiotic analysis of the myth in the digital game *The Walking Dead* (TWD), which exposes the mythic structure of a child's growing up. Accord-

ing to Jukić (2021a, p. 17-20), we can observe the complete digital game in the context of scenes that represent units of analysis of the pedagogical construct of upbringing, growing up and family. Scenes can be shown through images from the digital game TWD, which we will look at in a wider context. As an example of the rounded connection of the entire TWD series, we will analyse the front page of the digital game with the entire content of the interactive drama.

**Table 3.**

*Growing up*

<b>Signifier</b>	<b>Signified</b>
Lee	Safeness
<b>Denotation (Sign)</b>	
Guardian	
<b>Connotative signifier</b>	<b>Connotative signified</b>
Protector	Axe
<b>Connotative sign (Myth)</b>	
Clementine	

The protagonist Lee Everett plays the role of the signifier, and the signified represents the construct of security. This construct of security is realized through the relationship between the 8-year-old Clementine that creates the meaning of Lee as a guardian. Lee Everett assumes the role of educator, guardian, and protector (connotative signifier). The connotatively marked is manifested in the weapon that protects her. The sign of guardian represents another level of interpretation (connotative meaning) of Lee as a protector with an axe which signifies the connotative sign of Clementine. The change from the first term of the signifier, in which Lee is the guardian, and then the protector, is crucial in creating the myth of the child growing up (Jukić, 2021c), who is cared for, raised, and guided by the guardian.

**Table 4.**

*Upbringing*

<b>Signifier</b>	<b>Signified</b>
Clementine	Teacher
<b>Denotation (Sign)</b>	
Educator	
<b>Connotative signifier</b>	<b>Connotative signified</b>
Guardian	Axe
<b>Connotative sign (Myth)</b>	
Alvin Jr.	

Table 4. shows a semiotic analysis of the myth in the digital game *The Walking Dead: The Final Season* (TWD: TFS) that exposes the mythic structure of raising a child. What is specific here is the inverted structure of the main protagonists, as 17-year-old Clementine takes on the role of parenting 8-year-old Alvin Jr. It is a signifier because it represents the evoked idea of the educator, and its materialization is shown in the form of the teacher's occupation. The denotative level becomes Clementine as guardian, and the connotative signified is shown through the metaphor of the axe. The axe symbolizes the strength Clementine has gained through life and a metaphor for responsibility as Lee carried the axe while guarding her. Alvin Jr. represents the connotative sign (myth) because through the denotation of the educator and guardian, the child is realized.

Comparing the two digital games TWD and TWD: TFS (see Table 3.-4.) it is obvious that there is a rounded whole of upbringing, growing up and learning. In TWD, Lee takes on the role of guardian, educator, and teacher, who takes care of a small child who is left without parents. Lee confirms that education is engaged in values (Juul, 2018; Vukasović, 2001), which can be seen in the value dimensions that Lee teaches Clementine, which she will later adopt and transfer to another child she will raise. Through the process of education, the individual accepts the human values (ethical, moral, work, intellectual) that Vukasović (2001) talks about. However, the values promoted in TWD and TWD: TFS are not absolute in the sense of eternity (Polić, 1993, p. 37), they are changeable and represent a set of beliefs about what is good, desirable, and true.

**Table 5.**  
*Parenthood*

<b>Signifier</b>	<b>Signified</b>
Ethan	Father
<b>Denotation (Sign)</b>	
Family	
<b>Connotative signifier</b>	<b>Connotative signified</b>
Victim	Love
<b>Connotative sign (Myth)</b>	
Child	

Table 5. shows the semiotic analysis of the myth of the digital game *Heavy Rain* (HR) in which the signifier is Ethan Mars, and the denotative signified represents the role of the father. The role of the family is reflected through the father, because already in the prologue of the digital game HR, the family is marked as the first level of parenthood. The connotative signifier is presented in the context of the sacrifice that the father experiences and endures as a connotative

signified that represents love. Thus, the connotative sign is presented as another sign (myth) of parental sacrifice as love for the child (Jukić, 2021a, p. 20-23). In other words, from the initial signifier Ethan, which denotes the notion of family, the connotative signifier of the second level decodes the father who sacrifices himself for the family for the love to the child Shaun. It is precisely this love for the child that is the decoded meaning of the HR media myth that is projected in the father-son relationship.

**Table 6.**

*Brotherhood*

<b>Signifier</b>	<b>Signified</b>
Sean	Guardian
<b>Denotation (Sign)</b>	
Hand	
<b>Connotative signifier</b>	<b>Connotative signified</b>
Daniel	Wolf
<b>Connotative sign (Myth)</b>	
Eye	

Table 6. shows the semiotic analysis of the myth of the digital game Life is Strange 2 (LS2), which takes on the same thematic form of parenthood as a signifier, and the signified manifests itself in the concept of Sean Diaz's older brother, that is, in the concept of guardian. The denotative level of the sign is seen here through the metaphor of the hand, as the older brother leads the younger brother with his hand: he puts his hand on his shoulder to reassure him and holds his hand to guide him. The connotative signifier is the younger brother Daniel who, through the symbol of the wolf, represents the signified and assumes the role of the dominant brother who remains without an eye in both literal and figurative meaning. Therefore, the mythic structure is read through the loss of the eye as the price of returning the brother.

By comparing the two digital games HR and LS2 (see Table 5.-6.), we can conclude that there is a rounded whole of upbringing, growing up and learning. The key difference between TWD and TWD: TFS stems from the emphasis on educational values that question moral norms. It is value-engaged education because it discusses the ethical, moral, and intellectual values of parents-children and children-society. By distinguishing HR and LS2, from the hidden media message, and decoding them according to Barthes' myth (2009, p. 143-181), we see how the concepts of brotherhood and parenthood are interconnected. It is about the same signifying levels that are decoded into the myth of a parent sacrificing himself for a child and an older brother sacrificing himself for a younger brother.

er. Therefore, the key link is in the struggle for values where we can change the world together with others (Vuk-Pavlović, 2007, p. 105).

This especially applies to the context of the creative personality (Vuk-Pavlović, 2016), which represents the freedom of man (Polić, 1993), who can change the world only by putting in front of him educational values that give meaning to life. In the context of the analysed digital games, it is the relationship between Lea and Clementine that teaches her about kindness, honesty, truth or, in the Diaz brothers' relationship, which teaches about the value of togetherness, honesty, care and love. The examples of interactive dramas are excellent indicators of the development of the process of moral education, which includes the formation of consciousness, attitudes, behaviour, and actions, as discussed by Vukasović (2001, p. 127). This is the essence of education, which starts from the determination of a man who becomes a man through education (Polić, 1993, p. 19).

Education is a value category (Vukasović, 2007, p. 500) because, in addition to learning, which in this context can be seen as a way of survival, educational values are also adopted (Vuk-Pavlović, 2016, p. 45-61). Education is based on values (Vukasović, 2001, p. 81-186) that represent the goals, ideals, and purpose of human existence. This understanding is like the education philosophy of Vuk-Pavlović (2016, p. 39-81), which emphasizes value dimensions. The very end of the digital game TWD: TFS completes the educational component between the past and the future (Vuk-Pavlović, 2016, p. 41), which shows (media decodes) Clementine as a new educator who takes care of future generations.

Table 7. shows a comparison of four digital games according to the mythic structure, motif and messages presented through theme analysis. It should be emphasized that these are not educational values that can be analysed through myth decoding, but messages (media values) projected by the medium of the digital game itself at the first signifier level. Pan European Game Information (PEGI) has the mark 18+ which indicates content suitable only for adults. As can be seen, TWD and TWD: TFS have a key motif of combat when building the content of the interactive drama and during the gameplay. Also, both games start from the media message that togetherness and upbringing are key. In contrast, HR and LS2 start from the context of family and tragic loss that turns into a motif of sacrifice, culminating as a myth about parenthood and brotherhood.

**Table 7.***Comparison of digital games according to myth, motif, and messages*

<b>Title</b>	<b>USA/EU</b>	<b>PEGI</b>	<b>Myth</b>	<b>Motif</b>	<b>Message</b>
<i>The Walking Dead</i>	USA	18	Upbringing	Fight	Community
<i>The Walking Dead: The Final Season</i>	USA	18	Upbringing	Fight	Community
<i>Heavy Rain</i>	EU	18	Parenthood	Sacrifice	Family
<i>Life is Strange 2</i>	EU	18	Brotherhood	Sacrifice	Family

Comparing the decoded myth of each digital game reveals the motifs of interactive dramas as micro thematic units and integrating the content of digital games shows us a media image that must be decoded to get the media message and educational values (Table 8.). Symbolic meaning (Miliša & Tolić, 2009, p. 93-111) is an interpretation of media semiotics that we applied to digital games. It is media communication (Tolić, 2009a, p. 55-72) that shows users in digital reality, media messages to which they are exposed and educational values that are displayed by decoding. However, media competence is not always necessarily related to educators, teachers, and users, but also to parents who are part of the media world (Hoffman, 2019, p. 103-117). In this sense, media pedagogy is based on the hypothesis of human education and human ability to learn and actively construct the world in which he lives (Baacke, 1997, p. 51). In other words, such a concept of media pedagogy starts from the fundamental principles of educational values (Vuk-Pavlović, 2016, p. 45-61; Polić, 2006, p. 31-54) and communicative competences (Baacke, 1997, p. 51-56).

**Table 8.***Comparison of digital games according to myth and educational values*

<b>Title</b>	<b>Myth</b>	<b>Protagonists</b>	<b>FV*</b>	<b>MV*</b>	<b>SV*</b>
<i>The Walking Dead</i>	Upbringing	Lee-Clementine	Safety	Goodness	Respect
<i>The Walking Dead: The Final Season</i>	Growing up	Clementine-Alvin Jr.	Protection	Sincerity	Helping
<i>Heavy Rain</i>	Parenthood	Ethan-Shaun	Love	Forgiveness	Empathy
<i>Life is Strange 2</i>	Brotherhood	Sean-Daniel	Family	Humility	Responsibility

\* FV= Family values; MV = Moral values; SV = Social values

As can be seen from Table 8., all four interactive plays can be analysed by decoding the sign as connotatively marked, i.e., myth. Through such an interpretation

of media messages that are projected in digital games, we get a new, decoded meaning that young people are exposed to in digital reality. In this sense, TWD represents the myth of upbringing based on the relationship between two characters, Lea and Clementine, as a binary relationship of educator and nurturer and teacher and student (Vuk-Pavlović, 2016, p. 61-68). Prevailing educational values are family (security provided by a guardian), moral (learning about kindness) and social (learning about respecting the weak).

In the context of TWD: TFS, the myth is the growing up of a child, i.e., his maturing and assuming the role of protector (family values), sincere teacher (moral values) and philanthropist (social values). At the same time, the philosophy of education, which stems from encouraging the development of a person, is confirmed here (Vuk-Pavlović, 2016, p. 39-44). We understand such education in the context of the philosophy of education (Polić, 1993; Polić, 2006; Vuk-Pavlović, 2016) as the application of creative activity carried by love that constitutes educational values. The character of Clementine is an ideal example that confirms the educational values discussed by Vukasović (2001), Polić (2006) and Vuk-Pavlović (2016), because it shows the relationship between the educator and the pupil (Vuk-Pavlović, 2016, p. 66).

The mythical structure of HR starts from the decoding of the concept of parenthood, and it is hidden in the relationship between the father Ethan and the son Shaun, the disintegration of the family after the death of the second child. Educational values start from analysing family values, where the father questions his love. Through forgiveness (moral values) he learns to live with loss, and through empathy (social values) he achieves life in freedom. This freedom represents the acceptance of loss and accepts universal values in its physical, moral, and intellectual education (Polić, 2006; Vuk-Pavlović, 2016). Finally, in the context of LS2, between the two brothers Sean and Daniel, the myth is an inverted (mirror structure) family and parentage where after the death of their father and the mother who left them, the two brothers find their way in society on their own. Family values are shown through the parents and, finally, the brothers themselves who are taught humility (moral values) and responsibility towards others (social values).

The hypotheses we set earlier were fully confirmed. The first hypothesis confirmed that media content in digital games can be decoded through the semiotic analysis of myths. The semiotic method of myth analysis helped us create a clearer understanding of the media that young people are exposed to and decoded the meaning of the mythic structure that enables the breakdown of communicative and media competencies. Communicative competences include the perception



of social structure and culture. This also means that such competence is realized in the world in which individuals live (family, classroom, workplace), but also in the digital world (media space). It is precisely such a space, which is expressed in parasocial interaction, which constitutes media competence (Baacke, 1997, p. 55). Media education must be based on the relationship between family and media, but both phenomena are subject to change. In this sense, media play a co-determining role (Hoffman, 2019, p. 104). Also, the methodology of semiotic analysis of digital games (Jukić, 2021a) is a powerful tool for media education, which, according to Tolić (2009b, p. 97-101), is not only teaching, researching, analysing media content, but also comparing media with educational values.

The second hypothesis confirmed that digital games have educational values. Through thematic and content analysis, interactive dramas visually, auditorily, and substantively present a media message that is projected through the aesthetic, philosophical and anthropological aspects of the digital game (Jukić, 2022). This means that the digital reality that shows family relationships, the role of parents and guardians, analyses educational values such as empathy, honesty, kindness, truth, love, humility, and responsibility. Such digital reality, from the pedagogical aspect, represents living reality (Bauer, 2007, p. 157), the teaching of moral, intellectual, and aesthetic education that represents a special form of knowledge (Kurtz, 2020, p. 190).

## Conclusion

By acquiring media competences, we distinguish educational forms from manipulation (Tolić, 2008, p. 3). As an example of such educational forms, the selection of media content is crucial, as well as the method according to which the media content would be analysed. Therefore, the fundamental task of media pedagogy is the understanding of symbols. Media pedagogy analyses the values, experiences, and development of the individual (Bauer, 2007, p. 157). In this context, symbolic meaning (Miliša & Tolić, 2009, p. 93-111) is an interpretation with the help of semiotics. The media should be understood as partners, and therefore the digital reality as well (Polić, 2006, p. 154-162). Any understanding of social and cultural change is impossible without a knowledge of the way media work as environments (McLuhan, 2008b, p. 26).

We can conclude that media competences, as a central concept in media pedagogy (Herzig & Martin, 2017, p. 126-135), they include the abilities of the educator that he must adopt in the media world. These abilities apply to the student, educator, and parents in parallel (Hoffman, 2014, p. 22-31) because, to build critical



reflection, the educator must know the media to be able to teach the student. In this sense, media competence includes the recipient, the decoded message, media use and media reflection. Therefore, the proper use of media for educational purposes is a question of media ethics, media philosophy, media competence and media semiotics.

Media competence represents the totality of media literacy and media education that is visible in educational content, such as films, theatre plays, comics, and digital games. The digital games shown in this study encourage moral and aesthetic values, and the methodology of myth semiotics helps us understand media content and decode educational values. This means that digital games can be viewed as a media text that is critically decoded. We can understand play as a fundamental phenomenon of human creativity that is intertwined with educational values (Fink, 2000, p. 14-70). We find such a view of the game phenomenon in the understanding of the human battle in which the media world is at the same time the game of the world, a game through which we all learn and live.

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## DEVELOPMENT OF GLOBAL COMPETENCIES IN CHILDREN IN EARLY AND PRESCHOOL EDUCATION

Antonija Vukašinović, Martina Jularić, Iva Klarić

PhD students of Postgraduate program of Pedagogy and  
Culture of Contemporary School  
Faculty of Humanities and Social Sciences Osijek

### Abstract

Due to many challenges posed to us by the contemporary way of living, educating children to embrace their global competencies has become an imperative in Early childhood education. Having in mind that early childhood is an important step in the development and growth of a child, it becomes evident that we should start developing key competencies in children as early as in preschool in order to prepare and empower them for their future education and life. The role of an educator and his/her professional competencies, especially in terms of global competencies, are a key element of educational process. As a result, research was conducted using virtual focus group of six female and one male teacher who work in Early and Preschool Education. Participants work in different parts of Croatia, which provides more diverse working experience and deeper understanding of the importance of global competencies and planning and creating activities that would result in the development of here mentioned competencies. The questions used during the focus group were formulated in accordance with the PISA questionnaire (2018) and they encompass several areas of global competencies development, such as sustainable development, learning how to learn, personal and social growth, civil education, health, entrepreneurship, usage of information, communication tools etc. Although the PISA questionnaire does not include Early and Preschool teachers or students in its findings, the results of this research can serve as guidance for the development of guidelines for introducing global competencies in Early and Preschool Education.

**Keywords:** global competencies, Early and Preschool Education, children's activities, role of an educator, professional competencies of educators

### Introduction

Global education is a complex concept that puts stress on the development of competencies that are crucial in answering the challenges of the contemporary

world and globalization. The positive sides of globalization are numerous; such as quick flow of information, accessibility of information-communication technology and modern technology that „buys“ us time in everyday life race. On the other hand, there are many negative effects of globalization, the quick information flow has turned the world into a microenvironment with too much information coming our way. Incidents that happen on the other side of the world have a strong impact on an individual and his/her surrounding what was not long ago an unimaginable effect. Knowing the importance of ecological change and different ecological factors that have an enormous impact on our natural resources and its usage, it is important to motivate one's awareness of rational and responsible behavior and ethical management of natural resources. It seems that an ability to distinguish important from non-important arises as a crucial ability in this global race. Therefore, it is important to implement global education into all stages of education, from Early and Preschool Education to University Education. Sablić et al., (2010) believe that implementation of global education into mainstream education is going to be a challenge for teachers since it presumes teaching knowledge, skills and competencies necessary for adequately answering the everyday challenges. According to Sablić (2014), the Civic education as an integral part of the Global education is already being implemented into our primary schools using spiral developmental model. Using modular and intrasubject approach, students gain competencies necessary for efficient participation in democratic society. That said, if we take in the consideration the fact that Early and Preschool Education in Croatia is not part of the obligatory education, we can raise the question if the implementation of global education in Early and Preschool Education is happening or even possible? Do preschool teachers implement global education in their everyday teaching? Are they competent enough to implement it? Although in the National curriculum for Early and Preschool Education (2015) the development of key competencies, such as social and civic competencies, entrepreneurship and cultural awareness and proper expressing, are highlighted as crucial part of the education, preschool teacher implement the global education in accordance with their personal professional competencies in given area. The activities that they do in the classroom are solely based on their intrinsic motivation and professional responsibility towards the children and educational process.

## Preschool teachers' competencies in the field of development of global competencies

In order to properly respond to changing situations in terms of an effect of globalization on education, preschool teacher has to have certain competencies in



specified field. Johansson (2009) claims that children are very much aware of the surrounding world and as such they take roles of democratic citizens if they possess basic social skills and engage in active interaction with their surroundings. The implementation of moral and democratic values by the preschool teacher is closely related to notion of globalization. The implementation is only possible if preschool teachers are willing to develop critical thinking, responsibility and ability to taking risk for certain situations in preschool children. Machmud (2016) highlights several important dimensions of global competencies: critical thinking, responsibility, independence, openness to change, team work, work enthusiasm and global solving of local problems. The role of a preschool teacher is to model behavior to children and in such a way improve curriculum by implementing methods and dimensions of global education in Early and Preschool Education. According to the same author, it is important that the preschool teachers have pedagogical competencies that include understanding children, personal competencies such as ability to recognize the child's needs, social competencies that allow them to approach the problem objectively and professional competencies that stimulate child's spirit and motivation. Kruszewska (2018) believes that it is important for preschool teachers to read professional literature. The results of the research carried out on students of Preschool Education imply insufficient professional responsibility and a lack of motivation for efficient work. Bedaković and Šimić (2018) claim that Early and Preschool Education facilities are the perfect opportunities for development of intercultural competencies due to the fact that children in kindergarten develop numerous relations and bring to the group diverse family, cultural and religious beliefs. As a result, the role of a preschool teacher is manifold. Furthermore, it seems that there is an obvious necessity for improving the quality of initial intercultural education of preschool teachers.

## The importance of developing global competencies in Early and Preschool Education

Numerous research place emphasis on importance of developing competencies in Early and Preschool Education and the connection between institutional education and future accomplishments in school surrounding (Beck, 2019; Dahlberg and Moss 2005; Dahlberh and Moss 1999; Nsamenang, 2007; Pence and Shafer, 2006). But in many countries Early and Preschool Education is not mandatory part of educational practice, or there is only one year of mandatory preschool education. In those situations, the enrollment of children in Early and Preschool Education is left to the local educational politics. Campbell-Barr and Bogatić



(2017) think that different educational politics can improve the quality of Early and Preschool Education; especially if they are based on different research studies that assess teaching outcomes in preschool education. Accordingly, taking in the consideration implementing the PISA Baby questionnaire for Early and Preschool Education (OECD, 2015a) would bring different perspectives into development of global competencies of young children. PISA research (2018) mostly encompasses older children which undermines the importance of Early and Preschool Education as the pillar of the educational process.

Twigg and Pendergast (2015) point out the importance of social experiences in formulating child's values and interests about the world and him/herself in the society. Research conducted on children in preschool surrounding supports for formulating 5 themes according to Giorgies model (1985) which define children experience of active citizenship. The themes include memorable social experiences, awareness of mutual differences, understanding of friendly relations, usage of communication and information technology, entrepreneurship and the awareness of consumer society. The research results show active usage of technology in Early and Preschool Education as part of global education. McClelland et al., (2006) have looked into learning skills of children from preschool surrounding to 6th grade on the sample of 538 children. The aim of the research is to question the reading and mathematical skills of children who had poor learning skills results in preschool. The research showed that children who had poor learning skills in preschool showed lower academic results in school. Results suggest a need for early intervention in terms of developing early learning skills and the development of self-regulation and social competencies. One of the global competencies for the 21st century is also sustainable development. In 2019 research was conducted in Norway on 56 kindergarten children from 5 to 6 years old. The interview was used to question children's knowledge on sustainable development or more precisely their awareness of the influence of their actions on the environment (Meils et al., 2020.). The research showed that many children, questioned in the interview, showed age-appropriate level of understanding the meaning of sustainable development. The children showed significant understanding when talking about topics such as waste management, deforestation and air pollution. As part of the research parents and preschool teachers had to fill out a questionnaire. The results showed a positive correlation between children's awareness of ecological problems and spending time in nature with their parents which showed the importance of spending time outdoors. Wang et al.,(2020) conducted action research in Chinese kindergarten Hongqiao in Shanghai which aimed at exploring the ways to implement sustainable development in educational process. This action research was conducted in two cy-

cles consisting of four steps in each cycle. The activities that have taken place in kindergarten and are connected to sustainable development and awareness of ecological problems are recycling, educating children via TV programs, children's books, stories, magazines and boards. For example, children have showed interest in knowing where does water go after they wash their hands so the teachers have thought of an activity teaching child where do waste waters go. Based on the number of asked questions and showing interest in different materials it was concluded that children showed significant interest in learning about sustainable development. Based on this action research results the aim of teaching sustainable development was formulated through three domains: environment, economy and social-cultural domain. The National Curriculum for Early and Preschool Education (2015) when naming key competencies for life-long learning includes digital competencies as well. This is why it is of no surprise that preschool teacher use information-communication technology in their work on a daily basis, but it in order to properly develop digital competencies with children it is necessary to educate preschool teachers accordingly. Research conducted in three kindergarten in Nanjingu (China) has questioned perspectives of 15 preschool teachers on the importance of information-technology communication for children and on the ways they implement teaching them digital and communication competencies in kindergarten (Yang and Gunn, 2022). All participants said that information-communication technology will shape future learning and professional goals of children and as such it is very important. It was highlighted that we live in information-communication era and that children should not be excluded from it. Lastly, the competency to use both native and foreign language appropriately has been mentioned more and more as a very important skill to develop in Early and Preschool Education. Faced with growing globalization and mixing of different cultures there is a growing trend of multilingualism in educational facilities. Kultti (2022) believes that all children should have same access to learning languages. Learning importance of semantics and language awareness can be developed using different play situations which are based on communication and language diversity or talking about language in general.

## Research objective and methodology

The objective of the qualitative research is to determine the activities the educators use when working with children of early and preschool age that relate to the development of the global competencies of children. Furthermore, the aim is to determine the depth of the educators' understanding of the importance of developing global education competencies in early preschool education institu-

tions of the Republic of Croatia. For that reason, a heterogeneous focus group consisting of 6 female educators and 1 male was formed via Zoom platform. The focus group had online meetings because this allowed our sample to be diverse, i.e. participants included in the research were from different parts of the Republic of Croatia which meant different perspectives on the given problem. In addition, participants were of differing levels of education and had varying degrees of experience in working in the field which also brought different research perspectives. All participants were familiarized with the research objective and the ethical aspects of the research and consented to be filmed over the Zoom application and for the results of the research to be published. Focusing on the problem and the research objective, we asked them the following research questions:

1. How do preschool teachers implement global education in their work?
2. What is their understanding of the importance of global education in educating children of early preschool age?

The sub-questions were formed following the Pisa questionnaire (2018, OECD (2106c)) which include the following dimensions:

1. sustainable development
2. learning how to learn
3. personal and social civic education
4. health
5. entrepreneurship
6. usage of information and communication technologies
7. The focus group's results were processed by a programme called *Transkriptor* which transcribes videos. By using the topic analysis, the activities the preschool teachers use to implement global education into their work along with the elements that contribute to this implementation were identified.

## The discussion and results

**Sustainable development** is one of the dimensions of global education. The preschool teachers use different activities to develop the competences in children that are pertaining to awareness of ecology, natural resources and their rational use. The preschool teachers provided following activities for working with children with the intention of developing competencies related to **sustainable development**:

- projects that were initiated by children and their particular interests - Project «A building»

(Male Preschool Teacher (PT)): *«We gathered real material and built a small building. In the end we installed a solar lamp in the building. That way, the children understood the ecological potential of the building.»*

- planting flowers, trees and medical plants

(Female PT 3: *«Considering the fact that we are in a new kindergarten and that we have an extended yard, we are planning to build raised small beds. Every group would have their own little garden. One would have fruit, another one some vegetables and the third one some healing plants or something similar. We would do everything with the cooperation of the parents.»*)

- composting

(Female PT 4: *« We intend to make our own composting site because we have our own kitchen»*)

- solar toys

(Female PT 2: *« In honour of the World Sun day we talked about all the different things one can do with the Sun's help, we talked about solar toys and how they run under the Sun?»*)

- Creating picture books about water, water consumption measurement

(Female PT 5: *«There are a few things that I already mentioned, for instance the encouragement of rational use of water or some activities during which we measured our water consumption, i.e. while washing our hands. This led us to the conclusion that we can decrease our water consumption and the use of napkins and soap.»*)

- Paper recycling

(Female PT 6: *« Classification of waste, attitude towards the environment, pointing out that a clean environment is of high importance and that we should talk to other people about that as well. We are an eco-friendly kindergarten, so we recycled our paper and created »*)

Preschool teachers respect each child's own learning tempo and create spatial and material environment and situational incentives that contribute to the development of the following competency - **learning how to learn**. They encourage children to:

- do research activities

(Female PTr 4: *«Learning how to learn, I would like to repeat what Katarina already said. We offer them a lot of research activities and material found in our surroundings. The children explore and investigate until they find some kind of a solution. »*)

- search web sources, encyclopaedias

*(Female PT 2: « We show them how rich their surroundings really are and show them sources for further learning. They have materials always available for them, not as a ready-made solution, instead they are invited to research and ask questions. They know that they have encyclopaedias, articles and web sourced available for them. »)*

Educators support **the personal and social development** of children by giving them autonomy in interaction with other children, especially in the development of symbolic play and other activities in which the children can share their opinions and build their position in social interactions. The activities that help the personal and social development of children are:

- symbolic play

*(Female PT 1: "We pointed out the examples of their own interactions in which they listened to each other and used communication aids, waited for their turns to speak and respected the others' rights in communication, or waited patiently while the other had their turn to sit etc. For example, we also had a lot of pregnant mothers in the group, so they also often played by acting out the birth and playing pretend to be a pregnant woman.)*

- "Circle time"

*(Female PT 4: "I've often worked with children and I do the circle time activity – my powers and my strength. I know how to do something well, we know how to talk about it, we are friends.(?)")*

- group art activities

*(Female PT 6: "When we do art, I sometimes tie their hands together so that they have to paint together)*

-Board games

*(Female PT 5: "Carousel, musical chairs, activities regarding the human body, talking about what I want to be when I grow up... PT 4: "working on acceptance of others, respect, tolerance. )*

- Parents' visit

*(PT 2:»The parents with different professions came and talked to us")*

The preschool teachers developed **health** and body awareness in children with these activities:

- Doctor role play

*(Female PT 7: "When the children had their obligatory doctor visits when they were preparing for school, we started to play doctor")*

- Cognitive activities- model of the human body, a container with all the different foods the child consumed that day, models of human organs, healthy and unhealthy groceries

*(Female PT 3: "...we had a model of human body with all the organs that they could take out and then put it back together again, see what everything looks like ...Male PT 5: we put everything we ate that day in one big glass bottle")*

- Integrated learning with movement

*(Female PT 2: "The children are aware of the importance and benefit of movement, and they test their own abilities and what they can do with their bodies every day through physical activities and we also talked about how this relates to their health ")*

- Visits to the dentist

*(Female PT 6: "We made models of oral cavity and teeth, counted the teeth and in that way linked the activity to math as well. We talked about the brushing of the teeth, health, healthy eating, everything that is necessary for healthy teeth. That is everything we did, in brief, and we also had a project about the bones of the movement system.")*

- Research activities

*(Female PT 7: "... we had research activities and cross section of the bones and the breakable bones and we looked at the cross section with a microscope. ")*

The preschool teachers named the following activities that pertain to **civic education and interculturalism**:

- projects

*(Female PT 7: «We learned about both cultures and that turned into a project which was integrated into everything we do in the kindergarten")*

- Integrated approach to foreign language learning

*(Male PT 5: "For a week we counted everything in the halls in Spanish and then in Ukrainian... Female PT 4: ...We learned the alphabet and the colors and then applied that to the physical activities and swimming ")*

- Cooperation with folklore societies

*(PT 6: "We cooperated with a folklore ensemble and we learned about folk costumes ")*

- Art and creative activities

*(PT 3: " We made a carpet out of photographs of Velika Gorica and then they "traveled across" it and showed where they went that way or where they went for a walk with their parents")*

- Exhibitions

(Female PT 2: *"We had our exhibition and we learned about folk costumes and cultures of different countries"*)

When it comes to **entrepreneurship**, the preschool teachers integrate it with other dimensions of global education. In the previously mentioned dimensions of sustainable development there were also elements of entrepreneurship, especially so in the formation of a vegetable garden which has, as its objective, not only the ecological dimensions but the entrepreneurship one as well because the children develop the sense of utility, responsibility for their own actions, development of play and the metacognition. These activities are as follows:

- vegetable garden

- fairs

- roleplaying, play

Further on, the preschool teachers develop digital competencies in children by encouraging them to actively use **information and communication technologies**. The activities are the following:

- Videos relating to a specific topic

(Male PT 5: *"We use PC and a laptop, exclusively as a medium. It helps them to understand some topics more easily, by watching videos"*)

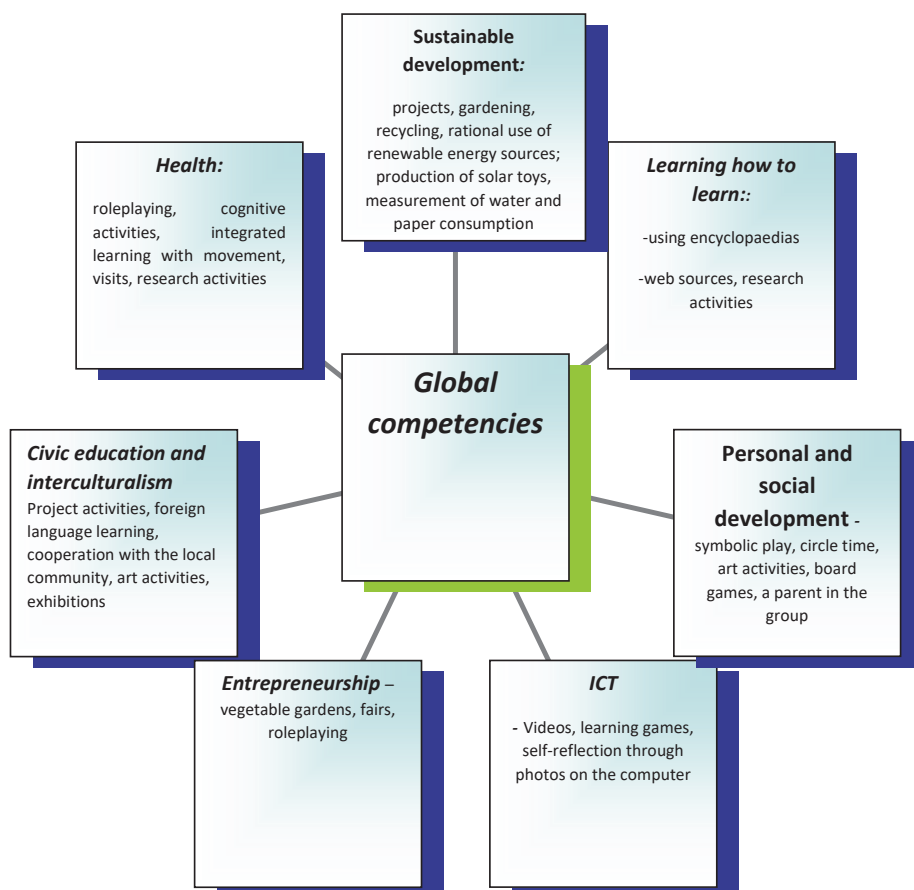
- Finding information

(Female PT 7: *"When we talk about any topic, the children are looking for information and write it down in Word and download pictures from the Internet. For example, if we talk about wild animals, they download a picture from the Internet, find some information and write it down."*)

- Making Power Point presentations

(Female PT 3: *"They came back from London and he and his mother made a Power Point presentation and gave as a lecture on all the things he saw in London and showed us what everything looked like. So, we developed their digital competencies."*)

The development of global education in children of early childhood and preschool age can be described graphically as follows:



**Figure 1.**

*Activities that help develop global competencies in children of early and preschool age*

When asked whether they think development of global competencies is important, the preschool teachers said they were aware of globalization and the effect it has on children and on the modern childhood as well.

*(Female PT 4:» We live in a modern age so we have to use a modern approach»)*

They, further on, stress the importance of the development of critical thinking in children so that the children can resist the challenges the globalization brings.

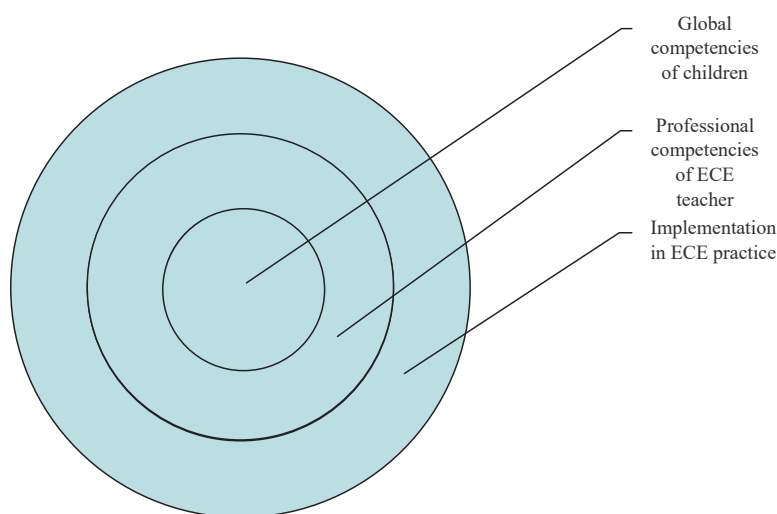
*(Male PT 5. «We do not offer them ready-made solutions, but instead we encourage them to think for themselves. We give them sources for learning.»)*

The preschool teachers underline the importance of the educators' competencies for the development of global competencies in children and they also underline



their professional responsibility in the implementation of global education in kindergarten:

(Female PT 4: « Parenting skills are necessary for the development of global competencies in children... Female PT 6: This definitely depends more on us than on anybody else because we are what the children need»). The interconnection between the level of understanding and the implementation of the global education is shown in the following diagram:



**Figure 2.**

*Factors that determine the implementation of the development of global competencies in children in the institutions for education of children of early childhood and preschool age.*

## Conclusion

Globalization brings with itself new challenges to preschool teachers. This research was based on opinions and experiences of 7 participants total (6 female educators and 1 male), as such the sample is not representative and cannot be used as defining the experience of a larger population. However, it does provide possible guidelines for global education's further development for children in Early and Preschool Education. Amos et al. (2002) do not believe that the effect that the globalization has on education comes exclusively out of economic or political interest. The overall modernization of the society inevitably results in the necessity of the modernization of educational approach, methods and activities which then, contribute to the rise of awareness of the diversity of cultures. Thus,

the preschool teachers' awareness of the importance of global education and development of competencies which will help the child to act affirmatively in the society is of vital importance. Hyun (2007) stresses the negative effect the unequal positions of power of different preschool teachers have on the development of multiculturalism and reforms in the development of interculturalism. The development of professional competencies of preschool teachers, which are necessary for the development of all children's competencies, including the development of global competencies, would greatly contribute to a positive outcome on the social, economic and educational level of the society in which the individual operates. Pramling-Samuelsson and Kaga (2008) emphasize the importance of early and preschool education and focus on the very quality of the educational process, which aims to develop individual competencies and develop the sustainability of society. Therefore, education of preschool teachers on the topic of implementation of global competencies is necessary to strengthen professional competencies on this front. Björneloo and Nyberg (2007) believe that it is important for the preschool teachers to be innovative in the implementation of global education of children and emphasize the complexity and challenges in the development of global competencies of children of early childhood and preschool age. However, without adequate motivation, developed professional competencies and the support of the professional development service in the educational process, the implementation of global competencies is scarce. Since the initial education of children in early childhood is not mandatory, except in the year before starting school, the curriculum approach in the development of global competences leaves room for reflection on the regulation of curriculum components that would include activities with children and be a possible roadmap for the implementation of global competences in Early and preschool education. The results of the focus group provide an insight into the educational processes of a few intrinsically motivated educators who, motivated by professional responsibility and having developed professional competencies, develop the global competencies of early childhood and preschool aged children. The mentioned activities in the results of the research can serve as guidelines for the development of global competencies of children of early childhood and preschool age, while the research leaves room for further research in the field of development of global competencies of children of early childhood and preschool age.

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## QUALITY OF DISTANCE LEARNING FROM THE PERSPECTIVE OF PARENTS / GUARDIANS OF STUDENTS WITH DISABILITIES IN REGULAR PRIMARY SCHOOLS IN THE CITY OF ZAGREB

Matea Luburić, Mila Puljiz

Center for Training and Education "Vinko Bek", Zagreb, Croatia,  
Primary school Kajzerica, Zagreb, Croatia

### Abstract

When it comes to the education of students with disabilities, the central place is occupied by inclusive education, the basic starting point of which is that the environmental conditions correspond to the individual strengths, interests and needs of each student. The school's duty is to recognize and respond to the different needs of its students and provide quality education with an appropriate curriculum, but also to enable cooperation and mutual trust of all participants in the educational process (teachers, professional services, parents and the community). In addition to the day-to-day challenges that parents of students with disabilities face, the pandemic has caused them to face additional situations that require professional help and support. After numerous studies conducted on distance learning during the COVID-19 disease, in the Republic of Croatia, but also abroad, rarely anyone put a focus exclusively on students with disabilities, and even less on their parents who often had to take on the role of teacher. The goal of this research was to determine the perspective of parents of students with disabilities in the development of primary school age on the quality of implementation of distance learning (C-model of teaching). The research involved 66 parents of students in regular primary schools in the City of Zagreb, of which 32 were parents of students with disabilities, who have a Decision on an appropriate education program. Parents of students completed a questionnaire consisting of 21 open-ended and closed-ended questions, and the results were processed using the SPSS statistical program. The results obtained by this research recognize the importance of the perspective of parents of students with disabilities and contribute to the creation of guidelines for future research on this subject.

**Keywords:** distance learning, pandemic COVID – 19, parental perspective, students with disabilities

## Introduction

Teaching is a complex process and its purpose is the upbringing and education of individuals during which teachers and students exchange knowledge and experience, which can be formal or informal and structured or not (Biswas & Nandi, 2020). There are different forms of performance, and they differ according to the place of performance, the age of the students, organizational forms, teaching and learning strategies, intentions, techniques and technology (Arbunić & Kostović-Vranješ, 2007 according to Jelavić, in: Bežen et al., 1993). Regardless of the form in which the teaching is performed, the authors Biswas & Nandi (2020) emphasize the importance of teaching organization, as well as its preparation in order to achieve efficiency and successful coordination between educational institutions and the community.

With the spread of SARS-CoV-2 infection and the disease COVID-19 in March 2020, the Croatian Ministry of Science and Education instructed all primary and secondary schools to conduct distance learning with the help of information and communication technology. Due to such extraordinary circumstances and the urgency of the situation, the organization of classes was limited and teachers had to transmit their teaching contents via online platforms. Lessons for primary school students were organized in cooperation with public television – "School on the Third", while video lessons available on the Internet and television were pre-recorded for students of subject classes. In addition, virtual classrooms were organized (on different platforms such as MS Teams, Loomen, Edmod, Yammer) through which teachers and students communicated with each other and exchanged information necessary for the performance of teaching activities and content (Ministry of Science and Education, 2020). This form of teaching has its advantages and disadvantages, and the majority of teachers in the research conducted by the Ministry of Science and Education in order to improve the quality of teaching, express a high level of satisfaction with this form of teaching. The questionnaire was conducted in two parts (at the end of March and the beginning of April and at the end of June), on a convenient sample, and almost all teachers (95% of them in the first questionnaire and 97% in the second questionnaire) were completely or mostly satisfied with how they teach at a distance. In addition, in the first questionnaire, 89% and in the second 90% of teachers stated that students do well or mostly well in distance learning (Ministry of Science and Education, 2020a). Furthermore, in the research by the authors Runtić & Kavelj (2020), which examined the experiences and opinions of upper elementary school students about distance learning, the results of the conducted questionnaire show a student rating of distance learning at 3.50, and

students more often cite disadvantages than advantages of this type of teaching model. The results of foreign research show similar results, where students state that they miss direct work at school, and teachers state that they make contact with students and that the majority are regular and active in distance learning (Miražić-Nemet & Surdučki, 2021).

Previously conducted research shows conflicting results and mainly refers to the attitudes of teachers and students, while research with students' parents about conducting online classes is rare. Nevertheless, research conducted by UNICEF Montenegro (2020) shows that  $\frac{3}{4}$  of parents express a negative attitude towards this form of teaching. Regardless of the student's age, parents believe that this way of learning and teaching weakens students' work habits, and they lose motivation and do not develop social skills (UNICEF Montenegro, 2020). Over 80% of parents reported overall satisfaction with the assistance given by school staff to their children during the lockdown, according to the findings of a survey conducted in April 2020 in the USA, in which 122 parents took part (Garbe et al., 2020). In a study by the author Sorensen (2012), parents express conflicting feelings about the experience of distance learning, even when it was carried out under ideal conditions. Additionally, they frequently believe they must play a very active part in children's online education, serving as "co-educators," planning and overseeing the students' academic progress, and even occasionally giving lessons (Averett, 2021; Garbe et al., 2020; Waters & Leong, 2014). The findings of other research indicate that parents believe that their children are more burdened, especially students in higher grades (due to a greater amount of school material) and those students in the lowest grades (due to a lack of competence in the use of digital technology) (Miražić-Nemet & Surdučki, 2021).

## The role of parents and guardians

Parents and the family environment in general are an important support for the educational progress of students (Bjorklund & Salvanes, 2011) and the parents themselves are partly the carriers and collaborators of the educational process, but Racz et al. (2019) state the existence of disagreements between parents and teachers. The same authors emphasize that parents rate their children's competencies higher than teachers do, and this is because parents have insight into their child's abilities only, while teachers have insight into the abilities of several students. Regardless of the previously mentioned research results and the fact that any attitudes of parents about the teaching process affect the development of attitudes among students (Sušan Gregorović, 2017), it is important



to achieve open communication and cooperation between parents and teachers. This way, parents are included in the educational process and appropriately informed, and teachers receive feedback that can contribute to the improvement of the teaching process. The most important thing is that the students get the most from such cooperation, which contributes to optimal school success.

During online classes, the parents' role in the teaching process was the most prominent since they were often the ones who had to take on the role of teacher. For this reason, the previously mentioned communication with teachers was extremely important so that parents could be informed in a timely manner and contribute to the child's education through supervision and assistance in completing tasks and learning, organizing time and planning learning (Christenson & Sheridan, 2001; Ćurković et al., 2020; Epstein et al., 2009,).

Students with disabilities and their parents equally had to face a new situation, about which there is almost no concrete research. Research by Masi et al. showed that due to the disease COVID-19, the behavior of children with disabilities results in sleep disturbances, increased irritability, and increased expression of anger and rage (Masi et al., 2021; Koren, 2021), which presents their parents with everyday "usual" challenges additional. Similar research results are presented by the authors Lambert and Dryer (2018), emphasizing the negative impact of online classes on students with disabilities through increased stress and anxiety and reduced self-esteem. In the research by the author Koren (2021), who examined what challenges parents of students with disabilities face, the results of the research showed a greater need for professional support and help. On the other hand, parents in the same research state the advantages of online classes, describing the child's progress due to the greater amount of time spent together and a more relaxed atmosphere at home. The switch to distance learning for students with disabilities has created new stressors for both them and their parents, according to research conducted by Houtrow et al. (2020). There is no doubt that the pandemic had a great impact on children with disabilities and their parents, and that is why it is important to collect information that will enable all of them to deal with the same or similar situations more easily and ultimately contribute to the development of competencies in accordance with the family's capabilities and the abilities of the child with disabilities.

## Objective and hypotheses

The aim of this study was to determine the overall perspective of parents/guardians of students with disabilities in regular primary schools about the quality

of distance learning (or the C model of teaching). As it is known, due to the pandemic of the COVID-19 disease in Croatia in 2020 and 2021, the following teaching models were used: A - teaching in school, B - mixed form of teaching (partly in school, partly remotely), and C – remote teaching. Given that, the research was conducted in May 2022, when remote teaching was completed. The pandemic of the COVID-19 disease has caused numerous changes in the daily lives of students with and without disabilities, as well as in the daily lives of their parents and guardians. In addition to the general perspective, this research aims to gain a clear insight into the quality and frequency of communication between parents, teachers and the professional service of the school, the frequency of sending individualized/adapted materials by the teacher, as well as the frequency of the need for additional clarification of school materials by parents. The following hypotheses emerge from these research questions:

H1 Parents/guardians of students with disabilities express less satisfaction with the quality of distance learning compared to parents/guardians of students without disabilities,

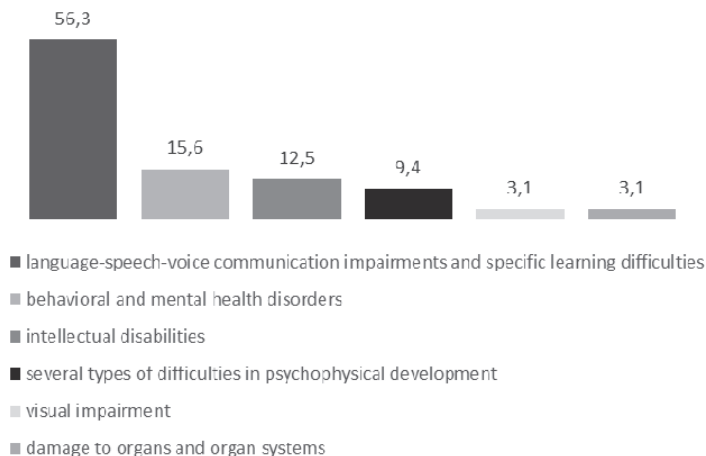
H2 Parents/guardians of students with disabilities established more contact with school staff compared to parents/guardians of students without disabilities.

## Method

### Sample

The study involved 32 parents/guardians of students with disabilities and 34 parents/guardians of students without disabilities, whose children at the time of the research, attended the 3rd, 4th, 5th, 6th, 7th or 8th grade of regular primary schools in the City of Zagreb. Parents/guardians of 1st and 2nd grade students were not included in the research, since during 2020 and 2021 they did not attend remote teaching classes at all or they attended partially. In Croatia for students with disabilities is made a Decision on an appropriate educational program, according to the Ordinance on Elementary and Secondary Education of Students with Disabilities (OG 24/15). In the sample of this study, for 25 students is determined a regular program with individualized procedures, while for 7 students is determined a regular program with content adjustment and individualized procedures. According to the Orientation list of disabilities, the largest percentage of students (56.3%) have language-speech-voice communication impairments and specific learning difficulties, 15.6% of students have behavioral and mental health disorders, 12.5% of students have intellectual dis-

abilities, 9.4% of students have several types of difficulties in psychophysical development, while 3.1% of students have visual impairment and damage to organs and organ systems.



**Figure 1.**

*Types of disabilities according to the orientation list of disabilities*

## Instruments and methods of data analysis

For the purpose of this study, a survey questionnaire consisting of 21 open-ended and closed-ended questions was created, and parents/guardians of children with and without disabilities completed it online using a Google form. The results of this quantitative study were processed using the statistical program IBM SPSS Statistics, version 29. The variables were described and then tested with Shapiro-Wilks test for normality of the distribution. appropriate. Considering that the data do not meet the conditions for parametry and the nominal level of measurement used in the questionnaire, the data for obtaining differences between independent groups were tested using the chi square test.

## Results and discussion

Since satisfaction is a vital factor for determining the quality of online learning (Ke & Kwak, 2013; Shen et al., 2013), we wanted to examine if there is a difference in satisfaction between parents/guradians of students with and without disabilities. This study indicated that most parents (76.47%) were neither dis-

satisfied nor satisfied with the quality of distance learning, while only 17.64% were satisfied with the mentioned quality. On the other hand, in the research of authors Cui et al. (2021) most of the parents (77.9%) were satisfied with the online learning courses. However, we are uncertain of how many parents/guardians in the sample were parents of students with disabilities or even if they were at all a part of this study.

The normality of the distribution on the variable overall satisfaction with the quality of distance learning was tested with the Shapiro-Wilks test, considering the smaller research sample. Given that the test shows a statistically significant deviation from the normality of the distribution for both groups of parents/guardians (Sig. < 0.05), the chi-square test will be used in the following to test the differences in the frequencies of responses of the research participants.

**Table 1.**

*Observed and expected response frequencies on the variable total satisfaction with the quality of distance learning (KVALNAS)*

		<b>Unsatisfied</b>	<b>Neither satisfied nor satisfied</b>	<b>Satisfied</b>
<b>Parents/guardians of students with disabilities</b>	Count	5	22	5
	Expected count	3.4	23.3	5.3
<b>Parents/guardians of students without disabilities</b>	Count	2	26	6
	Expected count	3.6	24.7	5.7

**Table 2.**

*The value of the chi-square test on the variable total satisfaction with the quality of distance learning (KVALNAS)*

	<b>Value</b>	<b>Df</b>	<b>Asymptotic Significance (2-sided)</b>
<b>Pearson Chi-Square</b>	1.651 <sup>a</sup>	2	.438

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is 3.39.

Value of the chi-square test is Sig.=0.438 (Sig. > 0.05), which means that there is no significant difference in satisfaction with the quality of distance learning between parents/guardians of students with and without disabilities, so we rejected our first hypothesis (H1). The normality of the distribution on the frequency of contact was tested with the Shapiro-Wilks test, which showed a statistically

significant difference for both groups of parents/guardians (Sig. < 0.05). In order to be able to test the differences in the response frequencies of the research participants, the chi-square test will be used.

**Table 3.**

*Observed and expected response frequencies on the variable frequency of contact (KONTAKT)*

		<b>Never</b>	<b>Occasionally</b>	<b>Often</b>
<b>Parents/guardians of students with disabilities</b>	Count	24	7	1
	Expected count	27.6	3.9	.5
<b>Parents/guardians of students without disabilities</b>	Count	33	1	0
	Expected count	29.4	4.1	.5

**Table 4.**

*The value of the chi-square test on the variable frequency of contact (KONTAKT)*

	<b>Value</b>	<b>Df</b>	<b>Asymptotic Significance (2-sided)</b>
<b>Pearson Chi-Square</b>	6.867 <sup>a</sup>	2	.032

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .48.

The value of the chi-square test for two independent samples is Sig. = 0.032 (Sig. < 0.05), which means that there is a statistically significant difference in the frequency of establishing contact with school staff between parents/guardians of students with and without disabilities. Table 3 shows the differences in observed and expected response frequencies. Even though the differences between observed and expected response frequencies are small, they are statistically significant. More parents/guardians of students with disabilities occasionally established contact with school staff than it was expected, while a smaller number of parents/guardians of students without disabilities occasionally established contact compared to expected, thus we accept the second hypothesis (H2).

While asking parents/guardians of students with disabilities did teachers send individualized/adapted materials for their child, more than half of parents said they never received adapted materials (56.3%), 18.7% received it sometimes and 25% received it often. Study conducted by Cui et al. (2021), parents expressed their concern about students not understanding the material and that teachers' explanations were not specific enough. In this study, when asked were teachers clear enough when interpreting school materials most of the parents/guardians of students with disabilities were undecided on the matter (40.6%), while most of the parents/guardians of students without disabilities (52.9%) agree that

teachers were clear. In a study conducted in 2020., teachers reported that working with students who have disabilities in such circumstances is challenging for them and that distance learning requires more preparation time than teaching in-person (Periša, 2020). Onwards, we wanted to know what do parents think was the scope of work for teachers during distance learning easier than usual, as usual or more difficult than usual. Most of the parents/guardians in both groups agree that teacher's scope of work was more difficult than usual (more precisely 62.6% of parents/guardians of students with disabilities and 79.4% of parents/guardians of students without disabilities), which is also confirmed by research in which parents were aware of the demands of teacher's work during distance learning and were grateful for their effort (Erwing & Vu, 2021). Even 75% of parents/guardians of students with disabilities often had to additionally clarify school materials for their children, while 12.5% claims to do it never or occasionally. While looking at the results in the group of parents/guardians of students without disabilities, they gave mostly equal answers (38.2% never had to additionally clarify, 26.5% occasionally and 35.3% had to do it often).

According to the opinion of parents/guardians of students with disabilities, 78.1% of them believe that the most suitable form of teaching for their child is teaching in school, 12.5% state a mixed form of teaching, and only 9.4% answer that distance learning is the most acceptable. On the contrary, none of the parents/guardians of students without disabilities believe that distance learning is the most acceptable form of teaching. Most of them (79.4%) state teaching in school is the most suitable form of teaching for their children, while 20.6% parents/guardians think that a mixed form of teaching is the most acceptable. Similarly, most of the parents (94.9%) hoped that their child will return to face-to-face learning in their future studies (Cui et al., 2021).

The above-mentioned results obtained by closed-ended questions, have also been confirmed in the open-ended question which reads as follows: *„According to your opinion, what should be done to improve the quality of distance learning?“*. In general, parents/guardians of students with disabilities express dissatisfaction with distance learning, stressing that *“...more attention and understanding should be given to students with disabilities...”*. The majority stated that they were the ones who were their child's teacher, *“...it should be possible for the child to have a quality explanation of the material, and not for the parent to explain it to him from the textbook...”*, since the teachers only knew how to send the teaching materials without additional clarification, which requires additional effort and the time *“...parents should be given teaching materials for familiarization with working and learning methods...”*. It is clear that analyzing parents' attitudes is necessary in order to determine potential forms of cooperation between the school and the

children's parents because such circumstances are very difficult for parents because they frequently lack a thorough understanding of the principles of learning, lack specific knowledge about certain subjects, and feel alone in the process (Daniela et al., 2021). The same authors also stress that teachers' inability to simultaneously prepare lessons for students and parents due to the scope of their work is a contributing factor in the failure to send materials and explanations to parents. This calls for more help from the educational system as a whole, which will offer parents more pedagogical and educational support in an effort to lessen learning disabilities. Although a certain number of students with disabilities have the right to the professional support of teaching assistant or professional communication mediator, most of them were denied this right during online classes, which puts students with disabilities in a disadvantageous position *"... without the help of teaching assistant, they cannot follow the lecture..."*. However, one respondent stated that in the case of his child, classes were held at school with the support of teaching assistant *"...in the case of my child, remote classes were held with the support of teaching assistant in the school premises only because I intervened at the Ministry of Science and Education, so they sent a notice that such a possibility can exist, for students with disabilities, who have a teaching assistant or a professional communication mediator."*

Parents/guardians of students with disabilities state that it is necessary to work on communication between parents and teachers, as well as students and teachers *"... more communication between teachers and students..."*, to promote engagement (Kim & Fienup, 2021), *"...not just sending the necessary material that the students then have to read and master without explanation..."*. Other authors also emphasize the importance of communication between parents and teachers who need to be trained in order to be able to provide specialized support (Schuck & Lambert, 2020; Tremmel et al., 2020). Parents/guardians also mentioned the lack of communication between students and professional services *"... better co-operation with speech therapists and psychologists at school who wait for the parent to contact them instead of being proactive and encouraging parents to communicate more..."*. Christ & Christ (2006) indicate the importance of support from professional services for children with disabilities during periods of crisis, since these factors help protect against negative educational and behavioral effects. The lack of access to teachers and the school community as a whole suggests that students with disabilities face unique educational challenges, which highlights the need for more frequent and clearer communication between school and family (Tremmel et al., 2020). Additionally, more support and teacher encouragement led to better involvement of students with disabilities in distance learning (Kim & Fienup, 2021).



Since these are students with disabilities who have a Decision on the appropriate form of education (regular program with individualized procedures/regular program with individualized procedures and adaptation of content), it was necessary to send individualized and adapted materials, which additionally need to be clarified and the parents/guardians of students with disabilities themselves cited as a disadvantage: “... *Distance learning was mostly carried out in such a way that the children were given tasks and lessons that they then worked on themselves, that is, I worked on the material together with the child.*”, because it can be assumed that parents/guardians themselves do not understand them or do not have certain knowledge (Oreopoulos et al., 2006), so some stated that the materials should be sent in advance in order to make it easier to explain to the child “...*teachers only sent materials, and that requires additional work and explanations and spending a lot more time and effort...* “. They often stated that the level of stress was higher than usual, due to the various obligations they had “... *and the level of stress because I was doing my job remotely and had another child in a lower grade was immeasurable...*”, and numerous studies demonstrate that parents are unable to adequately support their children when they are learning remotely (Bubb & Jones, 2020).

It is necessary to take into account the limitations of this research. Primarily, the research was conducted on a very small sample of parents/guardians of students with and without disabilities, and the results refer exclusively to the City of Zagreb so they cannot be generalized to the entire population of parents/guardians in the Republic of Croatia. In further research, it is necessary to examine the satisfaction of parents/guardians on a larger sample and to consider other cities and smaller towns in the Republic of Croatia where parents potentially face different challenges (lack of experts with a background in educational rehabilitation or a poorer Internet connection etc.). It is crucial to remember that the results examined for this article are those of parents, not of students with disabilities, so in the future research it is important to take into account their perspective as well. Additionally, we did not consider the unique characteristics of each student's difficulties in this research; instead, we merely displayed the difficulties identified by the Orientation List of disabilities. We did not take into account the differences in the answers regarding the class the students with disabilities attend, therefore this is also a recommendation for the future research. The quality of distance learning with regard to particular groups of students with disabilities must therefore be examined in further research. One drawback is that it is impossible to verify the sincerity of the participants' responses and ensure that they did not provide socially acceptable responses. A better understanding of the situation and potential solutions for enhancing distance learning requires more research that incorporates the viewpoint of teachers and other professionals.



## Conclusion

One of the biggest challenges during the pandemic was providing high-quality instruction in distance learning to students with disabilities, because no single approach will work for everyone, but individualization of the approach is required. In this research we wanted to establish the overall perspective of parents/guardians of students with disabilities about the quality of distance learning and see if there is a difference in satisfaction and frequency of establishing contact compared to parents/guardians of students without disabilities in regular primary schools in the City of Zagreb. The analyse of chi square test has shown that parents/guardians of students with disabilities do not express less satisfaction with the quality of distance learning compared to parents/guardians of students without disabilities. Futhermore, chi square test has also shown that more parents/guardians of students with disabilities occasionally established contact, while a smaller number of parents/guardians of students without disabilities occasionally established contact than it was expected. The results of this research indicate the importance of creating more often and better quality communication between parents/guardians, students, teachers and professional service of the school that the students with disabilities are attending. Despite difficult conditions of maintaining communication on the distance learning, it is necessary that teachers send students with disabilities individualized materials so that the quality of their education has equal quality as they have during the classes at school. The unpredictability of COVID-19 disease and often usage of informational-communicational technologies in everyday life, requires further research on this topic and creation of clear directions for working with students with disabilities in virtual surroundings.

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## CROSS-BORDER COOPERATION OF TEACHERS

Ana Maria Marinac

PhD student of Postgraduate program of Pedagogy and

Culture of Contemporary School

Faculty of Humanities and Social Sciences Osijek

### Abstract

The global competencies of the 21st century require each individual to constantly work on himself and personal development. Since teachers are people who have an important role in society, the development of teachers' global competences is indeed an important topic. In all branches of human activity, cooperation is an opportunity to exchange experiences, acquire new knowledge and develop new skills, and this is especially visible in the work of teachers. Cooperation inside and outside the home school is important, throughout the Republic of Croatia, but also throughout Europe and the world. The main part of this paper will present the empirical part, which aims to determine whether and how teachers from outside the Republic of Croatia cooperate with Croatian teachers and whether Croatian teachers cooperate with teachers from outside the Republic of Croatia in Croatian schools and how they evaluate their cooperative competences. Also, you will get an insight into how much teachers are supported by efforts to achieve cross-border cooperation and what most often represents a challenge for them to establish cooperation with teachers outside and inside the Republic of Croatia. Furthermore, it will be shown what the teachers emphasize as advantages and disadvantages of cross-border cooperation of classroom teachers.

**Key words:** competences, cross-border cooperation, classroom teaching, teachers

### Introduction

A person needs numerous competencies to function in the 21st century. As time goes on, systems change, and so do the necessary competencies for active participation and work in these systems. The educational system abandons the traditional approach to teaching, and for several decades didactics and methodologists have been talking about a modern approach to education that puts the student at the center. In this case, the student is an active researcher, and the teacher organizes, directs, encourages and guides. In order to achieve the goals of today's teaching, it is important that the teacher constantly develops a series

of competencies that will reflect on his professional growth and progress. Teacher competence is a frequently researched area, but the authors Letina and Vasilj (2021) speak of competence as a term for which there is no universally accepted and unequivocal definition. Nevertheless, the competences of teachers are manifested in multifunctionality and applicability in all situations. The modern age is an age that requires teamwork and all forms of cooperation from the individual. A time when collaborative competencies are exclusively important in all domains of human activity. Therefore, this work is dedicated to the collaborative competencies of teachers, which will directly affect the development of students' knowledge and skills. Very little contemporary scientific research is devoted to the cooperation of teachers with other teachers. Since this is a time and a time of significant emigration of the Croatian people to numerous other countries, for the purposes of this work, qualitative research and interviews will be conducted with Croatian teachers in the area of Switzerland, Bosnia and Herzegovina and the Republic of Croatia on cross-border cooperation of teachers. You will get an insight into the views of classroom teachers on cross-border cooperation and the establishment of such cooperation, as well as the self-assessment of cooperation competences in relation to cooperation with other teachers.

## Competences of teachers

A large number of scientific researches have been devoted to the competences of teachers, and they occupy one of the fundamental issues in modern upbringing and education, since the knowledge and skills of teachers directly and indirectly affect students. In the middle of the 20th century, psychologist White (1959) began to consider the concept of competence, explaining intrinsic motivation in the learning process. Županić-Benić (2017) state that towards the end of the 20th century, the concept of competence is increasingly used in various educational policies, and it is also discussed in various important pedagogical documents. Weinert (2001) defines competencies as the cognitive abilities and skills of an individual that help him solve problems. In the document *The definition and selection of key competencies* (2005), competences are defined as knowledge, skills and abilities to realize complex requirements using psychological and sociological potentials. When it comes to teacher competencies, Jurčić (2012) analyzes different definitions of competencies, from which he comes up with the term professional competencies of teachers, and defines them as expertise recognized by teachers and parents, based on knowledge, abilities and values. Teacher competencies are a very broad area, and the author Županić-Benić (2017) talks about different profiles of teacher competencies. Different authors divide competen-

cies into different categories, for example Suzić (2014) proposes twenty-eight competencies necessary for life in the 21st century: cognitive, emotional, social and work-action competencies. Today, there are eight key competencies for life in the 21st century, namely: communication in the mother tongue, communication in a foreign language, mathematical competence, digital competence, learning how to learn, social and civic competences, entrepreneurship, and cultural awareness and expression (Official Journal of the European Union, 2006). Among other competences, the competence of speaking and communicating in the native and foreign languages, as well as social and civic competences, will contribute to the development of cooperation between people, that is, teachers within and outside the country, and if the teacher develops the aforementioned competences, he will also develop a number of other competences that will help him in forming competent students ready for life in the 21st century. Županić-Benić (2017) points out the difference between the process of upbringing and education, according to which he divides the professional competences of teachers into pedagogical and didactic. Jung and Frey (2011) talk about a special model of competences, whereby teacher competences are divided into subject competence, social competence, methodological competence and self-competence. Jurčić (2012) divides competencies into subject, communication, didactic-methodical, reflective, social, emotional, intercultural and civic competence. Zrilić and Marin (2019) assign the following necessary competences to a modern teacher: competences in the field of curriculum construction methodology, in the field of organization and management of the educational process, in the field of determining student achievements at school, in the field of shaping the classroom atmosphere, in the field of educational partnership with parents. Different divisions and understandings of teacher competencies can be considered, but from a review of a number of definitions, it can be concluded that very little attention is given to the collaborative competencies of teachers.

## Collaborative competencies of teachers

Kovač and Buchberger (2013) point out that the quality of education is a priority and a fundamental goal of European education policy, and the cooperation of various participants in the educational process has a great impact on that quality. The authors explain the concept of cooperation, stressing that for cooperation it is necessary to satisfy certain degrees of collaborative relationship. Cooperation can be seen as an interrelationship between several participants who have a common goal. In order to be able to talk about the cooperative competences of teachers, it is important to explain what they are based on and what is important for

the realization of cooperation between teachers. Social competences are important for the realization of cooperation, which include the ability of human interaction and action in different situations, and they can be learned and practiced. Different authors state that defining social competencies is very challenging, and some authors equate them with collaborative competencies (Grudinček, 2021). The study of social competencies began at the beginning of the twentieth century, and the author Brdar (1993) concludes by analyzing different approaches that they are based on effective functioning within the social concept. This group of competences includes a number of traits, knowledge and skills. The author Jurčić (2014) testifies to how closely social competences are related to collaborative competences, pointing out that social competences also mean the competence of working with colleagues, that is, cooperation. Therefore, the development of social competences in general will contribute to the achievement of cooperation between teachers and students, parents, professional associates and colleagues. In their work, the authors Kovač and Buchberger (2013) refer to policy recommendations and requirements for strengthening the collaborative dimension in education, which state that the school's cooperation with external stakeholders is an important factor for the effectiveness of the school's work, as well as student achievement. Numerous authors (Lasley et al. 1992; Fullan, 2010; Pahić et al., 2011) researched what is needed for school cooperation with external stakeholders and concluded that various individual, organizational and social relationships play an important role. When talking about the cooperation of teachers with other teachers outside their school, it is important to emphasize that research indicates that principals play an almost crucial role in strengthening collaborative competencies within the school because they are enabled to connect internal and external participants (Odhiambo and Hii, 2012). Numerous studies indicate that the following components are important for the realization of cooperation between teachers, that is, educational institutions in general:

- Common and clear vision, goals, values and principles
- The need and mutual benefit of cooperation for all involved participants
- Mutual trust, support, etc.
- Engagement, commitment, involvement.

In accordance with all previous research, the authors Kovač and Buchberger (2013) conduct their own research and conclude that teachers most often cooperate with other teachers and teachers outside the school, and rarely cooperate with teachers within another school. Schools most often cooperate with different institutions within the local community, and somewhat less often with other schools within and outside their country. Teachers most often collaborate in extracurricular, field or practical teaching activities. For cooperation with oth-



er teachers, they consider it most important to support the organization and implementation of various (open) school activities, as well as the support of the school, that is, the principal for cooperation with other teachers.

## Methodology

### 1. Research objective

Considering that in the last few years no data was found on the establishment of cross-border cooperation between teachers, the aim of this research is to determine whether and how teachers from outside the Republic of Croatia cooperate with Croatian teachers and whether Croatian teachers cooperate with teachers from outside the Republic of Croatia in Croatian schools, i.e. the aim is show the teachers' own experiences from different fields. It will also present the self-assessment of the teacher's collaborative competencies. An insight will be given to the extent to which teachers are supported in their efforts to achieve cross-border cooperation and what is most often a challenge for them to establish cooperation with teachers outside and inside the Republic of Croatia. Furthermore, it will be shown what they emphasize as advantages and disadvantages of cross-border cooperation of classroom teachers.

### 2. Research instrument and sample

For the purposes of this paper, qualitative research will be conducted using an open standard interview. The interview was conducted directly with the teacher from the Republic of Croatia and Bosnia and Herzegovina, while the teacher from Switzerland was conducted via the Zoom platform. The research participants were chosen by a convenient sample, by invitation and with voluntary consent to participate in the research or in the interview.

### 3. Research questions and research sample

Interviews were conducted with three classroom teachers within the Republic of Croatia and with two classroom teachers outside the Republic of Croatia for the purposes of this qualitative research. The aim of the research was explained to the research participants and the confidentiality of personal data was guaranteed, and the following research questions were asked:

1. In which country do you work, are you a classroom teacher, how many students do you have in your class, what school do you work in, how many years of work experience do you have...?
2. Do you know the concept of collaborative competencies? What, in your opinion, would collaborative competencies entail in your profession?



3. Are collaborative competencies important in your profession? Why?
4. How do you evaluate your own collaborative competencies on a scale of 1 to 5 (1 – unsatisfactory, 2 – satisfactory, 3 – good, 4 – very good, 5 – excellent)? Why?
5. Does the school where you work encourage your collaborative competencies? Do you cooperate with other teachers and professional associates within the school?
6. Do you cooperate with teachers outside the borders of the country where you work?
7. How do you cooperate with teachers outside the borders of the country where you work? How do you communicate? What do you most often work on together?
8. How did you make contact with teachers outside the country where you work? How did you meet them?
9. Does the director of the school where you work support your cooperation abroad? On what way?
10. Do you think that contacts with teachers outside the country where you work contribute to your professional progress and the improvement of your collaborative competencies?
11. Do you cooperate with teachers in the Republic of Croatia? On what way?
12. What would you highlight as the advantages of cross-border cooperation among teachers?
13. What would you point out as the disadvantages of cross-border cooperation of teachers?
14. If you do not achieve cross-border cooperation, do you know why? Would you like to have such cooperation in the future?
15. How important is cross-border cooperation between teachers to you? Why?

## The limitations of the research

The limitations of the research are that a small number of respondents from three different areas participated in the research. It is possible that the results of the research would indicate different conclusions if a larger number of respondents from the same or different areas participated in the research. Nevertheless, this qualitative research can be the basis for further quantitative and qualitative research in the field of education on cross-border cooperation of teachers throughout Europe and the world.

## Research results

The first question in the interview provides insight into which countries the teachers who participated in the research come from. In addition, it is possible to find out in which educational institutions they work and how many years of service they have. The place of work indicates a specific educational system, while the years of service can contribute to a greater number of professional acquaintances, and thus to a greater number of established (cross-border) collaborations. Teacher 1: *"I have been working in the Swiss Confederation since February 2022 through the Employment Contract, which I signed with the Ministry of Education and Culture. I finished classroom teaching and English at the Faculty of Teachers in Zagreb, before my 4-year mandate abroad I worked for 5 years in an extended stay at an elementary school in Zagreb. I have a total of 45 students in 5 teaching places within the canton of Ticino where I work. The groups are heterogeneous, 6-18 years old."* Teacher 2: *"I work in Bosnia and Herzegovina, in the small municipality of Usora. I have been a classroom teacher for 5 years. I currently have 5 students in the 2nd grade."* Teacher 3: *"I work in the Republic of Croatia, in an elementary school as a classroom teacher in the vicinity of Slavonski Brod. I teach in a combined classroom, 2nd and 3rd grade. I have several months of work experience, I am still at the beginning."* Teacher 4: *"I am a classroom teacher in the Republic of Croatia, that is, in Požega. I have one year of work experience. I am a first grade teacher with 4 students."*

From the teacher's answers about the knowledge of collaborative competencies and the opinion of how collaborative competencies are treated in the teaching profession, one can gain an insight into how much teachers are aware of the concept and importance of collaborative competencies within the field in which they work. Accordingly, Teacher 1 points out: *"Until now, I have not come across this concept. I assume it means the cooperation of colleagues to achieve a common goal."* Teacher 2: *"In my opinion, collaborative competencies are very important for new ideas, new knowledge. In fact, I don't often come across this term, so I don't even think about it."* Teacher 3: *"I am familiar with the term collaborative competencies. I believe that collaborative competencies are part of the competencies that we need to achieve a common goal, that is, to work productively in a team. In particular, I believe that in the vocation of a teacher, collaborative competences imply cooperation with students, parents and, of course, other teachers."* Teacher 4: *"Collaborative competences, in my opinion, enable us teachers to improve the quality of the teaching process... According to the example of colleagues from our own school, other schools in the Republic of Croatia, but also abroad."* From the concrete answers of the teachers, it can be concluded that the concept of collaborative competencies is still insufficiently represented, that is, that collaborative competencies are not talked

about enough. However, teachers describe collaborative competencies in different ways. From the description, you can see what is most important to teachers in the field of cooperation - cooperation with other teachers, most often within their own school. One answer shows that teachers achieve different types of cooperation: cooperation with students, parents and other teachers.

When asked whether collaborative competencies are important in the teaching profession, all teachers who participated concluded that they are, and the reasons for their opinions are: *"They are important because cooperation makes it easier to reach the goal."* (T1); *"Collaborative competences are exclusively important. Teachers are constantly in cooperation with their students, their parents, and other teachers. I think that a teacher who always strives for something better and of higher quality knows that he cannot do everything alone, and other colleagues serve him as a source of learning, support in some big projects and as companions in different common goals."* (T2); *"They are necessary and primarily to improve the quality of teaching."* (T4). Therefore, according to teachers' opinions, collaborative competencies are important for raising the quality of the teaching process.

The teachers assessed their own collaborative competencies as satisfactory and concluded that more work and development is needed in order to develop the competencies even more: *"... As a new teacher at the school where I currently work, collaborative competencies helped me quickly navigate some new domains with which until then I had not met. Also, I cooperate with parents every day, I think that this is the only way we can achieve what we want - well-mannered and educated students, satisfied and self-aware. Of course, there is room for improvement."* (T3).

In order to truly achieve the desired teaching process, it is important to continuously improve the bearer of that process - the teacher. So, in addition to organizing, preparing and realizing the process, personal and professional development is important, which, among others, should be encouraged by the school community led by the principals.

Regarding the encouragement of cooperative competences within the school where they work, the teachers point out: T1: *"Croatian teaching in Switzerland strongly encourages cooperation... because many projects are carried out that way... and a stronger connection with the homeland."*, T2: *"Our school encourages it. I collaborate, of course."*, T3: *"Every day I collaborate with other teachers from my school, and less often with professional colleagues. My school encourages cooperation between teachers to some extent, but whether this cooperation will be realized in the end depends exclusively on the teachers themselves."*, T4: *"The school where I work encourages cooperative competences, and my fellow teachers were of great help to me in the*

*first days of my employment.*" So, it can be concluded that teachers undoubtedly cooperate with colleagues within the school. Cooperation is often encouraged, regardless of whether it is Croatian teaching outside the Republic of Croatia. Given that teachers cooperate with other teachers and professional associates within the school, it is important to gain insight into whether classroom teachers cooperate with teachers from outside the country in which they work, especially if we are talking about teachers who work outside the Republic of Croatia in Croatian teaching. Therefore, they conclude: T1: *"Currently I do not cooperate with teachers, but I cooperate with various institutions that strengthen the cultural connection of Croats and children abroad with the Republic of Croatia."*, T2: *"I do not cooperate, because I have not had the opportunity yet, but I hope so."*, T3: *"Yes. Through various support groups on social networks, but also through communication with my colleagues from the university..."*, T4: *"Not for now."*. Therefore, some teachers do not cooperate with teachers outside the country where they work. Nevertheless, Croatian teachers in Switzerland cooperate with other institutions, and this is achieved: T1: *"We communicate by email, Zoom or Google meeting. Most often, projects are organized, activities are planned, ideas are given, and ideas are given to improve teaching."* It is worth investigating which institutions are involved and whether these institutions cooperate with teachers from the Republic of Croatia. Communication is established between Croatian teachers in the territory of Bosnia and Herzegovina and Croatian teachers in the Republic of Croatia. Considering that teachers generally do not achieve cross-border cooperation with other educational workers, it is not possible to talk about how they achieved cross-border cooperation and whether they were personally supported in this, but the schools where they work support and implement it: T2: *"Yes. My colleagues travel and visit schools in various countries, including Mexico and Spain. I hope that I will be able to join some projects in the future."*

Despite the lack of cross-border cooperation among teachers, teachers believe that cross-border cooperation greatly contributes to professional development: T1: *"...we always learn from each other, not only in childhood, but also in the work we do, which we all consider to be a calling."*, T2: *"I think that they certainly contribute."*, T3: *"I believe that cooperation with teachers from other countries is a rich experience and a source from which we can improve our own work. Of course, collaborative competencies are developed, but also a number of other teacher competencies."* As advantages of cross-border cooperation, teachers point out: T1: *"Students meet their peers in their homeland, listen to Croatian from native speakers, learn to cooperate and respect other people's opinions. It is important because through this cooperation we connect with the homeland, we show the students by example how teaching is done in the Republic of Croatia, etc."*, T2: *"...Improving teaching."*

*Communication in foreign languages. A good example of good practice and an insight into the equipment of the classrooms and the organization of classes in other schools.*", T3: "I believe that the advantage of cross-border cooperation between teachers is that in this way we have the opportunity to gain insight into a different educational system and adapt the positive effects to our system." Regarding the shortcomings of cross-border cooperation, the following are the opinions: T1: "Given the availability of applications that speed up and facilitate our work, there are almost none.", T3: "The disadvantage is physical distance and meetings that imply financial costs.", T2: "Lack of time and financial resources."

The following are the reasons why they do not establish cross-border cooperation: T1: "I don't know a specific reason." Until now, I have not had the opportunity to get close to some teachers outside the Republic of Croatia. Of course, I would like to collaborate with teachers from all over Croatia, and beyond. Regardless of whether it is Croatian teaching.", T2: "In the future, I will achieve such cooperation. For now, due to the short time of employment, it was not possible," and they state that they cannot find specific reasons.

In conclusion, the teachers want to achieve cross-border cooperation and about cross-border cooperation they point out: T1: "...Because we have the opportunity to gain insight into different teaching contents, curricula, different teaching practices, different methods and strategies that will contribute to the greater success of our students and which, eventually, will improve shortcomings of our system.", T3: "It is very important. Because that's how we improve our work, gain new experiences and friendships, and progress professionally in every sense."

## Discussion

Teacher competences are important in the process of raising and educating students and can directly affect certain achievements. In a modern school, the teacher's task is multifaceted, and a number of competences need to be developed in order to work effectively. The teacher's areas of competence are equally important. Analyzing numerous definitions and divisions of teacher competencies, it can be concluded that almost all areas of competence, among other things, relate to cooperation in various forms (Grudiček, 2021). There are numerous professional and scientific works dedicated to teacher competencies, which are difficult to define precisely, as well as collaborative forms of work, which implies the development of these competencies. When we talk about the collaborative competences of teachers, we are most often talking about the cooperation of teachers with parents and students or professional colleagues, but there is a lack

of research in the field of cooperation of classroom teachers with other teachers, especially with teachers outside the borders of the countries where they work. The positive effects of cooperative learning on individuals, most often students, are known, and such effects can also be recognized in the cooperation of teachers with other teachers as a form of professional development and learning. However, collaborative learning, which is one of the fundamental ways of developing collaborative competencies, is rarely implemented with students (Baines et al., 2003). In their study, Abramczyk and Jurkowski (2020) indicate that teachers know the principles of collaborative learning, but know very little about concrete methods and their application in the classroom. From this, it can be concluded that students are less encouraged to learn cooperatively, but also that they do not cooperate with other teachers themselves, and that this form of cooperation is not recognized as a way of improving. Goodyear (2016) proves with his research that different forms of support and cooperation of teachers significantly influence work performance and pedagogical fluency. Such attitudes were also shown by the teachers who participated in the research conducted for the purposes of this paper. Given that teachers develop collaborative competencies during teacher studies, i.e. higher education, Völlinger and Supanc (2020) state that it is necessary to teach future teachers more clearly and fully the meaning of collaborative learning, which will affect the development of positive attitudes and the application of collaboration in general. Jolliffe and Snaith (2017) warn about the lack of cooperation between teachers, pointing out that 68% of teacher studies students express dissatisfaction with the cooperation between mentors and students, while the students point out that they do not have the opportunity to develop their own collaborative competences, nor to adopt the knowledge to develop the collaborative competences of their students, since collaborative learning is rarely used. Kimmelman and Lang (2019) describe the importance of connecting study programs with the professional development of teachers who work in the teaching process. Cooperation, that is, the exchange of experiences, they conclude, has a positive effect on the quality of future work. There are numerous teachers from outside the Republic of Croatia in charge of educating students in the Croatian language. We can often talk about different educational systems, which, in the absence of cooperation, can make their work difficult. According to the answers of the teachers, it can be concluded that they often cooperate with teachers and colleagues in their schools, but the boundaries of cooperation do not expand further. Despite the unfavorable collaborative practice, classroom teachers are aware of the importance and benefits of collaborative learning. No research is found on the cross-border cooperation of classroom teachers, but the contribution of this work, in part, is to raise awareness and encourage cross-border cooperation, especially between Croatian teachers



and teachers in Croatian schools or schools that organize classes in the mother tongue for students outside Republic of Croatia. One proof of the need for such incentives is the trend of emigration of the Croatian population to different countries around the world, therefore the need for cross-border cooperation of teachers is increasing, and thanks to modern means of communication, it is increasingly available.

## Conclusion

Collaborative competencies represent some of the most important knowledges and skills of a person in the 21st century. In the numerous curricula that govern upbringing and education, the development of collaborative competencies is emphasized because teachers are a "mirror" from whom students learn by example. In the digital age, there are no boundaries that separate us spatially and prevent us from learning. Examples of good practice are easy to find all over the world, and you can also incorporate the best of the world's leading systems into your work. Therefore, in addition to the cooperation of teachers with other employees of their schools, it is increasingly important to talk about the cross-border cooperation of teachers. Through qualitative research, interviewing teachers from three different countries, it can be seen that cross-border cooperation has not yet taken root. Pedagogical scientists and practitioners should spread knowledge about the benefits of cross-border cooperation in support of pedagogy and thereby encourage teachers and other employees of schools and educational institutions to improve their work in this way. Learning from others and successful people is one of the best ways of professional development.

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## THE ROLE OF EDUCATION IN A PROCESS OF SOCIAL EVOLUTION

Damir Marinić

PhD Faculty of Humanities and Social Sciences Osijek

Ida Marinić

Center for integral studies „Spajalica”, Osijek

### Abstract

Globalization processes made the world interdependent, which completely changed social and economic dynamics of civilization. Hence, we can say that today we live in a VUCA world, which is an acronym for the world which is volatile, uncertain, complex and ambiguous. Such a world demands a shift in perspective from focusing on intrapersonal capacities and individual phenomena relating to separate areas of life, toward focusing on interpersonal capacities and connections existing between individual phenomena, which mostly determine the dynamic of the contemporary world. In order to successfully deal with the challenges which global interdependent world states before us, we need to develop certain individual and interpersonal capacities enabling us to adequately approach these challenges, such as systemic thinking, collective intelligence, and a significant extension in empathy, reaching beyond our narrow social circles of friends and family. This can only be done systemically, under a comprehensive educational framework, since such a radical shift on both individual and social level requires adopting a fundamentally different worldview and emotional culture, which would enable the above mentioned capacities to emerge and develop. In this paper we will present the main components an educational framework should have in order to facilitate the process of personal and social change we need to go through both as individuals and as a society as a whole, in order to reach a stable form of existence under VUCA conditions, as well as outline the characteristics and main steps of this process.

**Keywords:** global society, VUCA world, educational framework, social evolution.

### Introduction

What defines a good quality school? This has been a perennial subject of research and an issue pondered by creators of educational policy for decades. An overar-

ching, unique and feasible solution is yet to be developed. Countries throughout the world grapple with the challenge to create quality public education systems that ensure optimal learning conditions designed to assist citizens to become all they can be in their communities. Educational planners recognize that in addition to imparting information to students, schools have the immense responsibility to help with the upbringing of our next generations.

The dawning of the 21st century is accompanied by the reality that our world has immensely changed, a condition demanding increased accountability to properly educate our children. Increase in our social interconnectedness and interdependence has ushered us in a kind of social transition, alteration in basic values, technological development and the multitude of processes that occur as we learn how to function in a global community. Nowadays, society has become a "global village" in every sense - social, political and economic - where the values of exclusive individualism, exclusive "claiming", neglecting others, and emphasizing personal achievement, which were valid in the "old", before -to the global world, have completely lost their purpose. Instead, today's society is governed by the same principles that govern all other integral systems that exist in nature. (Mack, Khare, Krämer & Burgartz, 2016).

As we will show in this article, these transformations of our fundamental world-views require from our educational systems to adopt greater flexibility, adaptability, and willingness to change, to say the least. Moreover, we will show that social changes we are facing as a humanity are not arbitrary, but are a manifestation of an „evolutionary jump” we need to make as a humanity in order to continue our existence on this planet, and that the education we will need to provide to the next generation of humans is one of the central catalyzers of these changes.

## The nature of human social evolution

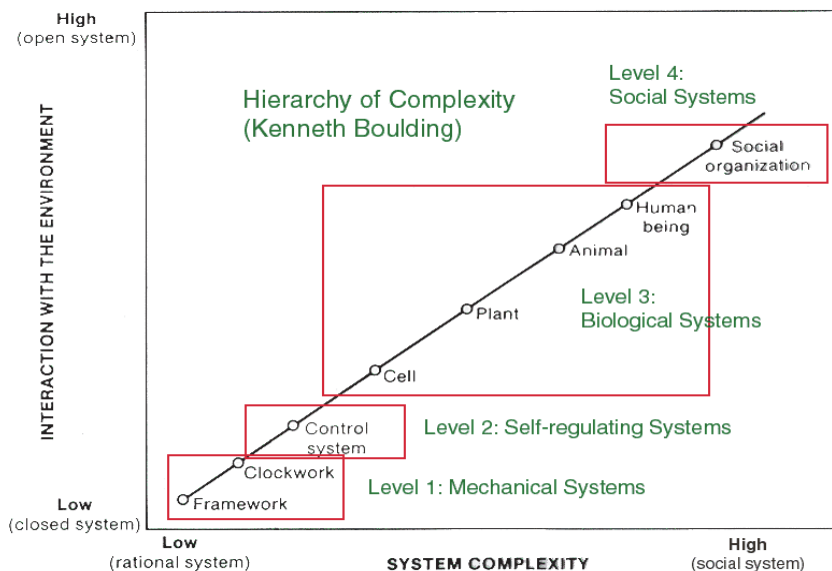
In the last century we have witnessed a proliferation of authors emerging from various fields of human knowledge, advocating the idea that human evolution continues in the social realm, where evolutionary forces are pressing humanity to enter into more unified and integral form of existence. The core of this idea was developed by Volodymyr Vernadsky, a Ukrainian-born geochemist and mineralogist, who developed a concept of „biosphere” – a unified field of living matter, surrounding and maintaining Earth's geosphere (non-living matter). In that sense life is seen as a geological force governing the Earth's planetary processes (Vernadsky, 1998). However, according to his theory development of the biosphere is only the intermediary state of Earth's evolution which is followed

by the development of „noosphere”, a „sphere of mind” emerging from the activities of the biosphere (Pitt & Samson, 2012). This concept of noosphere was further developed by a french jesuit and paleonthologist Pierre Teilhard de Chardin, who introduced it as the peak of the process of evolution, an „omega point” – the entire humanity, along with the entire universe, unified in a single point, a single mind (Teilhard de Chardin, 2008).

Although in the beginning the notion of noosphere wasn't widely accepted by the scientific community, it's status became more mainstream in the second half of the 20th century, mostly due to strongly emerging processes of globalization, climate change and development of the internet and information technology, all of which made the concept less abstract. Hence, several authors saw internet as a future „vehicle” of the noosphere, or at least as the system of humanity's transition toward „global brain” (Heylighen & Lenartowicz, 2016; Turchin, 1977); e.g. Marshall McLuhan stated in his dialogue with Gerald Stearn that „...*the Christian concept of the mystical body – all men as members of the body of Christ – this becomes technologically a fact under electronic conditions.*” (McLuhan & Stearn, 1968: 261). Others, like proponents of the Gaia theory according to which Earth acts as a living organism (Lovelock, 1979), mostly under the influence of Eastern teachings and psychodynamic developmental psychology developed a more psychological and ethical concept of noosphere. According to this outlook on evolution, there is a schism existing between human and nature, which we can overcome only by intentionally expanding our consciousness beyond our personal self-interest toward more compassionate and empathetical attitude both toward nature and other human beings (Russell, 1995; Stewart, 2001; Rifkin, 2010).

Nevertheless, it wasn't until the recent developments of systems theory that the idea of evolution moving toward increasingly unified and integral forms of existence gained a solid scientific ground, mostly out of the works of Kenneth Boulding (e.g. Khalil & Boulding, 1996), who first proposed the underlying mechanisms of evolution producing such unifying patterns of existence. From the systems theories perspective everything that exists in reality that is made up from certain elements, which are interconnected and serve a certain purpose or fulfil a certain function – meaning, literally everything that exists, from atoms to the entire planet Earth, civilization and human culture, and the whole universe – all of it can be called „a system” (Radošević, 2001). In doing so, each system has its own subsystems, i.e. the elements it contains, and is at the same time a part of a larger higher-order system. All of these systems affect each other, affecting each other's structure. When the influences that a system receives from outside, from other systems, become intense enough to disrupt, or completely destroy its structure, then we can say that the system ceases to exist (Clayton, 1997).

Furthermore, Boulding (1956) explained what happens when mutually affecting systems reach a certain equilibrium between themselves – they become a new, higher-order, more open and complex system, acting as a new whole, individual entity (Figure 1).



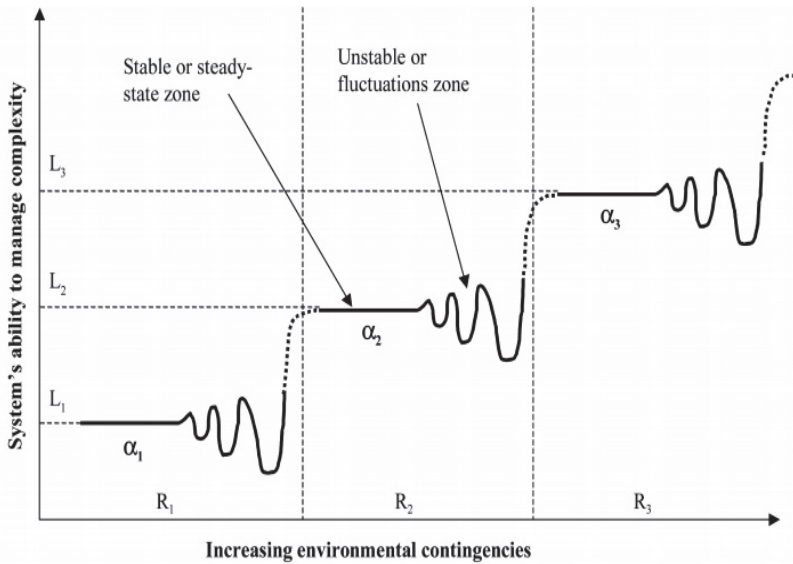
**Figure 1.**

*Boulding's Hierarchy of Complexity (adapted from Mingers, 1997).*

In other words, a set of dynamically interacting simple systems (e.g. atoms) through a process of self-organization give rise to a number of hierarchical levels, which become higher-order systems themselves, which exhibit common (emergent) behavior that cannot be simply inferred from the behavior of the simple (lower-order) systems. Thus the process of evolution unfolds, which is often described among systems scientists as major transitions in evolution, or an evolution of individuality (Maynard Smith & Szathmáry, 1995).

This happens because each of the elements experiences constantly growing environmental pressure – usually in the form of matter, energy and/or information – coming from surrounding elements, pressing it to reorganize its structure, which is usually more integrated and more complex. When this pressure reaches a critical limit after which any internal reorganization of the system is no longer possible, systems tend to cooperate and integrate between themselves, self-organizing into a larger system (Layzer, 1991). The representation of this process can be seen in Figure 2, where there are constantly growing environ-

mental contingencies ( $R_n$ ) pressing system ( $\alpha_n$ ) to reach certain level of complexity management ( $L_n$ ). As the pressure from environmental contingencies rises ( $L_{n+1}$ ), system's dynamic gets into a zone of unstable fluctuations, which upon reaching critical threshold push the system to transform itself into a qualitatively different system ( $\alpha_{n+1}$ ), which is able to manage greater level of complexity ( $R_{n+1}$ ) (Sundarasaradula & Hasan, 2004).



**Figure 2.**

*Dynamics of evolution from systemic perspective (Sundarasaradula & Hasan, 2004)*

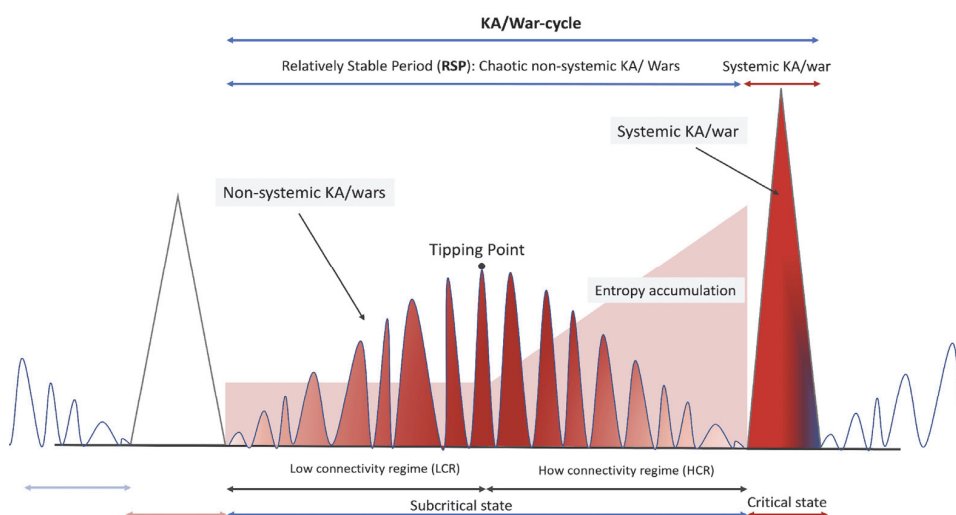
We will not go into more details of this process due to the limited scope of this article, and invite readers to refer to other sources in which this process is outlined in a more detailed fashion (e.g. Marinić & Marinić, 2021; Chaisson, 2001).

Apparently, the same process exists in the human social realm. No matter what perspective we examine human society from, looking either into a long history of evolution or analyzing a person's individual development, we inevitably study a human being in the context of his interpersonal relationships: in the matrix of social ties formed geographically, geo-politically, or economically, which over time become more global, unified and integrated. In other words, evolution of human cannot be separated from evolution of human society, neither in conceptual nor in practical way.

Humans are probably more than any other mammal dependent for their survival on other individuals of their own species, to such an extent that there is an innate, evolutionary driven need for interpersonal relations (Siegel, 2020). For

that reason, besides biological motives aimed at survival of the body and species, almost every other human motive can be realized only in relations with other human beings, and are actually aimed at the survival of the collective. For example, individual self-esteem has less to do with person's relation to self than with relation to others, since it was shown that self-esteem is a kind of „sociometer” – feeling of self-esteem reflects the quality of our interpersonal relations (Leary, 1999). Therefore, whatever internal change happens within human being, it inevitably affects the society he lives in, and vice-versa even more so.

One of the most comprehensive analysis of human social evolution in the context of human conflict dynamics was done by Dutch systems theoretician and engineer Ingo Piepers in his 2019. book „On the Thermodynamics of War and Social Evolution” (Piepers, 2019) in which he basically implemented the aforementioned systemic principles into analysis of social evolution, which can be summarized in Figure 3.



**Figure 3.**

*Schematic representation of the cycle of social evolution - KA/War-cycle (Piepers, 2019)*

Although in Figure 3 the author specifically represented evolutionary cycle in the context of wars or kinetic activities (KA), the fact is that kinetic activity actually can represent any form of social crisis produced by increasing interdependencies: economic, environmental, health or any other. It is also time-scale independent in a sense that the same model can be used as a for representing either a local short-term developmental cycle or a global long-term evolutionary cycle, which is a specific characteristic of systemic models (Meadows, 2008).

Hence, if we look at the model from a point of evolution of human society from its inception until today, what it shows is that in the beginning human society developed relatively steadily under a so-called low connectivity regime (LCR). In other words, until the beginning of 20th century there still wasn't a single structure of humanity in a true sense of the word. Instead, people were scattered around the globe, organized into many different tribes, communities and societies, each of which acted as a separate system. As a system of travel and trade began to develop along with tendencies of societies to conquer each other and/or make alliances and unions with each other, connectivity began to rise in the world, leading humanity into a global state of existence at the beginning of 20th century. It wasn't until transportation and telecommunication systems began to develop that humanity became integrated to a certain extent, but it reached a true global state only after the end of the World War II – a tipping point toward global society (Iriye, 2014).

From the point the world became global humanity it entered a high connectivity regime (HCR) and started developing exponentially. In other words, until the world became global, all the systems and societies operating in it were open systems, meaning, they could exchange matter, energy and information between each other with the aim of stabilizing their own state (mostly at the expense of other systems and societies, which served as their „environment“). However, once the world became global, entered a state of a single system, it inevitably became a closed system, because all of the previously existing systems and societies, which were balancing themselves out at the expense of each other, cannot do it anymore, since whatever dissbalance they bring out from their state inevitably „returns“ back to them through a system of feedback loops (Meadows, 2008).

This is so because a global (closed) system doesn't have an „environment“, since in it we are all „in the same boat“. Moreover, when a society becomes global (closed system), all the systems it contains – technology, economy, and information – as well as their trends and mutual connections, start growing exponentially (Clayton, 1997). Therefore, by definition global society is highly complex and unpredictable – there is an exponential increase in social interdependence between people and institutions, making the structure of society multifaceted in every respect, and its fabric more fragile.

All of this leads to the appearance (and growth) of something we have never seen previously – systemic risk – since all the different risks in a closed system also become interconnected (Billio, Getmansky & Lo, 2011; Williams, 2010). From the collapse of a USA-based Long-Term Capital Management hedge fund, which few



years after a very promising start, being a top hedge fund in the world, collapsed due to financial fluctuations produced by 1997 Asian financial crisis (Dunbar, 2000), all the way to the current Coronavirus pandemic, each and every crisis humanity faced was global and systemic in nature: 1) it was affecting most of the people, regardless of their personal characteristics or socio-economic status, 2) its effects were „felt” in most countries in the world, especially those that were more integrated into a global social and economic system, and 3) it affected multiple areas of life (e.g. coronavirus pandemic affected not only global health, but also economy, trade, personal well-being, education, etc.).

For such a globally interconnected society to persist and survive it requires a radical shift in core values of humanity – not just in habits and behavior. Pre-global values, which still underlie our society, with an emphasis on individual success, competitiveness (us vs. them), and the feeling of independence as the main indicators of “maturity” and development, have all lost their purpose and meaning in the context of modern global society. Adopting global, altruistic values that encourage cooperative behavior strategies and enable creativity, knowledge creation, and fast and successful adaptation to complex social challenges, is necessary to survive in today’s society.

But instead of doing that, most existing systems in our society – from education to sports and media – despite nominally approving such values, still tacitly support and emphasize pre-global values in practice. In today’s society, this is not only pointless – it is unsustainable. In fact, it is very dangerous, as constant encouragement of individualism is in direct opposition to existing social tendencies of interdependence and cooperation. The situation is all the worse given the fact that, in global closed systems, all trends are exponentially reinforced. So it comes as no surprise that studies have shown an increase in narcissistic tendencies by 70% along with a decrease in empathy by more than 40%, since early 1980s until mid-2000s (Twenge & Campbell, 2009).

Ultimately, systemic crises that are with each passing year occurring with greater frequency and intensity, are nothing more than symptoms of our incompatibility, both as individuals and society in general, with the state world is evolving into. The reason why this is so because our instinctively tribal brains are designed to trust to and feel empathy toward people who are closer to us, namely friends and family, and disregard and distrust those who are socially far from us, in a world which pushes us to bridge those instincts not only for the sake of economic growth, but for the sake of mere survival (Hwang & Horowitz, 2012). And in order to bridge over our innate „tribalism” we need a systemic all-encompassing, global education for both children and adults.

## Building a global society through a system of education

The school as we know it today originated in the late nineteenth century, at the time of the Industrial Revolution, which spurred great changes in the labor market, creating a growing need for factory workers. Therefore, in the circumstances of the industrial revolution, the education system was designed in a way to have many similarities with factories - from bells marking the beginning and end of work, separate (classes) sections, to specialization and division of knowledge into separate subjects (Bruer, 1997). Such a factory model of education at the turn of the 20th century was very effective in equipping a great number of individuals with skills needed for working in a predictable labor market offering mainly low-skilled positions in industry and agriculture. This method of teaching, centered around the teacher, in which the teacher is seen as an active transmitter and students as passive recipients of knowledge, in which the educational process takes place in classrooms with 20-30 students, and teaching is standardized for all, soon became the norm (UNESCO, 1998).

However, over time, the central role in education systems world-wide was taken over by the humanistic “individual-centered approach”, which centered the entire educational process around each individual student. Nevertheless, despite such an approach guaranteeing to meet each student’s personal needs and providing education in a natural, student-friendly way in a positive classroom climate (Vizek Vidović, Rijavec, Vlahović-Štetić & Miljković, 2003), it doesn’t adequately address the demands which today’s society places on the individual, especially ones related to the strengthening of interpersonal capacities, such as mutual responsibility, empathetic understanding and networked thinking (Vester, 2012).

Generally speaking, education systems have always had to adapt and contribute to certain social frameworks and as such have contributed to changes in the values and patterns of individual and social behavior. Therefore, in today’s globalized world in which people and systems have become globally interdependent and connected, the question arises: “What would be considered a successful education that would successfully prepare individuals for living in today’s global social system? What education system could in such conditions advance both the individual and society as a whole?”

Namely, the development of modern global society in the 21st century emphasizes the importance of education for both personal development and for the development of society as a whole. In other words, in the 21st century each individual needs to recognize the nature of the world and society in which we live

and understand that his or her personal life depends on his or her attitude toward others. Therefore, in addition to acquiring the knowledge and skills needed today, children need to grow into people who are sensitive to the needs of others, caring, and responsible in their approach to the world and society, a need which has become especially prominent with the coronavirus outbreak. Or, as Garrett Hardin pointed out in his famous article "The Tragedy of the Commons" (1968): the world does not need technical (economic or political) solutions to its problems, it needs educational solutions.

When we look at all the above challenges and "trends" brought to us by today's global society, especially considering the conditions society will exist in after the coronavirus pandemic, it is possible to make the following generalizations:

- a) *Social development is starting to be more defined within the framework of moral development*, with the aim of approaching such a structure of society in which each individual feels valued and respected, protects the rights of others and enjoys their own;
- b) The complexity of global social, economic, political, cultural, technological and environmental issues and the need to address them globally have brought us today to the point in which we have become, more than ever before, *aware of the interdependence of individuals, communities, nations and countries*, as well as various fields of science, art and human activity, insomuch that the necessity for cooperation and mutual respect has started to be perceived as a necessary fact of life;
- c) The aforementioned complexity of the world issues requires from us to *adopt a new skills and forms of thinking which is able to capture such a level of complexity*, primarily systemic "nonlinear" way of thinking (as opposed to "linear", causal thinking) backed-up by an emotional climate of mutual acceptance and responsibility;
- d) Due to the challenges and "trends" that modern society introduces into our lives and the characteristics and habits of today's generation of children and youth, there is a change in educational values, *focusing on the meaningful integration of knowledge and experience* which inevitably changes both the approaches to learning and approaches to teaching. Besides, less emphasis is being placed on the transfer and acquisition of factual ("encyclopedic") knowledge, along with more emphasis being placed on educating children and youth to learn independently and be able to use the acquired knowledge in everyday life.

All in all, considering the state of society we are living in, today's schools should „give birth" to cosmopolitans, people who are able to contribute to the well-be-

ing of the local and global community with their uniqueness, who know how to tackle with systemic risks and problems, and know how to use the innovation potential existing in society – diversity of people with respect to their experience and worldviews – in order to promote the sustainable development of the world. This is the definition of a successful citizen of today's society, a "citizen of the world" in the true and complete sense of the word.

## Croatian National Curricular Framework<sup>1</sup> – an example of possible implementation

In the following paragraphs, in order to provide an example of the ways in which the above mentioned principles could be implemented into a national curriculum, we will consider the elements of the National Curricular Framework (Jokić, 2016) which was a fundamental curriculum document created within the framework of the never completed comprehensive curriculum reform project in the Republic of Croatia.

At the outset, the vision and values proposed by the National Curricular Framework (NCF) fully correspond to the above-mentioned assumptions and challenges of contemporary society, especially since they derive from previous curricular documents as well as other more comprehensive documents, such as the OECD's DeSeCo program (Rychen & Salganik, 2005), the European Framework of Key Competences for Lifelong Learning (Secretary general Schola Europea, 2018), and the KSAVE Framework of Skills for the 21st Century (Binkley et al., 2010). However, we point out that an additional emphasis should be placed on sustainable interpersonal values, such as 1) encouraging and maintaining positive interdependence with others, especially in questions regarding personal worldviews, 2) mutual responsibility for life as the main factor in the sustainability of society, and 3) valuing and encouraging diversity as the main factor for innovation.

Accordingly, when we talk about generic competences, we believe that it is extremely important to highlight both their local and global social context. While the world once tackled with simple problems that could be solved (and were solved) within countries' borders and/or within the framework of certain sciences, the situation in which we find ourselves today is characterized by the complexity of challenges carrying systemic risks and requiring urgent solution in the

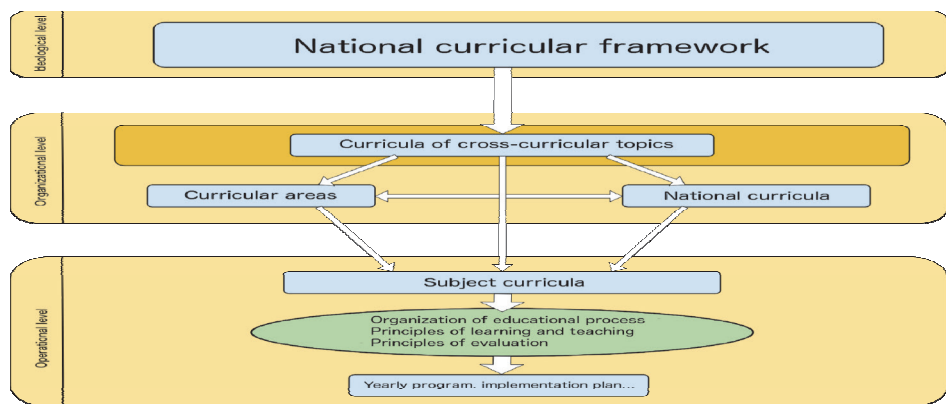
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<sup>1</sup> Authors note: Although no longer actual, we have chosen this document as a "platform" for an example of the implementation of the ideas mentioned in the paper, primarily because of its comprehensiveness and generality

interest of all humanity. The coronavirus is a representative example of such a complex and multifaceted problem.

Thus, for example, to the main features of thinking listed in the NCF (Jokić, 2016: 14), it is necessary to add 1) collective problem solving, 2) collective decision-making, 3) collective metacognition (awareness and reflection on collective/group processes of learning and thinking), 4) critical thinking at the community/group level, and 5) exploiting the potential for creativity and innovation that exists in diversity. As a result, 1) management of group and collective processes and development and 2) management of social processes and development as a whole, should be added to the characteristics of personal and social development (Jokić, 2016: 15).

With regards to the basic structure of the curriculum, the world is a complex system and is not organized as a series of well-composed 45-minute units. Therefore, the education system and process (ideally) should not be organized in such a way, but a certain integration between the curricula should exist (Čudina-Obrovčić & Brajković, 2009). One possible way of integration of the curriculum is illustrated in Figure 4:



**Figure 4.**

*Presentation of the proposed relationship of curricular elements*

The NCF is a basic document that defines the vision, values and generic competencies which children should internalize in the basic and intermediate levels of education, and all other documents, processes and methodology should derive from these definitions. Therefore, the NCF represents a kind of “ideological” document, the foundation of the education system in the Republic of Croatia.

In order for curricular integration to take place on the operational level, that is, for integration to really exist in curricula in practice, it is necessary to imple-

ment an integrative organization of values, knowledge and skills from different curricular areas as well as different age groups of children. In order for such integration to be possible, it should be organized around a common core area, something that in a systemic language is called “no man’s land” (Wiener, 1962). In the process of reviewing the curricula of cross-curricular topics we found that they overwhelmingly cover the definitions of vision, values and generic competencies specified in the NCF. Therefore, these curricula should be the point of reference with regards to which all specific subject curricula are built. Unfortunately, in practice for the most of the time this is not the case, because these topics are either being completely “neglected” or covered superficially within the framework of class department lessons (in Croatian: *sat razrednog odjela*).

However, in order for such an curricular integration to be successful, first and foremost it is necessary to achieve the integration of cross-curricular topics with the areas of the curriculum (as a dimension of the area of human knowledge and skills) and national curricula (as a developmental and professional dimension). This would ensure that the basic values, knowledge and skills defined by the curricula of cross-curricular topics, become successfully incorporated into specific areas of the curriculum in accordance with specific age and group of profession. Such curriculum integration would provide a comprehensive organizational framework on the basis of which more complete and integrated subject curricula could be formed. In this way the knowledge and skills that students acquire in certain subjects would be in line with the knowledge and skills that students acquire in other subjects, which would provide them with a more comprehensive picture of nature and the world and make the acquired knowledge and skills more meaningful.

Finally, in order for the aforementioned curricular integration to really be “executed” in practice, in schools and classrooms, it is important that the organization of the educational process, the organization of learning and teaching processes, as well as evaluation procedures and methods are all based on the same principles. However, as these matters largely overarch the scope of this article, we will discuss it in more detail in future papers on the subject.

## Instead of conclusion – challenges awaiting us

Nevertheless, when it comes to the application of the above-mentioned principles in the educational systems of the world, it is certainly advisable to look at the challenges we might encounter in attempts to implement such an educational model in practice. These challenges are, above all, the challenges put

before the organization delivering the education, that is, the school, which, like any other organization, often experiences difficulties in accepting innovations. In that sense, we can point out several common challenges which organizations face in the process of growth and development, summarized by organizational expert Peter Senge in his book "The Fifth Discipline: Principles and Practice of the Learning Organization" (2001):

- *"Full cup of tea"*. It is a metaphor taken from a well-known Zen koan and indicates the attitude of an individual who believes that he has already managed to acquire all the necessary knowledge and skills in his professional career, which is often the attitude seen in long-term teachers. As long as an individual has such an attitude, he is not ready to change, because a necessary prerequisite for learning is the awareness that we do not have the answers to all questions;
- *"Focusing on events"* implies a habit of "linear" thinking in which the reality is viewed from the aspect of individual events, not the whole. For example, schools tend to apply appropriate interventions specific to individual challenges, such as violence among students, bad grades, or a large number of absences, without taking into account the existence of a common, deeper cause of these problems (e.g. the absence of an optimal emotional culture in school);
- *"The enemy is out there"* is a widespread phenomenon of attributing responsibility for a certain situation (and change of it) to "the others", due to the inability to think and reflect upon a challenge in a systemic way. Because of this phenomena teachers are not able to see their role in perpetuating challenges of today's education, leading to the state where even a potential solution is missing because the "blame" is always being placed on the students, parents, educational authorities, etc;
- *"My position – it is me"* is a systemic phenomenon in which everything is being perceived and interpreted exclusively according to individual's position in an organization, which in and of itself would not be a problem, if the people wouldn't identify themselves with their position to an extent that they are unable to value their own perspective as only being one of many other (equally legitimate) perspectives.

From this we can see that the first challenge of changing the educational system is actually to "educate" educational experts in this direction, so that they adopt the appropriate value framework, principles and skills of transmitting and acquiring knowledge suitable for today's society and today's generation of children. Without this it is not possible to educate a generation of people who will be leaders of the future social evolution.



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## TEACHER SELF- ASSESSMENT OF COMPETENCIES FOR LEISURE EDUCATION AND PREFERRED LEISURE EDUCATION MODELS

Bruno Matijašević

PhD student of Postgraduate program of Pedagogy  
and Culture of Contemporary School  
Faculty of Humanities and Social Sciences Osijek

### Abstract

This research aims to gain insight into teacher competencies for leisure education and preferred leisure education models. A total of 121 teachers participated in the survey by filling out a questionnaire via Google Forms. The questionnaire "Self-assessment of Competencies for Leisure Education" consists of three parts: a questionnaire on socio-demographic data, self-assessment of competencies for leisure education and a questionnaire on preferred models of leisure education. The reliability of the questionnaire according to Cronbach Alpha was 0.84. Descriptive statistics (parsing) and factor analysis with Oblimin rotation were used in data processing. Teachers with fewer years of service showed the highest level of self-assessment of competencies for leisure education. Factor analysis found three preferred leisure education models: antisocial-cultural approach, modern approach and leisure as a tool for identifying talents and developing subjective well-being. Through these models, teachers see their roles in leisure education in accordance with the modern school paradigm.

**Keywords:** leisure education, teaching staff, modern school

### Introduction

Due to dynamic social progress and social changes, the school has been assigned the task of adapting to these changes and futuristically preparing students for everything that will occur in society. The educational system does not prepare the student only for the present activity in society, but it predicts what society should be like when the student will actively participate in it. Teaching staff play an important role in this process of preparation as they use their competencies to contribute and develop the system as a whole. Teacher competencies are a synthesis of knowledge, attitudes and abilities (Hrvatić, 2007), which makes them the basis of the educational system. By moving away from the tradition-

al approach to education, the teacher is assigned new roles. The contemporary teacher moves away from frontal teaching and becomes a moderator, motivator, researcher and evaluator of their own work (Jensen, 2003). Due to gaining new roles, it is necessary to upgrade the already existing knowledge and skills, but also to adopt new ones that meet not only the needs of the environment but even more importantly – the needs of students. A novelty that requires the adaptation of teachers, and is needed by students, includes the complexity of the organization and use of leisure time. Although the concept of leisure time has been known since the beginning of the 1920s in the circles of pedagogues and pedagogists, the idea of leisure education in schools has been increasingly potentiated recently. The reason for this is that leisure time has multiple benefits for student development. On the other hand, the risks of leisure time can also affect the further growth and development of the child. Virtual worlds, easily available opiates along with consumerism in leisure time can sometimes be confusing for a child and a parent, thus presenting a potential unnoticed danger. Therein lies the need for leisure education. The scientific basis of the importance of leisure time in the child's life is reflected in the theory of the ecological model (Bronfenbrenner, 1979). This theory respects the individual's internal risk and protective factors but focuses on the environment and the environmental impact on the individual. Leisure time is classified as a microsystem with one of the most important roles in the life of an individual, because influences from the microsystem environment have great importance for both the contribution and the risk in the child's life. School plays an important role in preparing the child for all aspects of life, including leisure. Leisure time and education seem to be irreconcilable, mutually exclusive concepts. Kelly (1996) associates these seemingly contradictory terms with education as a preparation for life. Similarly, Berner, Brannan and Verhoven (1984) see leisure as a key aspect of human life, and since education has the task of preparing the student for life, leisure education must be part of it. All of the above confirms the importance of leisure education.

## Leisure time and the child

In various recent scientific research, the theory of the ecological model has confirmed the important role of leisure time in children and young people and showed that the way leisure is spent matters (Motamendi et al., 2020). In most cases, unstructured activities have proven to be risky for the child's development. Participants in unstructured activities are more prone to opiate consumption and generally develop behavioral problems (Barnes et al. 2007). The risk of alcohol consumption increases (Spillanea et al., 2020), along with the risk of smoking and early un-

wanted sexual relationships (Badura et al., 2018). On the other hand, structured activities record significant contributions to the child. Participation in a structured activity nurtures and develops mental health (Badura et al., 2018). Structured activities mostly provide good resistance to the use of alcohol, tobacco and marijuana (Crispin et al., 2016; Chen et al., 2019). The above data show the importance of knowing the key aspects of children's leisure time, but also strengthening the "tools" for navigating it. Taking into account the above scientific data on the structure of leisure activities, it is of particular concern that an increasing number of children and young people are turning to unstructured leisure activities that are oriented toward entertainment and consumption (Ule and Živoder, 2012). This points to children's need for skills for managing and organizing leisure time. The school, along with the family, which is the primary educator of the child, can certainly play an important role in this process of strengthening leisure knowledge and skills. The success of this process depends on the competencies of the providers of the content related to leisure education, i.e. teachers. With the exception of cross-curricular topics (Ministry of Science and Education, 2020), the Croatian educational system has not given a significant role to leisure time within school subject curricula. In contrast, the concept of leisure time is to varying degrees represented in the learning contents in foreign countries' curricula.

## Leisure education models

The concept of leisure time can be perceived differently in the context of the educational system, and there are different roles of its implementation in school curricula. Elginton and Gammon (2013) summarize four most famous leisure education models: *Leisure Optimization Model*, *Cultural Heritage Model*, *Humanistic Training Model* and *Social Justice Model*. In their approach to *Leisure Optimization Model*, Elginton and Walkins (2013) synthesize the already existing three models of applying leisure content in schools. This model includes *Leisure Ability Model* (Peterson and Gunn, 1984), the preventive curriculum *TimeWise: Learning Lifelong Leisure Skills* (Caldwell et al., 2004) and *Leisure Enhancement* (Lerner and Lerner, 2012). What is common to all the above examples that are synthesized in this model is the strengthening of students' skills for quality use of leisure time, and the main goal of this model is to encourage and develop subjective well-being in students. The teacher has the role of a lecturer, and the main activities are learning the concepts of leisure time, learning various leisure activities, but also programming and organizing one's leisure time (Elginton and Gammon, 2013). The *Cultural Heritage Model* represents a departure from the psychological benefits represented in the main objectives of the *Leisure Optimisation Model* and

aims to achieve intellectual and moral excellence in leisure time. This behavioral model is based on the idea that preparing students for active participation in a dynamic society is possible with the adoption of high levels of morality and intellect. The teacher is a transmitter of knowledge but also a role model that encourages the practice of research and reading literature strengthening the development of morality and intellect (Edginton and Chen, 2008). In search of a change in teaching and education for leisure, Cohen-Gewerc and Stebbins (2007) find a solution in the *Humanistic Training Model*. The main goal of this model is to recognize and develop one's talents. The authors believe that this can be achieved by recognizing one's authenticity and understanding the individual's autonomy and responsibilities. The teacher has the role of the student's personal guide through activities of experiential learning, awareness training and self-reflection. Unlike the above models, Rojek's (2010) *Social Justice Model* represents a political paradigm of leisure through which a fairer society is created. Through a provocative approach, the teacher encourages students to critically review local and global social problems, media and society, and promotes the development of cultures and subcultures in the environment. In addition to being "a provocateur", the teacher also takes the role of a lawyer defending their theses in interaction with students (Elginton and Walkins, 2013). The above models also show the different roles of teachers. The *Leisure Optimisation Model* and the *Cultural Heritage Model* give the teacher a role typical of mostly traditional school, unlike the *Humanistic Training Model* and the *Social Justice Model*, which see the teacher in roles relevant to the modern approach to teaching.

## Methodology

### Research objective, sample and procedure

The aim of the empirical research is to determine the self-assessment of teacher competencies for leisure education, but also to gain insight into preferred leisure education models. The survey was conducted anonymously via Google Forms from April to June 2022 at the level of the entire Republic of Croatia. A convenient sample of 121 teachers was randomly selected and the teachers participated in the survey voluntarily.

### Research instrument and data analysis

The survey questionnaire consists of three parts. The first part includes participants' socio-demographic data, the second includes the assessment of their

competencies and the frequency of education for leisure activities, and the third refers to assessing the attitudes about the preferred leisure education model. For the second and third part of the questionnaire, Likert's five-point scale was used (1 – lowest value, 5 – highest value). The questionnaire showed a high level of reliability, 0.84 according to Crobach  $\alpha$ . The statistical tool SPSS IBM and the statistical procedures of factor analysis and descriptive analysis were used in the data processing.

## Results and discussion

The data obtained by descriptive statistics show the levels of self-assessment of teacher competencies for leisure education with respect to their years of service. It is considered that the teacher needs to know the teaching content in order to teach it well (Vizek-Vidović et al., 2003). According to the obtained data, teachers with fewer years of service have a higher level of self-assessment of the knowledge of basic leisure time theories, definitions of leisure time and the preventive potential of leisure time. Participants with 0-5 years of service and those with more than 20 years of service show a higher targeted correlation of leisure time with other teaching contents. Given that learning in a modern school should be related to concrete life situations (Vrkić-Dimić and Vidić, 2015), a modern school should strive for correlative connection. The assumption is that the correlation in participants with fewer years of service is encouraged through formal university education. In participants with more than 20 years of service, correlation can be represented at a high level due to their experience which showed that correlation is a good practice. The obtained data show that the entire sample is dominated by the opinion that the contents of leisure time are not sufficiently represented in the Croatian educational system. This information presents quality feedback to future creators of educational reforms and policies to pay greater attention to the contents of leisure time. Brightbill and Mobley (1977) speak of leisure-centered living claiming everything is directed toward leisure activities. Knowing that leisure activities contribute to children's development, children's correct use of leisure time requires education in this field.

**Table 1.**

*Descriptive statistics – Self-assessment of competencies for leisure education*

Variable	YEARS OF SERVICE (0-5) N = 40		YEARS OF SERVICE (6-10) N = 21		YEARS OF SERVICE (11-15) N = 15		YEARS OF SERVICE (16-20) N = 13		YEARS OF SERVICE (>20) N = 32	
	M	ST. DV.	M	ST. DV.	M	ST. DV.	M	ST. DV.	M	ST. DV.
I am familiar with the basic definitions of leisure time.	<b>4.38</b>	<b>0.87</b>	<b>3.86</b>	<b>0.91</b>	<b>4.27</b>	<b>0.96</b>	4.08	1.19	4.28	0.94
I am familiar with the basic theories that observe leisure in different ways.	<b>3.83</b>	<b>1.13</b>	<b>2.81</b>	<b>1.03</b>	<b>3.47</b>	<b>1.19</b>	3.38	1.39	3.63	0.87
I am familiar with the preventive potential of leisure time.	<b>3.80</b>	<b>1.18</b>	<b>2.86</b>	<b>1.28</b>	<b>3.53</b>	<b>1.30</b>	3.31	1.65	3.41	1.04
I aim to correlate the topic of leisure with other teaching contents in class.	<b>3.50</b>	<b>1.11</b>	<b>2.91</b>	<b>1.22</b>	<b>3.40</b>	<b>1.24</b>	2.92	1.12	3.50	1.02
Prevention through leisure is represented in the preventive program.	<b>3.18</b>	<b>1.03</b>	<b>3.00</b>	<b>1.30</b>	<b>2.33</b>	<b>1.05</b>	3.15	1.28	3.22	0.94
I am successful in teaching for leisure activities.	<b>3.53</b>	<b>1.09</b>	<b>3.14</b>	<b>1.15</b>	<b>3.07</b>	<b>1.39</b>	3.23	1.48	3.41	0.84
I believe that the content on leisure time is sufficiently represented in Croatian curriculum.	<b>1.95</b>	<b>0.85</b>	<b>2.29</b>	<b>0.90</b>	<b>1.87</b>	<b>1.19</b>	2.00	1.08	2.44	0.89

M – arithmetic mean of the response, ST. DV. – standard deviation, N – number of participants

According to the obtained factors, it can be seen that the concepts of leisure education differ among teachers. In addition to different perceptions of leisure time as teaching content, it is evident that teachers prefer the different teacher roles they probably most often have in their classes. The first latent dimension was interpreted as the **“Modern Approach” factor** with a variance of 33.02%. Its parallel and orthogonal projections consist of 4 variables whose saturation ranges from .82 to .66 per parallel projection and from .85 to .71 per orthogonal projection.



Levy-Feldman (2018) believes that modern education assigns the teacher the role of a mentor and a personal guide for students. This is the model that some teachers consider the best to teach leisure. A modern approach to teaching leisure also includes the development of self-awareness in students, which is one of the key competencies that should be developed in students (Lončarić and Pejić-Papak, 2009). Teacher role in the first factor is a combination of the roles of the *Cultural Heritage Model* (Edginton and Chen, 2008) and the *Humanistic Training Model* (Cohen-Gewerc and Stebbins, 2007). The first and second factors show that participants see the role of teachers in teaching leisure in accordance with the modern view of teachers as active participants in education. Another latent dimension was interpreted as the **“Anti-Social-Cultural Approach” factor** with a total of 18.87% of the explained variance. The factor comprises 4 variables whose parallel projection saturation ranges from .51 to -.75 and orthogonal from .42 to -.83. It was found that participants do not consider lecturing as a desirable and useful form of teaching leisure and teaching about social justice and socio-cultural aspects of leisure time. Given that most of the variables from the mentioned factor refer to the *Social Justice Model* (Rojek, 2010), this model is considered undesirable for teaching. The third factor shows that teaching leisure should be student-centered with a focus on the development of student intrapersonality and self-awareness. Therefore, the third latent dimension is called **“Leisure time as a space for identifying talents and developing subjective well-being”**. The factor is explained by 9.99% of the total variance and consists of 3 variables whose parallel projection saturation ranges from .89 to .57 and orthogonal from .83 to .62. The key variable of the third factor is experiential learning. Participants believe that leisure education through experiencing various activities is the best way for a child to see their potential. This is possible assuming that children have developed self-awareness and self-reflection. In this process, the teacher would have the role of a facilitator in the event that the child, despite the demonstrated talent in a particular area, does not recognize a high level of their abilities. Since this research examines leisure education in schools, experiential learning would involve the experience of leisure time in school. Leisure education with aspects of leisure time presents Parker's (1979) vision of the implementation of leisure content in the educational system. Similarly, Brightbill and Mobley (1977) believe that leisure education is a necessary aspect of education that is best concretized through experience. Sivan and Stebbins (2011) believe that multiple contributions that a child can receive through leisure activities can also be obtained in the educational system while changing the working methods. Moving from the traditional and strictly structured school toward a school where children can gain experience, the perception of students also changes. The school at that moment becomes a desirable place



rising on the student's hierarchical scale at the level of leisure time, which can be achieved by experiential learning.

**Table 2.**

*Parallel and orthogonal projections of the factor analysis*

VARIABLES DEFINING FACTORS	PAP	ORP	PAP	ORP	PAP	ORP
To learn how to use their leisure time properly, children need "a role model" and a transmitter of their own experience.	.73	.74				
In order for children to be able to implement the leisure content, they need to have a teacher as a personal guide along the way.	.82	.85				
Leisure education should take the form of training for the development of self-awareness and key skills for the proper use of leisure time.	.66	.71				
Leisure education should rely on the literature that encompasses the development of skills for social changes.	.71	.71				
I see leisure as a space through which students are taught about social justice.			-.73	-.75		
I believe that the role of teachers in leisure education lies in lecturing activities.			-.75	-.78		
Leisure education should be guided by a provocative approach.			.51	.42		
Leisure content should be taught through literature covering key cultural and social aspects of leisure time.			-.74	-.83		
I believe that the main goal of leisure time is to improve the subjective well-being of the participants.					.57	.62
I believe that the main goal of leisure time is the intellectual and moral experience of students.					.71	.77

I believe that it is crucial that students participate in various leisure activities in order to realize their potential.					.89	.83
<b>FACTORS</b>	<b>Modern approach</b>	<b>Antisocial-cultural approach</b>	<b>Leisure time as a space for identifying talents and developing subjective well-being</b>			
<b>FACTOR VARIANCE</b>	<b>3.96</b>	<b>2.26</b>	<b>1.20</b>			
<b>VARIANCE %</b>	<b>33.02</b>	<b>18.87</b>	<b>9.99</b>			

PAP – parallel projection matrix, ORP – orthogonal projection matrix

## Conclusion

Leisure time is an integral part of a child's life. Respecting the risk and protective factors that may arise from leisure activities and taking into account the role of the school as an institution that prepares students for life, it is clear that leisure contents should be represented in the educational system as well. Participants showed that they were not satisfied with the amount of leisure content in the educational system. Teachers with fewer years of service showed the highest level of self-assessment of theoretical knowledge and knowledge of the preventive potential of leisure time. The implementation of leisure content through the correlation approach is most prevalent in participants with the least and the most work experience. The factor analysis identified three desirable models of leisure education. The obtained models have shown that teachers see their role in accordance with the modern school paradigm. They prefer the role of the teacher as a role model or personal guide, while the role of the lecturer is considered undesirable. Participants are in favor of leisure education through experiential learning and guiding students toward their own identification of talents. Socio-cultural content along with content on social justice is considered an undesirable form of leisure education. The above shows how teachers consider leisure contents desirable and according to the obtained models such contents would be taught in accordance with the requirements of the modern school. The obtained data present quality feedback for the further implementation of leisure content. More detailed teachers' suggestions for leisure education and implementation require a qualitative supplement to this topic, but also research on a larger sample, which presents a limitation of this paper. This research is an incentive for scholars engaged in leisure pedagogy and school pedagogy to further enrich the limited literature on leisure time in Croatian education.

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## SELF-ASSESSMENT OF KINESIOLOGIST COMPETENCY FOR COOPERATION WITH PARENTS

Paula Matijašević

Universal Sports School John Paul II

### Abstract

Due to their constant interaction with parents, kinesiologists should possess certain cooperation competencies. This paper aims to analyze the self-assessment of kinesiologist competency for cooperation with parents and identify the specific areas of kinesiologists–parents relationship. The research was conducted using an anonymous survey questionnaire to assess competencies for cooperation with parents on a sample of 158 kinesiologists (including 73 males and 85 females) in the Republic of Croatia. Descriptive statistics and factor analysis were used to process the collected data. A total of 26 manifest variables were used to extract four factors of the kinesiologist competency for cooperation with parents. The research results showed three factors related to the importance of communication skills, cooperation with parents, and reflection on communication with parents. On the other hand, one factor highlights parents as a problem in the work of kinesiologists. Kinesiologists emphasize the importance of communication and cooperation with parents, which will have a positive impact on children. Competencies for cooperation with parents are part of kinesiologist practice and need to be constantly improved.

**Keywords:** parents, communication skills, cooperation competencies, kinesiologists

### Introduction

For children and young people, sports presents a way of spending leisure time. According to the theory of the bioecological model, leisure and sports cover the entire bioecological system (Bronfenbrenner and Morris, 2006). In addition to the sports environment, which contributes to child raising in its own way, the family plays a key role in this process. The family is also part of the microsystem of the bioecological model, which has significant influences on the child's development. Such influences can be positive and negative. The positive contribution from sports as a leisure activity presupposes the competencies for cooperation with parents on the part of the sports activity organizer. Strengthening the partnership between parents and kinesiologists enriches the relationship between the kinesiologist and the child involved in the sports activity (Yabe et al., 2021).

A kinesiologist, as the organizer of sports and leisure activities, is one of the main factors contributing to the quality of these relations. This requires knowledge and skills that can be acquired through formal education, but also through experience. Investing in these competencies provides an opportunity to develop positive factors of child development arising from leisure activity. In addition to possessing the above competencies, the kinesiologist should be able to respond to the needs of modern parents in a timely manner and achieve the common task of parents and kinesiologists, i.e. raising and educating the child/athlete. Kinesiologists–parents partnership enables the processes of mutual communication, acquaintance, cooperation, counseling and mutual learning (Maleš, 1996). Such a relationship allows parents to actively engage in the sports activity of their child, resulting in a positive impact on the child's mental health (Wang & Sheikh-Khalil, 2014). Quality cooperation between kinesiologists and parents provides a number of advantages, both for the kinesiologist in their quality practice and for parents in the educational aspect. Family–school partnership is often emphasized as a component of quality educational systems, but in the system of sports, the contribution of these two correlations has not been observed or evaluated. Family–school partnership as a component of a quality sports atmosphere has not been sufficiently researched in the scientific literature in Croatia, which gives additional importance to the research on this topic.

In addition to requiring a range of competencies, cooperation also requires parental education. Parents are often unfamiliar with their child's sports activity and their expectations often differ from the kinesiologist's expectations. Holden et al. (2015) propose educating parents about their responsibilities and expectations to strengthen the relationship with the kinesiologist. Moreover, the kinesiologist must be open to receiving information from parents about the participant in the sports activity. It is the parent who understands their child's perception of sports and can share relevant information about their child with the coach (Harwood and Knight, 2015). Only through the partnership of parents and kinesiologists will the child enjoy and continue their sports activity (Lisinskiene et al., 2019). A collaborative relationship requires initiative and willingness on the part of kinesiologists, but also knowledge of pedagogical competencies. It is necessary to educate and prepare future kinesiologists for cooperation with parents. Therefore, question arises as to what competencies kinesiologists need to cooperate with parents.

The purpose of this research is to determine participants' awareness of the mentioned topic by analyzing the self-assessment of kinesiologists as holders of partnership with parents. Consequently, the research will identify the areas of competencies that are needed for quality cooperation with parents.



## Methodology

### Research objective, sample and procedure

The aim of this research is to determine kinesiologists' self-assessment of cooperation with parents and to specify the areas of kinesiologists' competencies for cooperation with parents. The research was conducted using an anonymous questionnaire created via Google Forms and sent to kinesiologists in Croatia. A total of 158 kinesiologists (including 72 males and 86 females) participated in the research, whereby 101 kinesiologists were working in primary or secondary schools, 26 in sports clubs or associations, and 31 kinesiologists were working in both schools and sports clubs.

### Ethics

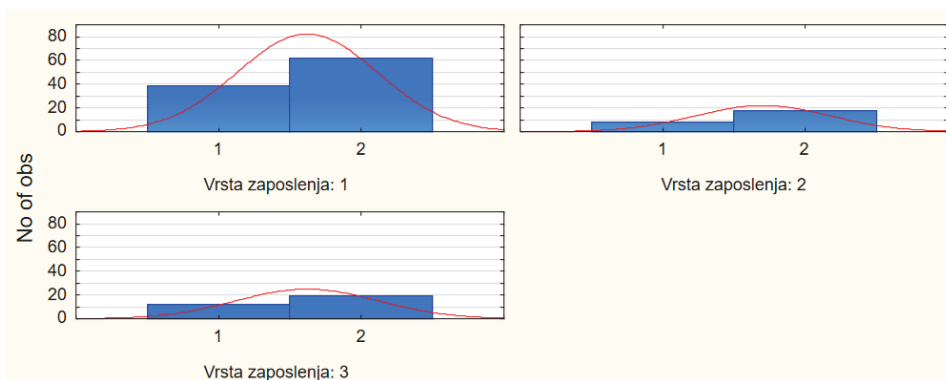
The research was approved by the principals of schools and sports clubs. After approval, the questionnaire was sent to kinesiologists and trainers. Respondents could withdraw from filling out the questionnaire and research at any time.

### Research instrument and data analysis

The research instrument was the survey questionnaire "Preschool teachers' self-assessment of competency for cooperation with parents" which was adapted for kinesiologists (Višnjić Jevtić, 2018). The questionnaire consists of two parts. The first part includes sociodemographic parameters: gender, work experience, education level, type of employment. The second part consists of 26 questions on the assessment of competencies for cooperation with parents applying the five-point Likert type scale (1 – I completely disagree, 2 – I do not agree, 3 – I neither agree nor disagree, 4 – I agree, 5 – I completely agree). The reliability of the original version was  $\alpha=.86$ , while the reliability of the adjusted instrument was  $\alpha=.73$ , which still presents the high reliability of the measurement instrument. After collecting the answers, the data matrix was created, and the data were statistically processed using the IBM SPSS software. Statistical methods of descriptive and factor data analyses were used to process the data. In the factor data analysis, Principal Component Analysis was applied with Oblimin normalization.

## Results and discussion

The obtained results were analyzed using descriptive statistics that determined the basic statistical parameters according to participants' type of employment. Figure 1 shows histograms of the participation of kinesiologists in professional training courses on cooperation with parents. Histograms show that regardless of the type of employment, i.e. working in schools or clubs, kinesiologists rarely participate in professional training courses on cooperation with parents. An analysis of the archive of professional meetings organized by the Education and Teacher Training Agency in the last five years has showed no professional training course was held on the topic of cooperation between kinesiologists and parents in the field of physical and health education. Participants apparently participated in some other professional training courses on cooperation with parents or in pedagogical conferences that are not directly related to sports but can contribute to new insights into cooperation with parents.



\*1 – yes, 2 – not; type of employment 1 – primary or secondary school, type of employment 2 – club or sports association, type of employment 3 – primary/secondary school and club/sports association

**Figure 1.**

*During your practice, have you participated in professional training courses on cooperation with parents?*

The analysis of descriptive statistics (Table 1.) shows that participants who are employed in schools have a higher level of self-assessment of cooperation and communication with parents than participants who work in clubs. Clubs and sports associations rarely offer pedagogical support that would enable kinesiologists to learn about approaching and cooperating with parents. They often rely on their own knowledge and skills acquired over years of practice.

Despite their high self-assessment of communication skills and cooperation with parents, kinesiologists see parents as sources of problems in their cooperation. Mostly, attitudes and goals of kinesiologists employed in clubs and sports associations differ from parents' views, which leads to poorer mutual cooperation and communication. Parents are often concerned about the lack of communication with coaches (Harwoord, Drew and Knight, 2010). On the other hand, coaches point out poor communication with parents as one of the factors of leaving their profession (Knight and Harwoord, 2009). Kinesiologists should have the competencies to cooperate with parents to make their job easier, but also to make parents more confident in them. Therefore, it is necessary to identify kinesiologists' cooperation competencies.

**Table 1.**  
*Descriptive statistics*

VARIABLE	PRIMARY/ SECONDARY SCHOOL N = 101		CLUB / SPORTS ASSOCIATION N = 26		SCHOOL / CLUB / SPORTS ASSOCIATION N = 31	
	M	St. Dev.	M	St. Dev.	M	St. Dev.
I have the communication skills required in two-way communication between kinesiologists and parents.	4.27	0.60	3.81	0.98	4.19	0.60
I communicate easily with parents, even when we are talking about problems.	4.10	0.62	3.32	0.98	4.06	0.63
I communicate easily with parents, even when they criticize my actions.	3.87	0.80	3.50	0.91	3.84	0.82
I can express disagreement with someone's opinion without confrontation.	4.11	0.68	3.85	0.67	4.19	0.48
When I talk to parents, I clearly express my opinion.	4.21	0.64	3.96	0.61	4.23	0.51
I see parents as a source of problems in my work.	2.66	0.99	2.92	0.93	2.35	0.88
I think that parents often deny information related to difficulties in working with their child.	3.37	0.96	3.69	0.97	3.45	0.96
I think parents are responsible for most of the child's problems.	3.15	0.94	3.15	1.01	2.77	0.84

I think parents overprotect their children.	3.88	0.65	3.69	0.74	3.77	0.85
I think kinesiologists should cooperate with parents.	4.50	0.61	4.46	0.65	4.61	0.67
I cooperate with parents to contribute to the development of children's abilities.	4.06	0.76	3.92	0.89	4.10	0.70
I cooperate with parents to contribute to child-raising.	3.50	1.01	3.31	1.05	3.68	0.65
I cooperate with parents to make my work with children easier.	3.81	0.91	3.58	0.86	3.86	0.90
Cooperation with parents is not a source of stress.	3.50	1.01	3.12	0.95	3.87	0.81
I have no difficulty in achieving cooperation with parents.	3.94	0.79	3.62	0.80	4.03	0.65
Cooperation with parents is stressful.	2.42	0.92	2.81	0.98	2.32	0.94

\* N – number of respondents, M – arithmetic mean, St. Dev. – Standard Deviation

Factor analysis was applied to 26 variables related to the kinesiologists' self-assessment of competencies for cooperation with parents to find only 16 variables within 4 areas of competencies for cooperation with parents. The first latent dimension is called **"Skills for Communication with Parents"** with a total variance of 28.87%. The parallel projection saturation of variables ranges from 0.53 to 0.71, while orthogonal projection saturation ranges from 0.63 to 0.74. This factor includes five variables that highlight the importance of communication between kinesiologists and parents. To establish a positive relationship between kinesiologists and parents and create a positive sports environment, mutual communication is very important. Horne, Woolf and Green (2022) emphasize the importance of communication with parents in setting common goals and clearly establishing the roles of each party in the kinesiological process. Such a form of cooperation has been recognized and some kinesiologists value the importance of the skill of communication with parents. Through communication, the kinesiologist presents their ideas and views to parents, thus establishing a quality relationship. At the same time, the kinesiologist gains the trust of the parents for their work. The relationship between parents and kinesiologists has a significant impact on the sports environment of the young athlete and their continuing the sports activity (Blom, Visek and Harris, 2013). It is the skill of communication that distinguishes a high-quality kinesiologist from the unsuccessful one (Bartoluci, 2010).

The second latent dimension refers to **“Parents as a Problem”** in the work of kinesiologists, with a total variance of 8.25%. The parallel projection saturation of variables ranges from 0.53 to 0.80 and orthogonal from 0.57 to 0.80. Kinesiologists often perceive parents as a problem in their work (Prieto, 2020). Diverging opinions and goals between parents and kinesiologists lead to disagreement and mutual conflict. Parents are not familiar with the kinesiologist’s program and, because of their lack of knowledge, do not understand the coach’s goals. Setting high goals and expecting top sports results from their children puts stress on kinesiologists (Ross, Mallet and Parkes, 2009). This stress is perceived as a parents-induced problem. To avoid this in practice, it is necessary to educate parents about sports activity (Smoll et al., 2011). Furthermore, creating opportunities for educating parents through various meetings is useful for promoting effective cooperation (Blom, Visek and Haris, 2013). **“Quality Aspects of Cooperation with Parents”** is the name of the third latent dimension with a total variance of 7.17%. The parallel projection saturation of variables ranges from 0.52 to 0.84, while orthogonal ranges from 0.49 to 0.80. This factor consists of four variables that emphasize the importance of quality cooperation with parents. Quality aspects of cooperation with parents include communication, trust, interpersonal attraction and predictability (Edwards and Cable, 2009). Communication enables mutual exchange of information about the athlete. Parents are best acquainted with their child and their attitudes regarding the sports activity the child is currently attending. By achieving quality communication with the parent, the coach can receive quality feedback on the sports activity (Harwood and Knight, 2015). In addition to communication, important is also the trust of parents in the coach’s work. Parents who have confidence in the coach’s decisions and the implementation of activities convey a positive attitude to their child about continuing the sports activity (Edwards and Cable, 2009; Branton, 2013). To keep these aspects of cooperation at the highest level, it is important to self-reflect on cooperation with parents.

Therefore, the fourth latent dimension refers to **“Reflection on Communication with Parents”**, with a total variance of 5.70%. The parallel projection saturation of variables ranges from 0.64 to -0.83 and orthogonal from 0.72 to -0.86. In this paper, communication has been highlighted as the most important factor of quality cooperation between kinesiologists and parents, which at the same time affects other aspects of cooperation. Consequently, frequent analysis of one’s own communication is important and helps the kinesiologist improve their work.

### Factor analysis

[illegible]

<b>FACTORS</b>	<b>SKILLS FOR COMMU- NICATION WITH PARENTS</b>	<b>PARENTS AS A PROBLEM</b>	<b>QUALITY ASPECTS OF COOPERA- TION WITH PARENTS</b>	<b>REFLEC- TION ON COMMU- NICATION WITH PARENTS</b>
<b>FACTOR VARIANCE</b>	<b>8.37</b>	<b>2.39</b>	<b>2.07</b>	<b>1.65</b>
VARIANCE %	28.87	8.25	7.17	5.70

\*PAP – parallel projection, ORP – orthogonal projection

## Conclusion

The work of kinesiologists presents a great challenge, especially in modern society where kinesiologists are expected to master numerous competencies and to engage in lifelong learning within different areas of their practice. One of the important areas of the profession of kinesiologists is cooperation with parents. Parents–kinesiologists partnership enables athletes to enjoy physical activity more, but also to continue with their sports activity. The obtained results identify the differences in self-reflection of kinesiologists and coaches. Kinesiologists working in schools emphasize a higher level of self-reflection on cooperation with parents than those working in clubs and sports associations. Through participants' self-reflection, four areas of quality cooperation between kinesiologists/coaches and parents were identified. The area of "communication" has been identified as the most important factor for quality cooperation with parents. It is through communication that quality is achieved in other areas of cooperation, such as trust and interpersonal attraction. However, successful communication requires self-reflection. Self-reflection and recognizing the need for change in communication enable more successful cooperation with parents, but also with athletes. In addition to communication, kinesiologists and coaches emphasize predicting parents as a possible problem in work. Predicting problems in practice enables confrontation and resolution of ambiguities in contact with parents.

This research had certain limitations. Research on cooperation with parents should be carried out on a larger sample to make the obtained data as objective and relevant as possible. Furthermore, when researching this topic, it is desirable to separate the areas of cooperation of kinesiologists with parents in schools and in sports clubs where pedagogical support is not easily available.

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## ATTITUDES OF PRIMARY SCHOOL EDUCATION STUDENTS TOWARD LIFELONG EDUCATION

Tena Pejčić

Učiteljski fakultet u Rijeci

prof. dr. sc. Anita Zovko

Filozofski fakultet u Rijeci

### Abstract

Lifelong education is a concept that views education as a lifelong process of organized learning. It begins with compulsory and formal education and is lifelong. In the modern teaching process that emphasizes learning outcomes and that is being improved upon through the implementation of modern methods and strategies of collaborative work alongside the ever-growing presence of multimedia technology in class, teachers are facing challenges and demands that require continuous work on their own competences, as well as lifelong education. Through the continuous education of teachers, we are improving the quality of the educational process and are exemplifying to students that lifelong learning and education is one of the pillars of the future. It is essential to teach students, while they're still at university, the importance and benefits of continuous education for teachers to meet the demands of the modern educational process.

The aim of this study was to assess the attitudes of primary school education students at the Faculty of Teacher Education in Rijeka, by using a questionnaire, toward lifelong education, the area for the development of teaching competencies, communicational benefits and encouraging pupils to study.

**Keywords:** lifelong education, teachers, students, attitudes, primary school education

### Introduction

Nowadays, changes across the world are happening daily and society is changing with them. The job of a teacher, as someone who raises and educates new generations, is changing every day. A teacher is no longer someone who just passes on knowledge and focuses exclusively on giving lectures. Their students are now the focus of their work and their task is to adapt lectures to the needs of every individual. They have become their students' motivators, their companions for

exploring the world, their confidants, and the person they spend the majority of their time with. In order to successfully perform their roles, teachers have to regularly improve professionally in order to strengthen their competencies. In order to follow educational trends, as well as to be able to change and adapt their work within the educational process teacher must regularly improve professionally. Kostović-Vranješ (2015) points out how the effectiveness of education is greatly dependent on the professionalism of the teacher, i.e. that the quality of the educational process depends on the quality of the teacher. It is clear that all change starts with the individual and that a teacher can make the biggest difference for their students in their surroundings. A teacher who is open to change and is willing to educate themselves throughout their entire career is the teacher that will bring about the biggest changes. They will inspire other teachers, educational workers and their students to become more open to lifelong education so that they can all change their surroundings, and in turn, the world.

## Attitudes

Eagly and Chaiken (1998) define attitude as a psychological tendency that is expressed by evaluating an object with a certain degree of approval or disapproval. We define attitudes as structures of emotions, evaluations, and actions toward a certain object, i.e. a person, a group, an idea, or a phenomenon. The object of an attitude can be anything a person thinks about. Čudina and Obradović (1975) define attitude as the tendency to react positively or negatively to an object. Attitudes are often equated with evaluations because of positive and negative reactions to something. However, there is a great range between positive and negative reactions to something. A person isn't a neutral observer of objects, but rather an evaluator of everything around them. If they assess that they like or dislike something, they will form their attitude accordingly. Attitudes differ based on our relationships and interactions with our surroundings. Petz (2005) explains that attitudes are states of readiness that people don't carry with them as heritage, but are rather formed and built throughout their lives, within the limits of the general physical and psychological abilities they have inherited and that are in line with the capabilities they managed to develop. Depending on the people we interact with, and the places where we grew up and live, we will form different attitudes. An attitude has a complex psychological structure. It comprises our knowledge of an object, our emotions, and our willingness to act toward that object. Zvonarević (1985) says that attitudes are comprised of three parts: the emotional component comprised of our emotional reaction toward the object of our attitude, the cognitive component which refers to our

beliefs toward the object of our attitude, and the experimental component or willingness, i.e. our actions toward the object of our attitude. The more positive someone's attitude is toward an object, their willingness to protect and help said object is higher. If their attitude toward an object is negative, the person will avoid or attack it. It is natural for people to form more intimate relationships and interactions with those who share their attitudes and to avoid and distance themselves from those with opposing attitudes.

## Teachers

Vanek, Maras, and Karabin (2021) state that a teacher is one of the few people we remember throughout our entire lives and the person from whom we sometimes expect to step into the role of a parent, psychologist, sociologist, defectologist, actor, singer, dancer, painter, athlete and whatever else a situation may require. In order for teachers to be successful in all these roles, they must always learn more and attend professional training seminars. Klapan, Ćavar and Živčić (2007) state that the processes of adult education involve different profiles of personnel who can be divided into three groups: educators, all those who, in addition to their regular jobs, are involved in the work of adult education (educators, teachers, economists, engineers, lawyers, managers...), those personnel who represent the basis for the professionalization of the profile of andragogic personnel. Antić (2006) points out that teachers, as public figures, are exposed to constant evaluation and self-evaluation: what the person whose personal and professional characteristics ought to be improved is like. Teachers are expected to evaluate their students' progress daily and to plan future lectures that will help students evolve and acquire new knowledge. In order to plan lectures successfully, teachers have to evaluate their own work and determine which teaching methods are successful, and which need changing in order to make their lectures as successful as possible. It is through the process of self-evaluation that teachers can detect their shortcomings and which areas ought to be improved.

Bandjur and Maksimović (2012) state that teachers are active creators of new knowledge about learning, teaching, and the curriculum, and not just executors of recommendations given by experts or creators of professional knowledge. Through consistent professional training and education, teachers will become familiarized with the novelties in education, but only after putting their new knowledge to practical use will they become creators. Their task is to become active creators of a learning space in which they will be companions to their students on their journey to acquiring new knowledge. Such teachers inspire students to explore the world of knowledge on their own.

## Lifelong education

McCombs (1991) said that promoting lifelong education has received increased attention recently from the educational and business communities. Lifelong education is one of the greatest challenges of today. Changes are happening daily and market demands are changing daily as well.

Lifelong education is a concept that views education as a lifelong process of organized learning. It begins with mandatory and formal education, lasts a lifetime, and is often synonymous with lifelong learning. Lifelong learning is an all-encompassing activity present throughout our lives with the aim to improve knowledge, skills, and competencies. It is realized formally, non-formally, and informally. Lifelong education is a basic life component, organized by institutions, that can be formal (based on a verified program) or non-formal (organized for professional training).

Radeka (2007) points out that the concept of lifelong education suits the needs of an individual in an ever-changing society. Society must adapt to everyday changes and respond to them with consistent learning and professional training. In order to keep up with these changes, society must be open to learning and altering its way of working in accordance with trends and demands. Horvat and Lapat (2012) point out that lifelong learning and education surpass the parameters of ideas and become a necessary goal of a society that is learning and building its foundation on knowledge. It is precisely by building the foundations for the future on this knowledge that we can respond to the incoming demands and adapt to new generations and the new society.

Mašić, Zovko, Kovačić Samaržija (2016) point out that the individual should therefore firstly learn how to learn, and, secondly, develop a positive attitude towards learning. Only people who educate themselves their whole lives can keep up with new trends and be up-to-date with all the changes in the world.

## Lifelong education of teachers

Vizek Vidović (2005) points out that the lifelong education of teachers is one of the burning questions in every country, by which he means formal education and professional development. Only teachers who consistently educate themselves and improve their knowledge can implement changes in their classroom, as well as the entire education system. Societal changes are happening daily and every generation is different and has different needs. For today's generations, teach-

ers and school aren't the only source of information, but rather one of many. In order for the education system to respond to such demands, it's important that teachers get educated and improve their competencies that they can use to pass on knowledge to new generations. Bezinović (2010) emphasizes that the quality of education is the foundation of the so-called "knowledge society", i.e. a social community that bases its development on education and knowledge.

On a systemic level, every country is trying to find solutions, modernize lectures as well as guide and educate teachers to be as ready as possible for new changes. Only through the lifelong education of teachers can we modernize the education system and make it more flexible and more quality. The lifelong education of teachers directly affects their professional development, as well as their personal growth and will to change. Teachers who regularly invest in their knowledge and demonstrate a willingness to change their work skills will spark an interest in students to learn. Such teachers become an inspiration to their students and show how crucial it is to educate oneself throughout one's entire life and that continuous investment in knowledge always pays off.

Kyriacou (1995) lists seven pedagogical traits of teachers: lesson planning, preparation and implementation, conducting a lesson and the flow of the lesson, setting the classroom environment, maintaining discipline, grading students' progress, self-reflection and self-evaluation. Self-evaluation is being greatly emphasized today. It's one of the mechanisms for improving the work of teachers and the educational process as a whole. A teacher who wants and knows how to conduct the process of self-evaluation in a quality manner can assess what their strong sides are and what has to be improved. Self-evaluation is an excellent evaluation model for teachers to decide which direction of professional training is most useful to take their competencies to the next level.

## Past research

Rajić and Lapat (2010) have researched assignments written by first-year students attending the Educational Sciences module at the Department of Primary Education. They analyzed student assignments from all three departments (Zagreb N=24, Čakovec N=22, Petrina N=15). Content analysis was used to determine the attitude of future students towards lifelong learning and education.

After sitting through introductory lectures about the subject of lifelong learning and education, students had to answer the following questions: "What does the phrase lifelong learning and education mean to you?" Through assignment anal-

ysis, it was determined that students differentiate between lifelong learning and lifelong education. They can distinguish between the two and recognize their importance. A total of 76,6% of participants define lifelong learning and education as an ongoing process, while 50,82% believe it is essential for their profession. 49,18% of them recognize opportunities of training in various forms of lifelong education. 39,34% of students believe that lifelong learning and education are crucial for the quality of their knowledge, and 34,43% point out their importance in the development of competencies. Almost all students believe that informal education affects competencies and perceive intrinsic motivation as the main initiator of informal education.

All assignments point out that lifelong learning and education are highly important for the teaching profession. A total of 81,87% of students envision their future education through informal ways, such as learning foreign languages, partaking in their teaching staff assemblies, and various seminars and workshops. Up to 32,79% of students see themselves continuing their education formally through Ph.D. and similar programs.

Zovko, Šaravanja and Mašić (2016) conducted research whose goal was to investigate and analyze the attitudes of undergraduate students in Pedagogy regarding the concept of lifelong learning and education. The respondents were students of Pedagogy at the Faculty of Humanities and Social Sciences, University of Rijeka (N=83).

The students pointed out that lifelong education today becomes a necessity, but at the same time improves the quality of life in general. 91.5% of respondents believe that they will continue their education. They are divided on how much time they will have for further education after employment. Two thirds of the respondents think that they will continue their education throughout their life.

The most common reasons why respondents want to continue their education are improving existing or learning new skills, finding a job, and improving qualifications. Most students consider all forms of education equally important, but they also emphasize the importance of formal education.

Krmpotić (2021) conducted research that aimed to assess the attitudes of educators employed in institutions for early and preschool education in Bjelovar-Bilogora County toward the importance of lifelong education, how they assess their own involvement in professional training programs, which types of professional training they usually attend and how they assess their competencies when it comes to working with children.



A survey that included the participants' sociodemographic characteristics, a scale of attitudes toward lifelong education, and a scale of self-evaluation of one's professional development was conducted online.

Most participants point out the importance of having the support of a professional team when it comes to professional development, and that quality educators ought to be continuously educated throughout the entirety of their professional career. Participants agreed least with the statement that professional training of educators is just a waste of time. Results of this research show that the majority of participants partake in professional training several times a year, a minority of them partake once a year, and they averaged partaking in 4 professional training programs during the last year. A total of 80,8% of female educators state that they mostly partake in professional training organized in the institutions they work at, and up to 75,8% stated that they are willing to pay for professional training or education themselves. 60,6% of female educators stated that they receive funding for professional training programs from the educational institution(s) they work at, and 87,9% of female educators stated that professional training usually takes place after working hours. The main reason for not participating in a desired professional training program is the pricing. When it comes to types of professional training, results show that many female participants opt for a variety of them. The most popular type of training is workshops, while seminars and projects are also well accepted. Working on projects, supervision, and professional development centers are mentioned to a smaller extent.

Results show that female educators express the highest level of agreement with the notion that professional training brings them new knowledge and skills that they can use when working with parents and children. They also stated that professional training motivates them to further improve when it comes to working with children. The biggest visible disagreement is that if they aren't obligated to, they won't undergo professional training.

The author concludes that it is necessary to support the participation of educators in professional training and that they ought to be given a chance to actively participate in identifying and planning their own professional development. The content of professional training programs should strike a balance between the educators' professional and personal needs. Flexibility in terms of time slots for professional training sessions is a big part of increasing the turnout of educators. The author points out motivation, the link between education and labor, the investment in pedagogical innovations, and the decrease in professional training costs.

There is a small amount of research in the Republic of Croatia and in the world about lifelong education. There is a much greater number of researches on life-long learning.

Surveying students in the teaching module was the chosen method for this research. This type of research was chosen because of interest to learn about the timeline overview of the current attitudes of students and how they differ between years of study. Using a questionnaire provided the best insight into the attitudes of students and enabled the researchers to spot differences between years of study.

## Methodology

### Aim

The aim of this study was to assess the attitudes of primary school education students at the Faculty of Teacher Education in Rijeka, toward lifelong education, the area for the development of teaching competencies, communicational benefits, and encouraging pupils to study by using a questionnaire.

### Participants

The participants in this research were 107 students of university integrated undergraduate and graduate study of Primary School Education: 103 of them were women and only 4 of them were men, 32 were 1st-year students, 23 2nd-year students, 22 3rd-year students, 21-4th year students and 9 of them were 5th-year students. The data were collected using an online questionnaire on Office Forms. The participants were informed about the purpose of the research, as well as the fact that it is anonymous and voluntary. Students filled out the questionnaire on their mobile phones at the Faculty of Teaching Education.

### Instrumentation

Students filled out a questionnaire consisting of questions regarding their gender, year of study, the high school which they graduated from, and their GPA. They were asked about their attitudes toward lifelong education, teachers' competencies, professional training, how engaged they are during studying, and methods of acquiring knowledge. For this research, we used gender to describe

who the participants were, their year of study, and their attitudes toward lifelong education. Students chose answers on the Likert scale from 1 to 5 - with 1 being “strongly disagree” and 5 “strongly agree”.

## Results and discussion

**Table 1.**

*Lifelong education*

<b>Lifelong education</b>	<b>M</b>	<b>SD</b>	<b>Min.</b>	<b>Max.</b>
Lifelong education is necessary nowadays.	4.374	0.771	1.000	5.000
Lifelong education is essential for teaching.	4.626	0.680	1.000	5.000
Lifelong education contributes to the development of competencies.	4.617	0.526	3.000	5.000
Lifelong education improves my status in society.	3.935	0.964	1.000	5.000
Lifelong education opens the possibility for easier employment.	4.103	0.800	2.000	5.000
Lifelong education enables good relations with colleagues.	3.720	1.007	1.000	5.000
Lifelong education of teachers is beneficial for students.	4.664	0.513	3.000	5.000
Lifelong education of teachers is beneficial for improving the work of the school.	4.589	0.582	3.000	5.000
Lifelong education of teachers is beneficial to their communication with associates.	4.393	0.697	2.000	5.000

It is evident from Table 1. that students agreed that: “Lifelong education is necessary nowadays.”, “Lifelong education improves my status in society.”, “Lifelong education opens the possibility for easier employment.”, “Lifelong education enables good relations with colleagues.” and “Lifelong education of teachers is beneficial to their communication with associates.”

Students strongly agreed that: “Lifelong education is essential for teaching.”, “Lifelong education contributes to the development of competencies.”, “Lifelong education of teachers is beneficial for students.” and “Lifelong education of teachers is beneficial for improving the work of the school.”

These results show us that students enrolled in the teaching program are aware of the importance of lifelong education. They agree, above all else, that lifelong education is beneficial for students. From this, we can conclude that they are aware that lifelong education can help them improve their knowledge of how to

conduct lectures and perfect their competencies with which they will learn how to best explain the teaching materials to students and motivate them to study.

**Table 2.**

*Lifelong education is necessary nowadays*

<b>Year of study</b>	<b>Lifelong education is necessary nowadays</b>	<b>Frequencies</b>	<b>Percentage</b>
1	3	4	12.500
	4	14	43.750
	5	14	43.750
	Total	32	100.000
2	3	5	21.739
	4	8	34.783
	5	10	43.478
	Total	23	100.000
3	1	1	4.545
	3	2	9.091
	4	7	31.818
	5	12	54.545
	Total	22	100.000
4	3	1	4.762
	4	7	33.333
	5	13	61.905
	Total	21	100.000
5	3	1	11.111
	4	1	11.111
	5	7	77.778
	Total	9	100.000

Table 2. shows us that the same number of 1st-year students of the teaching program mostly agrees or completely agrees with the statement "Lifelong education is necessary nowadays". Students of other study years mostly completely agree with this statement. We can assume that 1st-year students aren't familiar enough with the concept of lifelong education and have never had experience in practice to be able to see its significance today.

**Table 3.***Lifelong education is essential for teaching*

<b>Year of study</b>	<b>Lifelong education is essential for teaching</b>	<b>Frequencies</b>	<b>Percentage</b>
1	3	3	9.375
	4	8	25.000
	5	21	65.625
	Total	32	100.000
2	3	1	4.348
	4	6	26.087
	5	16	69.565
	Total	23	100.000
3	1	1	4.545
	3	2	9.091
	4	1	4.545
	5	18	81.818
	Total	22	100.000
4	4	6	28.571
	5	15	71.429
	Total	21	100.000
5	4	3	33.333
	5	6	66.667
	Total	9	100.000

By analyzing Table 3. it's evident that the majority of students across all years of study completely agree with the statement "Lifelong education is important for the teaching calling". This shows us that students enrolled in the teaching program are aware of the complexity of their profession and calling from the very beginning. They understand that they have to continue to educate themselves even after they earn their diploma as Master of Primary Education in order to do their job in a quality manner. It is very important that students understand the importance of lifelong education for the teaching calling because it shows us that our participants are open to further professional training and learning in order to keep up with the changes that occur daily.

**Table 4.**

*Lifelong education contributes to the development of competencies*

<b>Year of study</b>	<b>Lifelong education contributes to the development of competencies</b>	<b>Frequencies</b>	<b>Percentage</b>
1	3	1	3.125
	4	9	28.125
	5	22	68.750
	Total	32	100.000
2	3	1	4.348
	4	13	56.522
	5	9	39.130
	Total	23	100.000
3	4	9	40.909
	5	13	59.091
	Total	22	100.000
4	4	4	19.048
	5	17	80.952
	Total	21	100.000
5	4	2	22.222
	5	7	77.778
	Total	9	100.000

It's evident from Table 4. that 1st, 3rd, 4th and 5th-year students mostly completely egress with the statement "Lifelong education contributes to the development of competencies". 2nd-year students mostly agree with this statement. This shows us that students are aware that we develop competencies throughout our whole lives and that education cannot end after we graduate.

**Table 5.***Lifelong education improves my status in society*

<b>Year of study</b>	<b>Lifelong education improves my status in society</b>	<b>Frequencies</b>	<b>Percentage</b>
1	1	1	3.125
	2	2	6.250
	3	8	25.000
	4	9	28.125
	5	12	37.500
	Total	32	100.000
2	2	1	4.348
	3	4	17.391
	4	9	39.130
	5	9	39.130
	Total	23	100.000
3	3	7	31.818
	4	6	27.273
	5	9	40.909
	Total	22	100.000
4	2	1	4.762
	3	9	42.857
	4	5	23.810
	5	6	28.571
	Total	21	100.000
5	2	1	11.111
	3	4	44.444
	4	2	22.222
	5	2	22.222
	Total	9	100.000

Table 5. shows varying levels of agreement with the statement “Lifelong education improves my status in society.” 1st and 3rd-year students mostly completely agree with this statement, while an equal number of 2nd-year students mostly agree and completely agree with the statement. What’s interesting is that 4th and 5th-year students mostly neither agree nor disagree with the statement. We can assume that students, as they near the end of their studies become increasingly more aware that lifelong education mainly benefits themselves and their personal growth.

**Table 6.**

*Lifelong education opens the possibility for easier employment*

Year of study	Lifelong education opens the possibility for easier employment	Frequencies	Percentage
1	2	2	6.250
	3	5	15.625
	4	18	56.250
	5	7	21.875
	Total	32	100.000
2	3	5	21.739
	4	7	30.435
	5	11	47.826
	Total	23	100.000
3	3	7	31.818
	4	9	40.909
	5	6	27.273
	Total	22	100.000
4	3	4	19.048
	4	6	28.571
	5	11	52.381
	Total	21	100.000
5	3	2	22.222
	4	4	44.444
	5	3	33.333
	Total	9	100.000

Table 6. shows that the majority of 1st, 3rd and 5th year students mostly agree with the statement "Lifelong education opens up the possibility of easier employment", while the majority of 2nd and 4th year students completely agree with this statement. We can assume that their thoughts about how easy or difficult it is to get a job change during their studies, but it is clear that the vast majority of students are aware that when hiring employers, they look at whether a person has continued their education after their studies. This shows the employer that the person is ready to continue to follow trends and improve in order to do his job as well as possible. It is important that students are already aware of this during their studies and are open to further training and education.



**Table 7.***Lifelong education enables good relations with colleagues*

<b>Year of study</b>	<b>Lifelong education enables good relations with colleagues</b>	<b>Frequencies</b>	<b>Percentage</b>
1	1	1	3.125
	2	4	12.500
	3	8	25.000
	4	13	40.625
	5	6	18.750
	Total	32	100.000
2	2	1	4.348
	3	5	21.739
	4	10	43.478
	5	7	30.435
	Total	23	100.000
3	2	1	4.545
	3	9	40.909
	4	5	22.727
	5	7	31.818
	Total	22	100.000
4	2	3	14.286
	3	8	38.095
	4	5	23.810
	5	5	23.810
	Total	21	100.000
5	1	1	11.111
	2	1	11.111
	3	1	11.111
	4	4	44.444
	5	2	22.222
	Total	9	100.000

We can see from Table 7. that 1st, 2nd and 5th-year students mostly mainly agree with the statement “Lifelong education enables good relations with colleagues” while 3rd and 4th-year students remain neutral, i.e. they neither agree nor disagree. It’s interesting that none of the students, across all years of study, strongly agree with this statement. We can conclude that students don’t see lifelong education as an indicator of positive relationships and a positive environment. As is

the case with previous statements, we can assume that students primarily view lifelong education as personal growth, specifically personal professional growth.

**Table 8.**

*Lifelong education of teachers is beneficial for students*

<b>Year of study</b>	<b>Lifelong education of teachers is beneficial for students</b>	<b>Frequencies</b>	<b>Percentage</b>
1	3	1	3.125
	4	8	25.000
	5	23	71.875
	Total	32	100.000
2	4	9	39.130
	5	14	60.870
	Total	23	100.000
3	4	9	40.909
	5	13	59.091
	Total	22	100.000
4	4	4	19.048
	5	17	80.952
	Total	21	100.000
5	3	1	11.111
	4	2	22.222
	5	6	66.667
	Total	9	100.000

Table 8. shows us that students across all years of study mostly completely agree with the statement "Lifelong education of teachers is beneficial for students". We can conclude that our students are aware that the focus of their work is their students, i.e. how much a teacher puts into their education is how much they can benefit their students.

**Table 9.**

*Lifelong education of teachers is beneficial for improving the work of the school*

<b>Year of study</b>	<b>Lifelong education of teachers is beneficial for improving the work of the school</b>	<b>Frequencies</b>	<b>Percentage</b>
1	3	2	6.250
	4	9	28.125
	5	21	65.625
	Total	32	100.000

Year of study	Lifelong education of teachers is beneficial for improving the work of the school	Frequencies	Percentage
2	3	1	4.348
	4	8	34.783
	5	14	60.870
	Total	23	100.000
3	3	2	9.091
	4	6	27.273
	5	14	63.636
	Total	22	100.000
4	4	8	38.095
	5	13	61.905
	Total	21	100.000
5	4	3	33.333
	5	6	66.667
	Total	9	100.000

From Table 9. we can see that most students across all years of study completely agree with the statement “Lifelong education of teachers is beneficial for improving the work of the school”. A school in which teachers attend professional training seminars and educated themselves regularly is a school that changes its *modus operandi* and adapts to the needs of its students. The education of employees can only benefit schools as is the case for all institutions.

**Table 10.**

*Lifelong education of teachers is beneficial to their communication with associates*

Year of study	Lifelong education of teachers is beneficial to their communication with associates	Frequencies	Percentage
1	2	1	3.125
	3	5	15.625
	4	11	34.375
	5	15	46.875
	Total	32	100.000
2	3	2	8.696
	4	9	39.130
	5	12	52.174
	Total	23	100.000
3	3	2	9.091

Year of study	Lifelong education of teachers is beneficial to their communication with associates	Frequencies	Percentage
	4	7	31.818
	5	13	59.091
	Total	22	100.000
4	3	1	4.762
	4	11	52.381
	5	9	42.857
	Total	21	100.000
5	4	4	44.444
	5	5	55.556
	Total	9	100.000

Table 10. shows that 1st, 2nd, 3rd and 5th-year students completely agree with the statement "Lifelong education of teachers is beneficial to their communication with associates" while 4th-year students mostly agree with it. Collaboration between teachers and associates is very important to schools. Together, they can help students who need help and adapt lectures to their needs. A teacher who educates and familiarizes themselves with new methods and work strategies can discuss with associates what they learned and what useful things they think should be implemented in lectures. Good communication, presenting new ideas, and creating a positive environment can bring about many important decisions for lectures and students.

## Conclusion

Lifelong education is very important nowadays when changes are happening across the globe daily. Laal and Salamati (2012) explain that in the 21<sup>st</sup> century, we all need to be lifelong learners. Šuran i Zovko (2021) explain that in the Republic of Croatia, awareness of the importance and role of lifelong education and adult education is growing. In order to keep up with other changes, it is important to continue educating oneself throughout one's entire life. For teachers, lifelong education is demanded by their professional training. Bilogrević Gatolin (2014) explains how the teaching calling is a noble profession that is perfected throughout the entirety of one's career. Although they acquire competencies for working in the educational process during their studies, it's impossible to prepare them for the demands that come with new generations, technological advancements, and worldwide daily changes. This research has shown that students enrolled in the teaching program exhibit a positive attitude toward life-

long education, which shows us that they are aware that in this profession it's crucial for quality work performance and lectures. Hattie (2012) explains that a good teacher is one who effectively combines and connects knowledge, pedagogical skills, and interpersonal qualities to promote student learning and personal growth. The results of this research have shown that participants recognize the importance of personal growth. Most students completely agree that lifelong education is important for the teaching calling and that it has a positive effect on the development of knowledge and competencies. Darling-Hammond (1997) asserts that developing teachers' competencies is a lifelong process that should be supported through ongoing professional development, collaboration with colleagues, and opportunities to reflect upon and refine their practice. Openness toward continuous learning and professional training is the mark of every good teacher who wants to improve their work with their students. Students' testimonies about their complete agreement that lifelong education is beneficial for students and improves the work of schools shows us how aware future teachers are of the fact that an encouraging atmosphere in which acquired knowledge is shared and contemporary work methods are implemented is crucial for a school's existence. Demirel (2017) points out that the only way to create lifelong learners and an information-literate society is to train teachers. If we raise future teachers' awareness on the importance of lifelong education and its positive effects, we will raise a new generation of enlightened teachers who pass that knowledge to their students. When conducting future research, researchers ought to focus on the attitudes of all educational workers toward lifelong education. New insights could encourage people to become more involved in professional training programs.

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## COMPARATIVE ANALYSIS OF THE INTERDISCIPLINARY TOPIC *LEARNING HOW TO LEARN* AND GLOBAL COMPETENCE CONSIDERATION OF PROBLEMS AND SITUATIONS

Andrej Maras

Primary school Lotrščak

Luka Pongračić

Department of Social Sciences and Humanities  
University of Slavonski Brod

### Abstract

Intense and rapid changes in scientific, technological and social development present today's society, and especially the school, with challenging demands. Students are expected to have global competencies that enable them to consider local, global and intercultural issues. Consideration of global problems implies the application of students' metacognitive skills. One of the reform attempts to change the education system is the curricular reform of the School for Life. The School for Life expects teachers as moderators of the teaching process to actively involve students in the learning process to encourage the development of knowledge, competencies and values that enable students to coexist with the social community. Curricula of teaching areas and cross-curricular topics of the School for Life are based on learning and teaching outcomes, and significant emphasis is placed on the problem-solving process, creativity and innovation, and helping students discover their own learning style. To this end, the curriculum of the cross-curricular topic *Learn how to learn* was designed. The aim of this paper is to establish to what extent and in which segments the reform of the School for Life, ie the cross-curricular topic *Learning how to learn* (first and second educational cycle) has contributed to the development of global competence - Consideration of local, global and intercultural problems. The analysis matrix established that there are deviations from expected global competencies in the curriculum of the cross-curricular topic *Learning how to learn* and that there is a lot of room for additions and improvements. Curricula on cross-curricular topics should be more in line with global competences. Pedagogically – didactically, the curriculum of the cross-curricular topic *Learning how to learn* is justified to direct and enrich content and activities that will contribute to the development of expected global competencies in a multicultural society.

**Keywords:** cross-curricular topics, global competencies, 'School for life', *Learning how to learn*.

## Introduction

Being a functional and productive member of the social community of the modern era is increasingly challenging. Accelerated socio-political changes and the development of information and communication technologies are reflected in all segments of life, including the educational system. A modern school is expected to recognize and systematically develop student talents, potential, knowledge, learning styles, skills and competencies in order to prepare students for the labor market. There are many attempts to reform educational policies (more or less successful) that tried to bring school closer to the needs of real society. One such reform is the curricular reform of the School for Life. Accordingly, it is justified to examine the extent to which the School for Life reform, i.e. the cross-curricular topic Learning how to learn (first and second educational cycle) contributed to the development of the global competence Consideration of problems and situations of local, global and intercultural significance.

Schools need to prepare students for life and work in the 21st century, and most schools today are still developing students who only know how to listen to instructions, developing them in the industry of the past. Schools mostly create outcomes and develop competencies that are not in line with the current knowledge society, and the question is whether they develop students for the future at all (Dumont & Istance, 2010).

## Global competences

Global competences represent a synthesis of knowledge, skills, attitudes and values that are a prerequisite for an individual to respond successfully in direct and/or virtual contact with people of different cultural origins in engagement around crucial global issues that have great implications for current and future generations. Global competences, due to their significance for the entire society, are considered a lifelong learning goal. A globally competent individual is capable of multidimensionally considering local, global and intercultural problems, being tolerant of different worldviews, appropriately maintaining interactions with others and acting with the aim of sustainability and the well-being of society as a whole (Markočić Dekanić et al., 2020). Along with the family, schools play a key role in the development of young people's global competences. Strategically planned teaching activities encourage students' critical thinking about global events, appropriate and responsible use of information and communication technologies, and encourage intercultural sensitivity in the spirit of respect for different peoples, languages and cultures (OECD, 2019).



According to PISA's conceptual framework, global competences consist of four dimensions:

1. Consideration of problems and situations of local, global and cultural importance (population migrations, ecological disasters, poverty, wars, cultural differences and stereotypes) which requires metacognitive thinking skills such as using and combining disciplinary knowledge and ways of thinking to ask questions, analyzed data and arguments, interpreted phenomena and took a position on a local global or cultural issue (OECD, 2020).
2. Understanding and appreciating different perspectives and worldviews, which implies researching the origins and implications of other people's and own assumptions. The development of this competence is reflected in the interest and deep respect for others and their needs, rights, emotions and experiences. They retain their own cultural identity, but at the same time are aware of the cultural values and beliefs of others around them (OECD, 2020).
3. Entering open, appropriate and effective interactions with people of different national, religious, social or cultural origins or gender, which includes knowledge of social norms, interactive attitudes and different degrees of formality in intercultural contexts and adaptation of one's own behavior and communication patterns. This competence refers to the functional integration of marginalized groups into the social community (Markočić Dekanić et al., 2020).
4. Constructive action for the purpose of the common good and sustainable development, which refers to the role of young people as active and responsible members of society and their readiness to respond to a specific local, global or intercultural problem or situation (Markočić Dekanić et al., 2020).

The PISA 2018 survey is the seventh cycle of PISA surveys (the fifth in a row in which the Republic of Croatia participated) in which, in addition to reading, math and science literacy, the area of global competencies was examined as an additional innovative domain. 179 secondary and 4 primary Croatian schools participated in the research, i.e., a total of 6,609 fifteen-year-old students.

In the following, we will present some of the most significant research results in the field of global competencies of Croatian students:

- Croatian students took 8th place in the overall ranking of 27 countries
- 4.2% of Croatian students are at the highest level (level 5) of global competencies
- 33.3% of Croatian students do not reach the basic level of global competencies
- In Croatia, between 60% and 70% of students in vocational programs fail to meet the basic level of global competencies

- girls achieve a statistically significantly better result than boys
- Croatian students show an above-average awareness of global problems (such as migration, equality between men and women, international conflicts...)
- Croatian students show a below-average level of understanding of different perspectives
- have an average interest in learning about other cultures
- the attitudes of Croatian students towards immigrants are more positive compared to the average (Markočić Dekanić et al., 2020).

## Learning how to learn

As part of the reform of Schools for Life, special curricula were adopted for each inter-curriculum topic, a total of seven of them. Learning how to learn is an important competence for the future and should be coordinated with the development of global competences among students. The European Parliament (2006) adopted within the European Union a European competence framework that prescribes eight key competences for lifelong learning that will be the basis of economic and social development in the future and Learning how to learn is one of these competences. Deakin Crick, Stringher and Ren (2014) placed this competence in transversal competences that go beyond individual scientific fields. They place this competence in the basis of education and state that it is one of the keys to successful operation in the 21st century.

## Curriculum reform of the school for life and intercurriculum theme of learning how to learn

In the Republic of Croatia, as educational policies have changed, so have attempts at reform in the educational sector. Segments of individual reforms (Croatian National Education Standard (HNOS) and the Strategy of Education, Science and Technology from 2014 can also be found in today's teaching practice. The last in a series of educational reforms that divided experts in the field of upbringing and education is the curricular reform of the School for Life. Curricular the School for Life reform has been in effect since autumn 2019 in all subjects of grades 1 and 5 of primary school and Biology, Chemistry and Physics in grade 7 of primary school. schools, level 4.2 in 1st grades with the subjects Mathematics, Croatian, English and German.

Objectives of the School for Life curriculum reform. are reflected in three basic goals:

1. an approach that is based on educational outcomes, critical thinking, problem solving through all curricula of subject areas and curricula of cross-curricular topics,
2. creation of a motivating learning environment in which students will actively participate in the construction of their knowledge and will be directed towards competencies for the 21st century,
3. satisfied, motivated and innovative educational activities that will be aimed at lifelong education (Divjak and Pažur Aničić, 2019).

The Ministry of Science and Education (2019) pointed out that the School for Life reform is aimed at the holistic development of students, the development of generic competences, research and creative teaching, the autonomy of educators when choosing content, methods and forms of work, and different evaluation approaches that encourage autonomous learning.

For The main goal of the cross-curricular theme Learning how to learn is to develop an active approach to learning and a positive attitude towards learning, and to train students to apply the acquired knowledge and skills in different situations and contexts (MZO, 2019a). The curriculum of the cross-curricular topic Learning how to learn for primary schools is organized through three educational cycles; first educational cycle (1st and 2nd grade), second educational cycle (3rd, 4th and 5th grade) and third educational cycle (6th, 7th and 8th grade). In addition to educational cycles, the cross-curricular theme Learning how to learn is also conceptualized through four domains:

- a) Application of learning and information management strategies - refers to the effective application of adequate styles and strategies for learning, memorizing, reading, writing and solving problems in different areas of learning. Information management includes the need for information, its retrieval and critical evaluation to transform it into concepts of new knowledge.
- b) Managing your learning - implies the metacognitive aspect of learning, i.e. all those activities and thought processes (planning, setting goals, structuring, monitoring) during the process of learning, solving problems or completing tasks.
- c) Management of emotions and motivation in learning - emphasizes the importance of intrinsic motivation and emotional regulation during the learning process. Students master the teaching contents better if they perceive the purpose and meaning of what they are learning and if they can connect these contents with real life experiences.

d) Creating an environment for learning - refers to the creation of a stimulating physical and social environment that has a motivating effect on the learning process (MZO, 2019a).

## Methodology

The research methodology is qualitative and consists of a comparative analysis of the components of the dimension of global competences *Consideration of local, global and intercultural problems* (OECD, 2020) and cross-curricular topic *Learning how to learn* (MZO, 2019). These two documents were chosen as the main indicators of the development of global competences. The first document is the basis for identifying global competencies and offers a framework for their development, while the second document was chosen because it forms the framework of what is implemented in the Croatian reflection system. From the curriculum cross-curricular topic *Learning how to learn* (MZO, 2019) it is best seen how the school education system views the importance of global competences and their development in early school age.

To compare these two documents, an analysis matrix was created to establish how well the curriculum of this cross-curricular topic is aligned with the expected development of global competencies.

## Research objective and research questions

The goal of the research is to make a comparison between the outcomes of the components of the dimension of global *competences Consideration of local, global and intercultural problems* (OECD, 2020) and the cross-curricular topic *Learn how to learn* (MZO, 2019). The task of this analysis is to establish to what extent the curriculum follows the development of global competences using the example of *Consideration of local, global and intercultural problems*.

Two research questions are raised here:

1. Does the curriculum at all enable the development of global competencies in the first and second educational cycles?
2. What are the similarities between the curriculum outcomes and the expected development of global competence?

## Analysis matrix

**Table 1.**

*Analysis matrix of the first educational period*

<b>Outcomes of the global competence <i>Consideration of local, global and intercultural problems</i></b>	<b>Outcomes of the cross-curricular topic <i>Learn how to learn</i></b>
Application of knowledge about the world	<i>The value of learning</i> The student can explain the value of learning for own life.
	<i>Self-image as a student</i> The student expresses positive and high expectations and believes in own success in learning.
	<i>Interest</i> The student expresses interest in different areas, takes over responsibility for one's learning and persists in learning.
Critical thinking	<i>Critical thinking</i> The student forms and expresses your thoughts and feelings.
Forming an opinion on a global problem	<i>Application of learning and problem-solving strategies</i> The student is using simple strategies for learning and solves problems in all areas of learning in addition teacher's help.
Selection and consideration of appropriate evidence	
Data analysis	
Argumentation	
Development of attitude on global issues	<i>Emotions</i> The student uses pleasant emotions and moods so that they encourage learning and controls unpleasant emotions and mood so that it does not interfere with learning.
Development of attitudes on cultural issues	
Media literacy	<i>Information management</i> The student with the help of a teacher seeks new information from different sources and successfully applies them when solving problems.

	<p><i>Creative thinking</i></p> <p>The student is spontaneous and creative shapes and expresses its own thoughts and feelings when learning and solving the problem.</p>
	<p><i>Planning</i></p> <p>On encouragement and with help the teacher is determined by the student learning objective and selects the approach learning.</p>
	<p><i>Tracking</i></p> <p>On encouragement and with help of the teacher the student follows his learning.</p>
	<p><i>Learning adaptation</i></p> <p>At the encouragement and with the help of the teacher the student changes his approach to learning.</p>
	<p><i>Self-evaluation</i></p> <p>At the encouragement and with the help of the teacher evaluates whether it is successful solved the task or learned.</p>
	<p><i>Physical learning environment</i></p> <p>The student creates appropriately physical learning environment with the aim of improvement concentration and motivation.</p>
	<p><i>Cooperation with others</i></p> <p>The student achieves good communication with others, cooperates successfully in different situations and is ready to request and offer help.</p>

**Table 2.**

*Analysis matrix of the second educational period*

<b>Outcomes of the global competence Consideration of local, global and intercultural problems</b>	<b>Outcomes of the cross-curricular topic Learn how to learn</b>
Application of knowledge about the world	<i>The value of learning</i> The student can explain the value of learning for your own life.
Critical thinking	<i>Critical thinking</i> The student distinguishes facts of opinion and is capable compare different ideas.
	<i>Interest</i> The student expresses interest in different areas, takes over responsibility for one's learning and persists in learning.
	<i>Self-image as a student</i> The student expresses positive i high expectations and believes in your success in learning.
Forming an opinion on a global problem	<i>Application of learning and problem-solving strategies</i> The student applies strategies for learning and solves problems in all areas of learning in addition teacher monitoring and support.
Selection and consideration of appropriate evidence	
Data analysis	
Argumentation	
Development of attitude on global issues	<i>Emotions</i> The student uses pleasant emotions and moods so that they encourage learning and controls unpleasant emotions and mood so that it does not interfere with learning.
Development of attitudes on cultural issues	
Media literacy	<i>Information management</i> With the support of the teacher or independently searches for new ones information from different sources and successfully applies them at solving the problem.

	<i>Creative thinking</i> The student uses creativity to shape his ideas and approach to solving problems.
	<i>Planning</i> With the support of the teacher, the student determines learning objectives, chooses an approach to learning and plans learning.
	<i>Tracking</i> At the teacher's instigation, the student tracks their learning and progression during learning.
	<i>Learning adaptation</i> With the support of the teacher, but also independently, as needed the student changes the plan or approach to learning.
	<i>Self-evaluation</i> At the teacher's instigation, but and independently, a student self-evaluates the process learning and their results and evaluates the achieved progress.
	<i>Physical learning environment</i> The student creates appropriately physical learning environment with the aim of improvement concentration and motivation.
	<i>Cooperation with others</i> The student achieves good communication with others, cooperates successfully in different situations and is ready to request i offer help.

## Discussion

The results of the analysis matrix show clear answers to the research questions. It can be seen that the curriculum of the competence to learn how to learn enables the development of the global competence Consideration of local, global and intercultural problems, because in many items they match a lot. The second research question is related to the similarities between the two observed documents, and it is evident that there are similarities in the areas: Application of knowledge about the world, Critical thinking, Forming an opinion on a global problem, Development of attitude on global issues, Media literacy. The most similarities were shown in the field of critical thinking, which in this case can be considered the strongest link between these two documents.



In some areas of global competitions, it turned out that there are no links between documents: Development of attitudes on cultural issues, Selection and consideration of appropriate evidence, Data analysis, Argumentation.

One example of a very successful country on the Pisa test is China. Although their system is hierarchical and abounds in external evaluation exams, only the results are important here, and education is usually reduced only to preparation for passing these exams. This system is extremely successful in terms of developing global competencies, but scientists still consider it deficient in many areas (Kennedy, 2013; Zhao, 2014). Self-regulation of learning is one of the central concepts of the competence Learning how to learn. It includes three processes: *self-observation*, *self-evaluation*, and *self-reaction*. These processes are interconnected, interwoven and are mostly related to the goals to be achieved. They serve us as criteria for self-assessment of our own behavior and progress (Bandura, 1986; 1988). Students should be given tasks that include observing and reacting to their own work. This expectation of consequences will increase students' motivation, and this is what social cognitive theory tells us (Lončarić, 2014). Knowledge changes through history and different circumstances, so it is much more important to work on developing skills. It is necessary to develop students' willingness to be able to adapt to the changes that constantly surround them (Slunjski, 2015), student should understand the relationship between knowledge and use that relationship to understand and respect other people and their cultures and knowledge (Tatković, Diković and Štifanić, 2015). Students need to develop the skill of understanding what they are learning and that they need to connect and organize the information they have into different units, and monitor their own learning (Woolfolk, 2016). Learning how to learn is much more important than learning information. Letina (2020) indicates the importance of using inquiry-based teaching contributes to the development of lifelong learning skills, which is especially important for and is achieved by involving students in research activities.

The development of global competences is also reflected in the development of the flipped classroom method, which has been developing more and more recently with the accelerated development of digital conferences. This method puts the student in the center and requires him to prepare and independently acquire knowledge before coming to class. Class time is only used to apply that knowledge (Chis et al., 2018). To achieve this, it is necessary for students to have developed many competencies that fall under the concept of global competencies, and this must be worked on from the beginning of their education. Kim (2018) shows that this method contributes to the development of time management competence and does not negatively affect student satisfaction. Reimers

(2017) emphasizes the need to systematize the development of global competencies through curricula at all levels of education.

The determinants of the reform to take root as successfully as possible in everyday teaching work, educational staff were offered cross-curricular topics that are realized by connecting educational areas and continuing topics of all teaching subjects. These are topics of general human values aimed at developing competencies for the 21st century. In accordance with the aim of the research, attention will be focused on the interdisciplinary topic Learning how to learn.

## Conclusion

The most common criticisms of the modern educational system are that it does not meet the needs of today's students, that students do not understand the purpose of learning, and that they are passive recipients of teaching content. Schools should represent an educational community of students, teachers and parents that prepares students for real life and trains them to become productive and responsible members of society in the 21st century. Therefore, it is necessary for the school to harmonize its activities with the existing social, economic and political context. The aim of this paper was to investigate in what extent and in which segments the curricular reform of the School for Life, i.e. the cross-curricular theme Learning how to learn (first and second educational cycle) contributes to the development of the global competence Consideration of problems and situations of local, global and cultural significance. Analysis of the matrix determined the existence of many links between the observed documents. The strongest link is in the field of critical thinking, which is actually one of the most important complex skills that students will greatly need in the future. Some areas in which there are no links were also shown here, which leaves opportunities for progress in the development of the curriculum in the future, especially in the area of the development of argumentation and data analysis.

The results of this research can be used by experts in the field of upbringing and education, but also by educational policy holders as guidelines for redefining existing curricula with the aim of developing global competencies for the 21st century. In accordance with this, it would be interesting and scientifically justified to investigate the remaining educational cycles for elementary and secondary schools on the cross-curricular topic Learning how to learn.

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## FINANCIAL LITERACY – GLOBAL COMPETENCE OF THE 21ST CENTURY

Mirna Mikić, Mihael Puljić

PhD students of Postgraduate program of Pedagogy and  
Culture of Contemporary School  
Faculty of Humanities and Social Sciences Osijek

### Abstract

One of the important competencies of a young people is financial literacy, which can be more precisely defined as a combination of skills, knowledge and attitudes necessary for making correct financial decisions. The global financial crisis drew attention to the problem of inadequate management of household personal finances and as such led the competent institutions to start thinking about it.

How low is the financial literacy of Croats and how necessary is the financial literacy of young people, says the research conducted for Croatia in cooperation with the IPSOS agency, in which the Croatian Financial Services Supervision Agency (HANFA) and the Croatian National Bank (HNB) conducted a survey of financial literacy in the Republic of Croatia. The results showed a low rate of financial literacy among Croats.

From 2015 to 2020, a number of activities were carried out as part of the Action Plans for the Improvement of Financial Education. With the introduction of the Inter-Curricular Topics curriculum, students should acquire basic knowledge and skills related to financial literacy. They should master and learn how to behave responsibly towards money and how to dispose of it.

Various financial institutions, associations and societies contribute to the development of financial literacy with their competitions and advice: Štedopis, Institute for Financial Education Zagreb is an association that teaches young people how to manage their money and how to start their own business; Libera, a humanitarian association, was founded with the aim of hiring and writing various projects and mentoring future entrepreneurs; The Croatian Association of Banks held a competition for the best educational programs of primary and secondary schools in the field of financial literacy on the occasion of celebrating the World and European Money Day; The Economic Clinic implements the project "Financial Literacy of Elementary School Students" through education on basic financial and economic concepts, etc.

Awareness of the development of financial literacy among young people in Croatia is present, but a long-term strategic plan and a lot of effort and investment in education are needed in order to achieve productive goals.

**Keywords:** financial institutions, education, financial literacy

## Introduction

The term financial literacy means basic knowledge of finance, its application and ways of management. Timely introduction and integration of financial literacy into educational institutions helps create young professional people who know how to manage money at private and business level. In times of crisis, it is essential to ensure financial stability and family welfare. The importance of individual knowledge and skills in financial management contributes to business and private success. Prudent financial management is a topic that needs to be learned from an early age. Only a financially literate person can make more intelligent and prudent decisions about personal, family and business finances, financial products and services they lead in life.

Financial literacy also affects family stability. When it comes to personal finances, financial literacy should help an individual better assess and manage money. Having adequate financial knowledge acquired through financial education minimises the risk of a financially unfavourable situation for the individual and the entire community (Tomčić, 2020). Unless the necessary knowledge and skills of personal financial management have been acquired and self-control is not present, it can often become a major financial problem the moment the individual gets the first money (Vrbošić and Grgat, 2014). Most people learn how to manage money through life experience school while only a minority of the population learns through their own education.

Despite the use of financial products/services, Croatians have not yet reached a satisfactory level of financial literacy. This is why efforts have been made in Croatia in the last ten years to integrate financial education into the education system, and the best example is the adoption and introduction of the curriculum of the cross-curricular topic Entrepreneurship in schools. By introducing the cross-curricular topic, Entrepreneurship gave students the opportunity to learn about responsible and active participation in society, personal and business finance management and the development of entrepreneurial thinking in everyday life. Within the cross-curricular topic of Entrepreneurship there are three domains and one of them is Economic and Financial literacy. Learning about making proper financial decisions, willingness to take reasonable risk and risk management are ways in which young people will implement entrepreneurial competences, knowledge, skills and attitudes necessary for preparation and participation in the world of work.

## Concept of financial literacy

The interest of researchers and the public in this interdisciplinary topic grew suddenly after the financial crisis that hit the world in 2008. It was a sovereign debt crisis in the United States that quickly spread to the rest of the world, bringing other nations into financial difficulties (Barbić, 2018). After various research on this topic, it turned out that the trigger of the financial crisis was partly caused by the lack of financial literacy of most citizens (Chlouba, Šimkova and Nemcova, 2011). Domestic researchers of this topic have partly transferred the blame for the financial crisis on citizens who, due to lack of interest, poor knowledge of financial products or services and ignorance, contributed to the emergence and spread of the crisis (Tomčić, 2020:4).

For the concept of financial literacy, the definition of the Organisation for Economic Cooperation and Development (Organisation for Economic Cooperation and Development; OECD, 2011) is most commonly used, financial literacy is defined as a combination of knowledge, awareness, skills, behaviours and attitudes necessary for financial decision-making in order to achieve financial prosperity. The concept of financial literacy usually covers three categories relating to financial knowledge, skills and behaviour. "Financial knowledge is a term that refers to information, facts and skills acquired by an individual through education or experience, or includes both theoretical and practical understanding of financial concepts." (Cvrlje, 2014:3). If we look at accounting and financial professionals, we can see that they have developed excellent financial skills that have developed with financial knowledge. On this track, individuals also need to build on their financial knowledge, developing, learning and perfecting their financial skills. These two categories (knowledge and skills) will ultimately affect the individual's own behaviour. Financial behaviour can be defined as a process in which individuals judge financial knowledge with the aim of making good investment decisions (White, 1999). Or in other words, financial behaviour represents the implications of financial literacy on the behaviour of individuals. A higher level of financial competences reduces the possibility of making poor financial decisions that may adversely affect the individual's future.

Globalisation, innovation, the diversity of financial products and services, changes in economic, social and demographic trends, the achievement of financial prosperity are only some of the important factors that have made financial literacy necessary today. Of all the above, the most important is the successful management of personal finances, which ultimately implies a secure financial future. Volpe, Chen and Pavlicko (1996) found that students of the Faculty of Economics, particularly those who were committed to the direction of accounting



and finance, have more financial knowledge in managing their own finances. For this to be possible to the rest of the population, the OECD (2012:140) supports the global interest in financial literacy as one of the key life skills that today's generations must have. Lusardi and Mitchell (2009) conclude that world governments are starting to appreciate the importance of financial literacy as the key to a well-functioning economy linked to higher returns than investment and investment in more complex assets, which have a higher rate of return such as shares.

## Previous research about financial literacy

The largest number of research on financial literacy so far relates to the adult population, followed by research among high school students and, in the end, somewhat less frequent students. In different countries, the same or similar sets of issues are applied, leading to an overall assessment of financial literacy (Atkinson and Messy, 2012).

Previous researches in the area of financial literacy show significant differences among countries, regions, gender, age and other characteristics. Looking at global research on financial literacy among young people, in one of the studies it is established that only 27% knew about inflation, risk diversification and interest rate calculation. "This study also revealed an important channel through which young people gain financial knowledge, that is parents. In particular, those whose mothers had higher education or whose families had shares or pension savings were more financially literate, in particular on issues relating to advanced financial knowledge, such as risk diversification" (Lusardi, Mitchell and Curto, 2010, according to Krmpotić Primorac, 2020:22). That parents are key in gaining financial literacy is also evidenced by the results of Programme for International Student Assessment (PISA) 2012 and 2015, which show a link between the financial literacy of high school students and the financial situation of their families. Ultimately, this leads to differences between high school students and aims to prevent them by establishing financial subjects in curricula, in order to provide equal opportunities for acquiring financial knowledge to those who are unable to obtain it at home (OECD, 2012, 2015). Chen and Volpe (1998) conducted a comprehensive study of students which confirmed that the correct financial decision would be made by those students with a higher level of financial knowledge. This hypothesis was confirmed by Peng, Bartholomae, Fox and Cravener (2007), who pointed out that the audited financial courses have a positive impact on financial knowledge in students, but not in high school students. This research found that students are a better audience for educating



on financial literacy because they are more aware of personal responsibility for financial management than high school students.

The most significant research for Croatia was carried out in cooperation with the agency IPSOS in which Croatian National Bank (CNB) and the Croatian Financial services Supervisory Agency (HANFA) conducted a study in Croatia, which included citizens between the ages of 18 and 79. The study was structured according to OECD testing methodology and carried a maximum of 21 points. Croatians scored 11.7 points on average, with the younger population (under 19) achieving the worst results of only 9.3 points (HANFA, 2016). Based on the examined level of financial literacy of citizens, the need for financial literacy has been established. There was a need to organize and implement comprehensive financial education for all citizens, ranging from children to the elderly. It was crucial to adapt education for each target group, to encourage citizens' accountability towards the use of financial products and services, and to encourage savings and efficient management of family or personal finances. On this basis, the Ministry of Finance has developed the National Strategic Framework of Consumer Financial literacy for the period 2015-2020. Its aim is to financially educate the citizens of the Republic of Croatia through formal and informal education (Vlada Republike Hrvatske, 2015). At the end of this project, i.e. in 2020, a new survey was conducted according to the same principle as in 2015, and it was found that the level of financial literacy of consumers of the Republic of Croatia was slightly increased compared to 2015. The average rating of citizens of the Republic of Croatia is 12.3, while in 2015 it was 11.7 out of a possible maximum of 21 points (OECD, 2020).

It was observed that there is a lack of more research examining the determinants of financial literacy. One such study shows that financial behaviour is an important determinant of financial literacy (Barbić, Lučić and Chen, 2019). Research of Vehovec, Rajh and Škrebilin Kiriš (2015) indicates that differences between respondents can be explained by socio-demographic variables, while the Škrebilin Kiriš, Vehovec and Galić survey (2017) determine the gender dimension on financial literacy. This study found that it is in line with the results of world research, while the study of Vehovec at all. (2015) showed gender and age differences in overall financial literacy (knowledge, attitudes, behaviour), but not subcomponents of financial attitudes and behaviour. The gender differences in financial literacy were confirmed by Bahovec, Barbić and Palić (2017) with a similar pattern was demonstrated "also for the relationship between employment status and the size of the place of residence and financial literacy. Namely, employees and participants from larger cities achieved better results on general financial literacy and subcomponents of knowledge, but not on financial attitudes

and behaviours." (Erceg, Galić and Vehovec, 2018:296). Of the other determinants affecting financial literacy, age, level of education and level of income were also investigated, which showed that as they grew, financial literacy also grew (Bujan, Cerović and Samaržija, 2016).

## Financial literacy projects in Croatia

Financial education in Croatia is mainly conducted non-systematically. The most significant contribution so far is reflected in the projects of various associations which, due to their own limitations, predominantly include smaller target groups and thus may additionally create even greater differences in financial literacy levels in Croatia (Balen, 2017). For example, so far there is a lack of material to implement this type of education at the primary school level. The educational staff do not have the opportunity to listen to professional training in this field, and therefore the connection of practical experiences at the state level is lacking, and the involvement of parents in financial literacy projects is only in its infancy.

Future employers and representatives of the economic sector should also be involved in the financial education process, which will further strengthen the link between the education sector and the labour market. Financially educated individuals can influence market stability and long-term financial stability and the well-being of society through sound decisions and thoughtful reactions. Given that financial literate individuals directly contribute to economic growth, self-employment, the creation of new products and ultimately job creation, financial literacy is interdependent with the labour market (Balen, 2017: 25-26).

Looking at the financial literacy of high school students in the Republic of Croatia, a number of activities were carried out during 2015-2020 as part of the action plans for improving financial education. In the aforementioned action plan, apart from various activities, a special category consists of educational activities related to financial literacy such as: conducting lectures, educational workshops, educational campaigns in the media, conducting practical trade learning – through online simulation, conducting e-learning "smart with your money" and conducting different quizzes of knowledge<sup>1</sup>. The most important projects for high school students are the project "Financial literacy for continued education" (IRO, 2018, according to Tomčić, 2020), textbook for high school students "My money, My future" (Štedopis, 2020), and the adoption of the curriculum of the cross-curric-

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<sup>1</sup> Report on the implementation of the Action Plan for improving consumer Financial literacy 2017, available at: <https://mf.gov.hr/UserDocsImages//dokumenti/fin-sustav/IZVJE%C5%A0%C4%86E%20AKCIJSKOG%20PLANA%20ZA%202017.%20NACRT.pdf> (16.9.2022.)

ular topic Entrepreneurship within which one domain relates to Financial literacy (Ministarstvo znanosti i obrazovanja, 2019). Apart from the forementioned projects, the Government has implemented and continues to carry out numerous other activities through its public bodies and state organisations.

## Cross-curricular topic entrepreneurship

Decision on the adoption of the curriculum for the cross-curricular topic Entrepreneurship for primary and secondary schools in the Republic of Croatia (Ministarstvo znanosti i obrazovanja, 2019) topic of entrepreneurship is defined as cross-curricular but it is not possible to determine more precisely how this will be implemented in practice. This topic includes the creativity of teachers and teachers, their innovation, their ability to plan, organise and manage projects to achieve objectives. This implies connecting the school with the economy, labour market and local or regional self-government, but there is still no indication of how to achieve this. A sense of entrepreneurial knowledge, skills and attitudes, according to the curriculum, should develop in the early stages of socialization from kindergarten age onwards (Primorac Krmpotić, 2020:191). The educational system should encourage the process of acquiring entrepreneurial opinion and activities from the earliest age, and communication between educational professionals and pupils should be open. Students should learn about active and responsible participation in society and recognise that learning for entrepreneurship in the future implies better living opportunities and perspectives. The curriculum defines the purpose of learning and teaching this topic as the development of entrepreneurial competence by acquiring entrepreneurial knowledge, skills and attitudes necessary for preparation and participation in the world of work. According to the curriculum, a student should, for example, develop organisational and managerial skills, decision-making capacity, develop communication skills, create solutions, develop financial literacy, behave socially responsibly. Primorac Krmpotić (2020) states that the domains Economic and Financial literacy serve to introduce students into the world of work and finance, acquire and distribute results - implies awareness of financial opportunities and risks and the ability to collect the necessary information and make decisions on the selection of financial services according to personal needs.

## Global competence = financial literacy?

PISA (2018), for the first time, in addition to reading, mathematical and natural literacy, tested the overall competences of pupils, which also include the inno-

vative concept of literacy, which is seen as the ability of pupils to apply knowledge and skills and analyze. It also implies addressing real life problems such as personal financial management, household budget or loan repayment. On the other hand, global competences (PISA, 2018) cover knowledge, thinking skills, social skills and value systems, so education for global competences can help to create generations that take care of global problems and successfully tackle social, political or economic challenges. In addition to the core test areas, each cycle of PISA research also examines students' knowledge and skills in additional innovative areas such as financial literacy, problem solving. Furthermore, PISA is trying to answer important educational questions such as: How well does school prepare students to face the challenges they will face as adults? Will they succeed in coping with sudden social changes in future life? Will they be able to learn continuously throughout their lives? Given that financial literacy is the ability to make responsible and correct financial decisions in real life circumstances, financial education is a lifelong process by which we adapt to new and different contexts in which we live for a reason.

## Conclusion

Efforts have been made within the education system since 2015, primarily by various associations, aimed at raising the level of financial literacy – primarily student groups. The awareness that young people are faced with money from an early age, and that little is known about money, and that it is rarely discussed in family, school, university, is supported by the results of PISA research. A poor picture of the financial literacy of young people in Croatia, showing that high school students are not able to make the right financial decisions and that the financial education of young people is necessary. PISE recommends as soon as possible and intensive training of the Croatian educational staff with the aim of acquiring financial competencies as part of global competencies. It is the training of the educational staff that will help to transfer knowledge to young generations. The aim of the education is to contribute to the fiscal education of children and young people, and to reduce future tax evasion through their early training and prepare young people for the role of taxpayers. Introducing financial literacy in primary and secondary schools through the curriculum of the cross-curricular topic Entrepreneurship is an important step towards changing the situation so far. By adopting entrepreneurial competences, young people become competent and entrepreneurial and ready to make changes and take positive financial risks in their lives. They have developed organisational and managerial capabilities and knowledge of decision-making on the selection of financial services accord-

ing to personal needs. Molded on previous global experiences, the need for the introduction of financial education has been recognized in Croatia. In 2015, the Government of the Republic of Croatia adopted the National Strategic Framework for consumer Financial literacy for the period up to 2020. This was the first step towards a better future for financially literate citizens who will have a more positive impact on the economic situation at national level through valid financial decisions. To make these initial steps more visible and manifest themselves in the level of financial literacy, there is currently a lack of systematic implementation of financial education and continuity. Presently, in the educational system, students encounter concepts of financial literacy within the cross-curricular topic of Entrepreneurship within which different project activities are carried out in practice. In the end, Croatia has the opportunity, like other countries in Europe and around the world, to conduct financial education, but the question is whether it has an interest in practical implementation of this type of education. Financial literacy is recognized as a need of modern society, currently implemented by various associations, and whether there will be a more serious momentum in the implementation of financial education is yet to be seen.

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## PRIMARY TEACHERS' AUTONOMY IN THE SELECTION OF LITERARY WORKS FOR ASSIGNED READING AS A FACTOR IN THE DEVELOPMENT OF GLOBAL COMPETENCIES

Marijana Škorić, Sanja Milković Šipek

PhD students of Postgraduate program of Pedagogy and  
Culture of Contemporary School  
Faculty of Humanities and Social Sciences Osijek

### Abstract

The aim of the research was to examine primary teachers' autonomy in the selection of assigned reading literary works as a factor in the development of global competencies. A qualitative methodology was used, four focus groups were conducted on a convenience sample of primary school teachers. The questions for the teachers were divided into three parts: assigned reading literary works, global perspectives in children's literature and the role of children's literary works in the development of global competencies. The results showed that teachers emphasize the composition of the class and the emotional and intellectual experience of pupils as an important criterion for selecting literary works. They link the visual, content and linguistic adequacy to the pupils' chronological age. In the first and second grade, reading skills are important, while in the third and fourth grade more attention is paid to the pupils' interests. Although teachers are not fully familiar with the concept of global competences, some examples from their teaching practice that encourage the development of some global perspectives of pupils are cited in the discussion. Additionally, teachers point out works that can be linked to areas of global competence development, as well as teaching methods that encourage the development of attitudes and values of global perspectives. They estimate that they have sufficient autonomy in the choice of literary works, they cooperate with librarians and listen to the needs of pupils. Teachers conclude that school and local libraries correspond to the needs of pupils in their communities. They feel that reading literary works should encourage awareness of problems, as well as dealing with problems in a way appropriate to the age of children. Teachers express their readiness to introduce a larger number of literary works with such topics, considering assigned reading literary works as a factor that could contribute to the development of pupils' global competencies. Regarding the research method applied and the size of the sample, the obtained results represent the basis for more extensive research on the connection between assigned reading literary works and the development of global competencies.

**Keywords:** teachers, global competencies, children's literary works, focus group

**JEL Classification:** I21, I29

## Introduction

Reading unabridged literary works as assigned reading is one of the basic components of learning and teaching the subject area of literature in Croatian language classes. According to the curriculum of the school subject Croatian language for primary schools and high schools in the Republic of Croatia, reading stems from the dual purpose of teaching literature: on the one hand, it enables the development of cultural literacy, on the other hand, reading literary texts opens new perspectives for reflection on the world, oneself and others. (Ministry of Science and Education, 2019). Teaching new generations of students, and the contemporary curriculum present teachers with numerous challenges, therefore teachers often find themselves in situations which require a high level of competence. Gardner (2007; according to Dimitrieska and McClain, 2020) states that teachers' role is to adapt the educational experiences of their students so that they engage in stronger, more relevant and transformative learning in order to meet the demands and opportunities of the accelerated development of modern society. One such challenge is the inclusion of diverse literature in classes, creating interest, and encouraging the desire for reading. Reading contributes to the development of society and affects every individual, enriches interests and emotions, develops imagination and empathy, and builds attitudes. Jurdana, Kadum, and Lovreković (2021) pay special attention to the literary works that pupils read in the lower grades of primary school, because this is precisely the time when love for books and reading develops in students. Vranjković (2011:205) states that assigned reading classes enable the youngest students to experience the freedom and joy of reading in a special way, which in the future will result in better developed reading habits and enhanced ability to read literary works. Lučić-Mumlek (2000) highlights the teacher as a person with a highly developed reading culture responsible for encouraging and directing the youngest readers into the reception of a literary work and communication with a literary work.

In the last two decades, the promotion of autonomous behaviour in the field of education has been increasingly intensified. In his paper, Cárdenas Ramos (2006) highlights several authors who defined autonomy, with Allwright (1990:12) viewing autonomy as a constantly changing, but at all times optimal state of balance between maximum self-development and human interdependence. Littlewood (1997:428) defines an autonomous person as one who has the independent ability to make and implement choices which govern his or her actions. Thavenius (1999) refers to autonomy as the ability and willingness of teachers to help students take responsibility for their own learning. In this sense, teachers should contemplate their role and find ways to adapt to the new roles of students



to help them on their way to autonomy and independence. It is desirable that the teacher can decide and act on their own and that they accept themselves as an autonomous professional, free from the control of colleagues, institutions or the educational system. According to Cárdenas Ramos (2006), autonomy can develop and can only be present in some aspects of an individual's life. Individuals can be autonomous to varying degrees, and some research shows that age and maturity have an impact on the level of autonomy. There are many other points of view on this concept, but as the main and necessary components of autonomy in any field of activity, responsibility, awareness of one's own needs, motivation, critical thinking, self-evaluation, and a certain level of freedom can be singled out. Han (2020) writes about language teacher autonomy as the teacher's flexibility to deal with external and internal constraints for the benefit of lifelong learning.

Contemporary literature brings the quality of education into context with the growth and development of society as a whole, while the changes and development of all areas of human activity in the last 20 years emphasize the need for global education. Contemporary teaching emphasizes the importance of linking content across subjects and encourages the processes of acquiring knowledge and learning through creative activities based on the development of global competencies. Precisely such a globally focused curriculum is based on the inclusion of students in their own learning, motivates them to strive for knowledge and understanding, and prepares them for life in a new, rapidly changing environment. According to PISA's conceptual framework, global competences are not specific competences, but they are a combination of knowledge, skills, attitudes, and values which are successfully applied in direct, virtual or mediated encounters with people of different cultural background or in engagement with global issues. According to Markočić Dekanić, Markuš Sandrić, Gregurović and Elezović (2018:32), globally competent people are able to consider local, global and intercultural issues, understand and respect different points of view and worldviews, successfully and respectfully engage in interactions with others, and act responsibly with a view to sustainability and collective well-being. Concern for the environment, economic developments, global poverty, population growth, human rights and political conflicts are part of global issues and require thoughtful action, and global competencies encourages students to research, consideration of different perspectives, communication of ideas, undertaking meaningful actions, critical thinking, and development of empathy and awareness of the influence of culture on individual behaviour and world events. Trilling and Fadel (2009) accentuate that education plays four universal roles on the stage of social development, that is, there are four goals that we expect our

children's education to fulfill. It empowers us to contribute to work and society, exercise and develop our talents, fulfill our civic responsibilities, and pass on values and traditions to new generations. In contemporary society, these goals also include a global dimension which should create lifelong learners and prepare them for the challenges of modern life. According to Parmigiani, Jones, Kunnari and Nicchia (2022), global competences have become increasingly important in today's society, and future teachers will have to be able to teach effectively in multicultural classrooms and develop global competences in their students. One of the consequences of globalization is the increased intensity and frequency of intercultural communication. Zhao (2010) claims that as social activities become global and multinational, so does the need for such education grow. Tischler (2007) highlights that teachers in the system of lifelong learning have an important role in educating their students for lifelong learning, which also includes the professional development of teachers. Since the development of personality is necessarily dependent on freedom, and freedom is nothing but the possibility of independent action, it follows that the autonomy of teachers, i.e., the independent action of teachers in education, is precisely the condition for their personal and professional self-development. Therefore, the quality of the educational process, which is dependent on the knowledge and skills of the teacher, cannot be achieved by directive requirements which exclude autonomy. Stoll and Fink (2000) point out that schools should be able to meet the demands and challenges of society and that the patterns of traditional cultural reactions are no longer adequate. In this sense, Yoon (2022) highlights children's literature as an important resource for solving the need for global education and presents an analysis of contemporary children's picture books which were published in the USA from 2010 to 2016. The results show that contemporary picture books reflect several important elements of global education, while at the same time there is an imbalance between topics and genres. Global awareness of environmental protection issues is emphasized through informative texts, while transnational stories about connecting individuals as citizens with other people around the world are missing. In their research with classroom teachers, Karanikola, Katsioli and Palaiologou (2022) emphasized that all participants recognize the significant role of schools in the development of global and intercultural competences and understand the importance of these competences for the progress of modern society. Dimitrieska and McClain (2020) report on Global Literacy Invitations (GLI), a project on learning based on picture books with global topics. The teachers who were involved in the project emphasized the benefits of using global picture books for a deeper understanding and appreciation of both culture of others as well as students' own culture.

Teacher autonomy refers to the professional independence of teachers in school in the sense of them independently making decisions on what and how to teach students. The autonomy of teachers in the school system can be interpreted in several ways. Referring to the global dimension of education, this paper will examine the ways of selecting literary works for assigned reading and the attitudes and experiences of classroom teachers in the selection of literary works as a factor in the development of global competencies.

## Methodology

### Research Aim

The aim of the research was to examine the autonomy of classroom teachers in the selection of literary works for assigned reading as a factor in the development of global competencies.

### Research Questions

1. How do teachers select literary works for assigned reading?
2. Do teachers feel prepared to use multicultural literature which presents global perspectives to students?
3. What literary works and work methods for analyzing literary works do teachers use to develop students' global competencies?

### Procedure

A total of four focus groups were conducted in the research with 28 participants taking part in them. The sample consisted of 27 female and one male respondent. The focus groups were conducted in primary schools in Čepin (N=7), Osijek (N=6), Suhopolje (N=7) and Virovitica (N=8), where an effort was made to include two larger and two smaller communities. The focus groups were conducted during the school holidays in 2022. Focus groups were conducted on a convenience sample of classroom teachers who are well acquainted with the topic of literary works for assigned reading, motivated to participate in the research, communicative and open. The number of focus groups was determined by reaching theoretical saturation. Many authors (Ando, Cousins and Young, 2014; Guest, Namey and McKenna, 2017; Skoko and Benković, 2009) state the importance of theoretical saturation as the primary method for determining sample size in

qualitative research. They define saturation as the point of saturation at which no additional topics can be found from the analysis of consecutive data related to the categories which are being researched.

**Table 1.**

*Display of the sample structure*

Year to which they teach	N
1st	6
2nd	8
3rd	7
4th	7
Length of employment (years)	N
1	1
2 - 5	6
6 - 10	4
11 - 20	5
21 - 30	8
longer than 31	4

\*N – number of participants

The moderators of the focus groups were the authors of the paper, a classroom teacher and a psychologist, who had previously prepared for working with groups. The discussion was guided according to a predetermined conversation template. The interview template was composed of three thematic units:

1. Literary works for assigned reading
2. Global perspectives in children's literature
3. The role of children's literary works in the development of global competencies.

All four groups were asked all questions in thematic units in the same way. Group discussions lasted for about 90 minutes and were conducted in school premises. In order for all the participants to see each other well and communicate more easily, they were sitting at tables arranged in a circle. An audio record of the discussion was recorded with a mobile phone after all participants had given their permission to be recorded. Participants were explained that transcripts would be made from the audio recordings, which would be used exclusively for research purposes. The participants were informed of the possibility of withdrawal from the discussion at any time. Based on the minutes and audio recordings, the moderators made a transcript of the discussion. The responses of the participants were coded according to the transcript.

## Results and discussion

The discussion in the focus groups was guided by a template which contained three thematic units described in the procedure.

### Literary works for assigned reading

Within the first thematic unit, the participants were asked about their criteria for selection of literary works, students' ability to freely choose literary works, and how well the school library meets the needs of students. Gabelica and Težak (2017) propose several criteria according to which an individual literary work can be chosen: (1) Criterion of the literary and artistic value of a certain work; (2) Criterion of adaption of the approach to the literary work according to the experiential-cognitive capabilities of the students; (3) Criterion of correlation with the school programme; (4) Criterion of diversity; (5) Criterion of student taste; (6) Criterion of book availability.

**Table 2.**

*Focus groups participants' criteria for selection of assigned reading literary works*

Criteria for selection of assigned reading literary works
1. Emotional experience and intellectual maturity of students
2. Visual, content and linguistic appropriateness to the chronological age of the students
3. Reading skills of the students
4. Students' interest
5. Composition of the class
6. Educational issues
7. Correlation with cross-curricular topics
8. According to the library fund

The results have shown that the teachers emphasize the composition of the class and the emotional experience and intellectual maturity of the students as important criteria for selecting literary works. They link the visual, content, and linguistic appropriateness to the chronological age of the students. In the first and second grades, reading skills are significant, while in the third and fourth grades more attention is paid to the students' interest. The results show the tendency for teachers to put students in the centre, that is, to be guided by the criteria of students' experiential-cognitive capabilities, students' tastes, the diversity of the class composition, and to correlate literary works for assigned reading

with the school curriculum as well as with the availability of books. Focus group participants were familiar with and applied the pedagogical principles of selecting literary works for assigned reading, which is in accordance with the results of research by other authors (Jurdana et al., 2021; Vranjković, 2011).

Within this topic, the participants of the discussion were asked whether students had the opportunity to freely choose literary works, and which works they chose most frequently. The participants answered that the students had the possibility to independently choose a literary work for assigned reading (*"Apart from this regular assigned reading, I certainly have readings chosen by the students twice a year, so they can read any book, and we have it during the summer, we call it "summer reading", also, according to their preference, they choose their favorite book that they have read and then present it to their friends."*), but they also mention organizational limitations (*"Well, last year I was in a branch school and then when a child would come and I noticed some interest, let's say one child was interested in dinosaurs, and then I asked him if he wanted me to go to the library and borrow some book on dinosaurs. And then I saw with the librarian what would be most appropriate and that's how I solved it."*).

The participants point out the following organizational limitations when it comes to students' independent selection of works for assigned reading: branch schools do not have constant access to a large school library, teachers bring students books that the teachers had chosen, and students choose from those books which are currently available; during the COVID-19 pandemic students could not freely go to the school library, but librarians delivered books to them; students who show interest in reading, and the school library does not have books for which students show interest, so teachers instruct them to join the local library.

According to the answers of the participants, the students most frequently choose short books with a lot of illustrations, picture books, fairy tales, plays and humorous poems. Students choose short stories and novels the least frequently.

Futhermore, the question of how well the school library responds to the needs of students was raised in the discussion. Most participants point out that the library is well equipped, but they also highlight the importance of good cooperation with librarians. Focus group participants in smaller communities describe the lack of library equipment with newer titles which would meet the needs of students to read literary works with more contemporary topics.

The participants of the discussion describe different ways of ensuring the availability of books which they do not have in physical form in the school library (*"The library is quite well equipped. The people who work in the library are perfect, all school*

*children have free membership in the local library. The 1st graders go to a group introduction to the library and get membership cards there. The school library is equipped and satisfactory, and if there are not enough copies, the librarian sees to that and puts them in pdf and we have class Teams if we don't have enough copies or if we don't have any at all, although this is rare.”; “Our librarians have a good cooperation with the city library, so if we don't have books, they get them from the City Library. I believe this cooperation is called Books that move to make others happy.”; “We always cooperate with the librarian, and she always asks us to suggest if we have something so... but unfortunately we don't have the opportunity to equip ourselves with everything. And it often happens, if a colleague borrows a book, for example, one has to wait for a month, and whether there are enough books so that is a little...and the choice also depends on that. It's not down to the librarian, nor to the school, but apparently to... I don't know who actually gives money for those books, so that there isn't enough money for the basics.”).*

Teachers estimate that they have sufficient autonomy in the selection of literary works, they cooperate with librarians and listen to students' needs. They predominantly conclude that school and local libraries meet the needs of students in their communities. They also rely on books which are available in electronic format, which they access independently or with the help of school librarians. According to Tischler (2007:297), an autonomous teacher, who acts with a positive attitude towards lifelong education, is interested and engaged in the overall circumstances of education and is ready to argue the interests of education for creativity, which is the result of understanding the cultural importance of education. The school library is a place of partnership between students, teachers, and librarians.

Kovačević, Lasić-Lazić and Lovrinčević (2004) highlight the school library as the foundation for understanding the educational process of each school and as a space which enables each student to realize their personal learning space. Teachers from a school in a smaller community in which the socioeconomic status of the parents and the municipality is weaker, describe the poorer equipment of both the school library and the local library, as well as a lower interest of both children and parents in reading literary works, especially those which are not compulsory but are given to the students to choose from.

## Global perspectives in children's literature

In the second part of the focus group the discussion was focused on global perspectives - that is, connecting with the rest of the world, experiencing oneself as a member of a wider community of people which goes beyond the boundaries



of one's own village, town or country, encounters with other cultures, personal actions which is reflected on the rest of the world. According to Hanvey (1976), global topics in literature are presented through 5 dimensions: awareness of different perspectives within the world; awareness of the planet; intercultural understanding; awareness of dynamic systems in global contexts, and understanding of choices made by human beings.

The participants were presented with the PISA survey from 2018, in which, in addition to reading and mathematical literacy, global competencies were examined for the first time. The moderators pointed out that the focus group explores the ways in which students' global competencies can be developed, and one of the ways is to use works for assigned reading with topics which offer students a global perspective. A discussion began about the implementation of multicultural assigned reading in the class. The participants were given a description of multicultural literature in order to have a clearer idea of what it is about and to try to relate the literary works for assigned reading with the topics present in this type of literary works. According to the authors Boyd, Causey and Galda (2015), the focus in multicultural literature is on the topics of race, ethnicity, language, culture, disability, family structures, sexuality, gender identity, socioeconomic status, religious practices and dialect differences. They further highlight that the main focus is predominantly placed on race, ethnicity, culture and language, which means that other forms of diversity, such as gender, sexuality, socioeconomic status and religion, are shown very rarely.

A discussion was encouraged among the participants about the implementation of multicultural works in their work with students. All participants unanimously advocate the position that such works are not sufficiently represented among literary works for assigned reading. They consider this to be an area of cross-curricular topics which are most often represented in class teachers' lessons or through school projects (*"The school has a role to guide students in creating those experiences and developing those competencies. A Christmas Fairy Tale by Nada Iveljić - celebration of Christmas in different countries and customs; I think that is too little considering what would be asked of us; I think that in our assigned reading books it is not represented enough. School project: major holidays of other religions in our country, but that has nothing to do with the assigned readings; we do this through cross-curricular topics, but not in the readings themselves, in the class teachers' lessons; it is represented in the texts of the readers, but not necessarily in the assigned reading books."*). In Croatian language classes, these topics are most often encountered in readers and give teachers the opportunity to lead a discussion with the children on one of the suggested topics. Some of the participants have no idea whether there are such books in their library collection.



Furthermore, the authors opened a discussion about the readiness of classroom teachers to deal with the differences between people in these areas through assigned reading literary works. The majority of teachers showed willingness to deal with these topics, which requires them to have a more extensive preparation in searching for literary works which would match the issue they want to address, as well as the age of the children. There is a tendency for teachers to process these topics within the framework of other school subjects. Teachers conclude that one or two lessons of assigned reading are not sufficient to “extract” from the work everything it has to offer. They find a solution in replacing certain contents of the textbook. The teachers themselves believe that they live in an environment where there are not too many differences between people, and they point out that there is currently no need to cover certain topics, especially through assigned reading, while they are not ready to address some topics in their classes because there is a lack of openness to these topics that they attribute to students. From the responses of the participants, it is possible to see the division in the willingness to deal with these topics, as shown by the following responses of the participants (*“We are definitely ready. Such topics definitely require more extensive preparation for classes, research work by teachers, but I think that multiculturalism is easier to implement through other subjects, but whether we are ready, we definitely are, we just need to work a little more on it, choose those literary works and prepare well for classes.”*; *“Of course, this work is more time-consuming. When we take a week to analyze a piece of writing, then we can base ourselves on certain issues. What we have already said, poverty-wealth, some material values, entrepreneurship.”*; *“I think it depends on the composition of the class. I can currently be quite easy and open about all topics with this class of mine. But, when I remember the previous generation where... I didn't feel that way, although I don't see that I have made any progress, but these children simply... they accept everything better and with them I really think I could discuss all these topics.”*; *“Well, I don't know now, let's say, about these topics when someone has two dads and two moms, I don't know that I could do that with children, what could I tell them and explain to them. We don't have such situations in class now, so I don't see the need to tell them that. Well, I would always seek professional help, either from a psychologist or a doctor, depending on the topic or maybe we have experts among our parents.”*)

The answers of the participants show a similarity with the answers found in other pieces of research by foreign authors. Cade (2019) highlights that teachers are faced with limited time to find and implement multicultural children's literature, limited funding to acquire a high-quality collection, and, in some cases, limited understanding and experience with other people's lives and cultures. Haeffner (2016) also emphasizes the limited resources for teachers, in terms of time and

funding, when acquiring a high-quality collection of multicultural children's literature. Regardless of the limitations, respondents agree that the inclusion of multicultural children's literature in classrooms and libraries is essential to make students feel valued and prepared for a diverse world. Examples of good practice can be found in literature for English-speaking children. Teachers around the world share their experiences in using literary works for developing global perspectives as shown in Table 3.

**Table 3.**

*Websites aimed at sharing experiences of using multinational literature for the development of global perspectives in children*

Source	Website address
IBBY (International Board on Books for Young People)	<a href="http://ibby.org">ibby.org</a>
USBBY (United States Board on Books for Young People)	<a href="http://usbby.org/HomePage.asp">usbby.org/HomePage.asp</a>
WNDB (We Need Diverse Books)	<a href="http://weneeddiversebooks.org">weneeddiversebooks.org</a>
World Savvy	<a href="http://worldsavvy.org">worldsavvy.org</a>
World of Words	<a href="http://wowlit.org">wowlit.org</a>
Kid World Citizen	<a href="http://kidworldcitizen.org">kidworldcitizen.org</a>
The Danger of a Single Story [Video], by Chimamanda Ngozi Adichie	<a href="https://www.ted.com/talks/chimamanda_adichie_the_danger_of_a_single_story">https://www.ted.com/talks/chimamanda_adichie_the_danger_of_a_single_story</a>
Read Write Think Lesson Plans	<a href="http://readwritethink.org">readwritethink.org</a>

Source: Esteves, 2018

Inclusion of multicultural children's literature in lower grades and schools is imperative to help students develop their own identity and understanding of the world. It is preparation for approaching problems from multiple perspectives and advancement for a global future. In addition, it is valuable for teachers and librarians as it helps them prepare students for living in a chaotic, diverse world by highlighting the similarities and differences between people around the world (Esteves, 2018).

## The role of children's literary works in the development of global competencies

As an introduction to the last topic, the participants were reminded that different cultures were touched upon in the discussion through the previous topics, and apart from different cultures, topics which promote the consideration of

local and global issues, financial literacy, human rights, conflict resolution, environmental protection and sustainable development can also be woven through works for assigned reading. By mentioning these topics, the participants were asked whether there is any of this content among the assigned reading works, and if so, in what way do these texts show global perspectives and encourage the development of global competencies. In the discussion, the teachers listed literary works for assigned reading for which they believe to contribute to the development of global competencies, as shown in Table 4.

**Table 4.**

*Assigned reading literary works which contribute to the development of certain dimensions of global competencies*

Issues and situations of local, global and cultural significance	Different perspectives and worldviews	Interaction with people of different national, religious, social or cultural origins or gender	Acting for the purpose of common good and sustainable development
Eko eko	Sijač sreće	Uljudeni vuk	Družba Pere Kvržice
Pismo iz Zelengrada	Hrabrica	Vera među knjigama	Pipi Duga Čarapa
Čudnovate zgrade šegrta Hlapića	Suli u avanturi Grubzon	Božićna bajka Ružno pače	
Vlak u snijegu	Medo koji voli grliti	Bontončić	
Balončica	Ježeva kućica	Ružna petorka	
Jurnjava na motoru	Poštari zeko Brzonogi Gitina briga	Pjev riječi –slikovnica o mucanju	
	Bum Tomica Mama je kriva za sve		
	Dnevnik Pauline P.		

The listed works for assigned reading display a wide range of topics which are further deepened by the maturation of the audience for which a particular literary work is intended. Precisely this thematic diversity, expressed in thematic circles, is highlighted by Rosandić (2005) as one of the criteria for the selection of literary works for students. In the first grade of elementary school, six to eight thematic circles are established: children, animals and plants, nature, parental home, objects, exciting experiences, trips, toys, and the like. The number of topics increases from class to class, thematic circles are expanded, and new levels of interpretation are opened. Genre diversity is expressed in the selection of different types of literary works from all literary genres, which enables the devel-

opment of personality and the development of specific reception and analytical abilities. Solar (1994) discusses literature as a part of life and emphasizes that explaining literary works makes no sense if it does not contribute to the understanding of literary works in the way required by the times in which we live. According to Blažević (2007), assigned reading should primarily set educational and functional goals as its aim: to teach the student to read, to introduce them to the world of literary works, to develop the ability for aesthetic experience and training for logical thinking in life.

In addition to the literary works used by teachers to develop global competencies, Table 5 also lists the methods that the discussion participants use when analyzing assigned reading literary works, for which they believe to be precisely the methods which encourage students to develop the attitudes and values of global perspectives.

**Table 5.**

*The methods used by participants to analyze literary works*

Methods of literary works analysis		
Dialogue	Role-playing	Dramatization
Discussion	Interview with the author	Putting oneself in character's shoes
Making a short film	Creating a comic	Illustrating the book cover
Pizza reading assignment	Reading assignment from a bag	Creating a 3D message
Quiz	Asking questions	Workshop with parents and children after reading the book together

Although the teachers, participants in the research, are not fully familiar with the concept of global competencies, in the discussion they cite examples from teaching practice that encourage the development of some global perspectives of students. In addition, they single out works which can be linked to areas of global competence development, alongside the teaching methods which encourage the development of attitudes and values of global perspectives. They believe that by reading literary works awareness of issues should be encouraged, and that they should act in a manner appropriate to the children's age (*"The only thing that matters is that the student 'clicks' with a book. So, to me this is proof, if the student found one book that will interest them, they will get a lot out of it. The students encourage each other. I have a student whose parents started buying books for him to read, and now he's making his own collection. The other one heard it from him, and he's skittish, then he started reading too. There are interesting reasons why someone started reading. One started because he has the same last name as the writer."*)

An increasing number of different cultures are entering schools, and teachers should promote different perspectives through diverse teaching methods to help students become global citizens. Esteves (2018) discusses children's literature as a powerful tool which can be used across the curriculum to share stories about people and places with students. It can help students appreciate culture as complex and dynamic. In her paper, Iwai (2015) gives recommendations to primary school teachers for using multicultural children's literature in their classes. The author guides teachers on how to model students' positive attitudes toward diversity by selecting high-quality multicultural children's books, planning effective lessons, using multicultural children's books throughout the curriculum, and partnering with the community. Lukaš and Begović (2021:75) state that children's literature is not written just for fun, but also to help children explore and understand the world around them, understand why they do something and how to take responsibility for their behaviour.

## Conclusion

Reading is an important part of a student's education, and a quality selection of literary works for assigned reading is one of the priorities for a contemporary teacher. When choosing literary works for assigned reading, classroom teachers are guaranteed autonomy, which is partially limited by the school's library collection as well as the possibility of cooperation with libraries in the local community. Teachers are finding creative ways to make literary works more accessible to students and are turning to e-books. Although they are not fully familiar with concepts such as multicultural literature and global competencies, they still discuss these contents with the students through the texts from the readers and by addressing such topics in the class teacher's lesson, linking them to the curricula of cross-curricular topics. Teachers single out literary works which can be linked to areas of global competence development and teaching methods which encourage the development of attitudes and values of global perspectives. Considering that some of the participants have experience of using literary works for assigned reading which present global perspectives, their experiences helped other participants to recognize the value of introducing such works in their work. In this sense, it is important to encourage teacher autonomy as the basis of quality pedagogical activity. It is autonomy that encourages the teacher to engage more actively, to reflect and not to accept ready-made solutions. In the contemporary circumstances of institutional education, teacher autonomy is a necessity which stems from the social need for educational creativity, which is the only way to educate for the future. The information gathered through this research can serve

as a starting point and will serve practice only if we continue to supplement it, share it with others and advocate for the recognition of high-quality literature.

## Research limitations

The participants in this research were not chosen randomly but were rather a convenience sample of motivated teachers. The division by gender shows the trend of female dominance in classroom teaching, which corresponds to the population. There is an equal representation of participants from smaller towns and cities, which contributes to generalizability, but the small sample and the representation of participants from only two Slavonian counties, without data from the rest of the Republic of Croatia, narrows the possibility of generalization. Skoko and Benković (2009) point out that the most common criticism of focus groups is precisely the unrepresentativeness of the sample of respondents, but they remind that when using qualitative methods, the results are not generalized to the population in the same way as they are generalized and sampled by using quantitative methods. Corbin and Strauss (1990; according to Skoko and Benković, 2009) highlight that sampling in qualitative methods of grounded theory is carried out by the principle of sampling concepts and indicators, not respondents. In the research of Guest et al. (2017), three to six focus groups covered 90% of the content of the research topics, and three focus groups were sufficient to identify the most prevalent topics within the data set. It can therefore be concluded that the results of the conducted focus groups cannot be considered completely generalizable, but by conducting four focus groups a satisfactory saturation was achieved. The obtained results represent the basis for more extensive research on the relation between literary works for assigned reading and the development of global competencies.

## Empowerment of participants

Although the focus group has many disadvantages for drawing scientific conclusions, one observed advantage should be highlighted, namely the change that occurs in the participants of the discussion and even in the moderators themselves, which can be observed during the discussion itself, but also through the conversation with the participants after the focus group was conducted. Similar conclusions can be found in the papers by other authors. In the research of Goss and Leinbach (1996), the participants experienced emancipation through public speaking, but also due to the development of reciprocal ties with the researcher.

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## POSSIBILITIES AND NEEDS OF THE DEVELOPMENT OF ECOLOGICAL VALUES IN STUDENTS FROM THE PERSPECTIVE OF PRIMARY SCHOOL TEACHERS

Tonka Vekić,  
Dječji dom Zagreb

Janja Lučić,  
Osnovna škola „Mladost“ Osijek

### Abstract

Climate change, disturbed natural balance, environmental pollution and the absence of ecological awareness and ecological values are the causes of the global ecological crisis, which requires the responsibility of modern society and thus education towards the current ecosystem. The crucial role in the development of ecological values in children is played by parents and all educational sections, which is a challenge in direct work with children, where global competencies are developed simultaneously. Therefore, modern curricula should include content and learning outcomes that encourage the development of environmental values. The cross-curricular theme of Sustainable Development encourages the development of generic competencies such as innovation, critical thinking, practicality, entrepreneurship and problem-solving skills. Students' theoretical knowledge and practical activities encourage responsible behaviour towards nature and the entire living environment.

This paper aims to examine the possibilities and needs of the development of environmental values in primary school students from the teachers' perspective. The research was conducted in the 2022/2023 school year, a survey questionnaire was explicitly created for the research, and the participants were classroom teachers. The research results indicate that teachers have opportunities to develop students' ecological values through different contents of teaching subjects and highly value the need for content and topics to develop students' ecological values, but there is still room for improvement. Nevertheless, it is concluded that teachers are aware of their role in developing environmental competencies as part of students' global competencies.

**Keywords:** ecological values, primary school students, teachers

## Introduction

We witness challenging times and living conditions on Earth that change daily. We see the need to develop ecological values in children from an early age, which represents a developmental process of lifelong learning that strengthens responsibility, care for the environment and awareness of a sustainable way of life. Man is a cultural and social being that lives with nature, confirming all educational stakeholders' necessity to contribute to creating a society based on sustainability. Early learning and development of ecological values in children ensures better access and more opportunities to strengthen environmental awareness among students at a later age. The theoretical sources of the development of environmental values among students establish that by harmonizing the needs of teachers and students with today's needs, the quality of the educational system can be directly influenced (Jukić, 2013).

Developing ecological values through education for sustainable development supports the development of global competencies and generic skills. The priority is improving the understanding of sustainability, which implies acting according to sustainable development. According to Husanović-Pejnović (2011), upbringing and education for sustainable development are based on the development of new knowledge, skills, viewpoints and values that create a prerequisite for the formation of consciousness and opinion, that is, the formation of environmental awareness among students. Teachers have the task of thinking every day about ways to bring students closer to the contents that would enable them to acquire knowledge, skills, abilities and develop a critical attitude and opinions necessary to promote awareness for sustainable development. Rakić and Vukušić (2008) point out the purpose of preparing new generations for a sustainable future by shaping awareness and changing their behaviour. Also, classroom teachers have numerous opportunities through regular classes, project classes, extracurricular activities, visits and field classes to develop and strengthen students' ecological values. Anđić (2016) states that teachers present their students with a model of behaviour towards nature and the environment. Therefore, it is necessary to enable and direct learning through direct contact with nature, that is, educational activities oriented towards different sustainability segments.

Namely, the crucial role in the development of ecological values in children is played by parents and all educational stakeholders, which represents a challenge in direct work with children. At the same time, global competencies are developed, including knowledge, cognitive values, social skills and attitudes that develop critical thinking and readiness for future challenges. Bolešić and Vekić-Kljaić (2022) note that educational stakeholders must possess theoretical

knowledge and understand the complex relationships between the environment and the community to be able to acquire skills and apply knowledge in practice. In addition, practicality, innovation and the ability to adapt to changes are generic skills also present during the growth and development of environmental awareness (Ministarstvo znanosti i obrazovanja; MZO, 2019). At the same time, generic competencies are a combination of knowledge, skills and attitudes that are a prerequisite for successful learning, work and life of people in the 21st century and the basis of the development of global competencies that significantly strengthen our sustainable social communities.

The curriculum of the cross-curricular theme of Sustainable Development is increasingly looking for new learning strategies that will meet the needs and interests of the 21st-century student, develop ecological values and generic competencies. Educational stakeholders strive to train students in logical thinking, entrepreneurship, creativity and innovation in order to develop in the direction of the development of a complete person. Furthermore, the student's ability to cooperate in a team is nurtured because without it, there is no sustainable living. So, this research aims to examine the possibilities and needs of students' development of ecological values from the teacher's perspective through the implementation of the cross-curricular theme Sustainable Development as part of regular classroom teaching and through learning and teaching strategies.

## Research methodology

The research aimed to examine the possibilities and needs of the development of environmental values among students from the perspective of classroom teachers through the implementation of the intersubject topic of Sustainable Development as part of regular classroom teaching and learning and teaching strategies. Following the stated goal of the research, the following hypotheses were set:

H1: Classroom teachers consider the cross-curricular topic of Sustainable Development extremely important in the school curriculum.

H2: Classroom teachers use innovative learning strategies when developing environmental values in students.

The research was conducted during 2022/2023. school year. 141 classroom teachers from the Republic of Croatia participated in the research.

For the research, a questionnaire was created that consisted of two parts. The first part of the questionnaire contained questions related to the sociodemo-

graphic data of the respondents, and the second part of the questionnaire contained questions examining the attitudes and opinions of classroom teachers about the development of environmental values among students. The questionnaire was available in digital form, anonymous and the respondents filled it out voluntarily. The obtained data were processed using Google forms with qualitative and quantitative analysis of the questionnaire results.

## Research results

### Sociodemographic data

The research was conducted with 141 classroom teachers in the Republic Croatia. 23 (16.3%) male and 118 (83.7%) female respondents participated in the research. The participation of teachers according to seniority is shown in Table 1. Table 2 shows the number of teacher respondents according to their professional status and promotion, while the third table shows the class the respondents are teaching.

**Table 1.**

*Number of classroom teachers according to years of service*

<b>Years of working experience</b>	<b>N</b>	<b>%</b>
0 – 10 years	30	21.3 %
11 – 20 years	20	14.2 %
21 – 30 years	69	48.9 %
30 and more years	22	15.6 %
$\Sigma$	141	100

**Table 2.**

*The number of teachers according to the status in the profession and promotion*

<b>Class</b>	<b>N</b>	<b>%</b>
Trainee teacher	14	9.9 %
Teacher	73	51.8 %
The number of surveyed primary school teachers who do not have the status of advancement in their profession	87	61.7 %
Mentor teacher	28	19.9 %
Teacher advisor	19	13.5 %
Teacher excellent adviser	7	5 %
The number of surveyed primary school teachers who have the status of promotion in their profession	54	38.3 %
$\Sigma$	141	100

**Table 3.**

*The number of teachers according to the class where they currently teach*

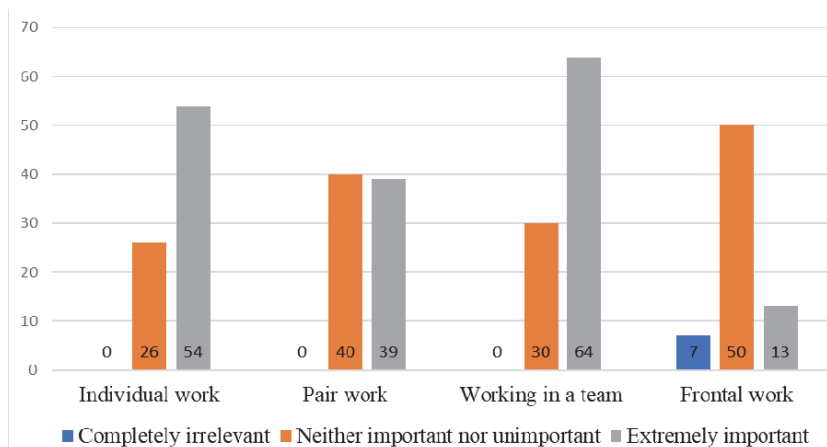
<b>Class</b>	<b>N</b>	<b>%</b>
1. class	24	17 %
2. class	24	17 %
3. class	30	21.3 %
4. class	36	25.5 %
Combined class division	24	17 %
Special class section	3	2.1 %
$\Sigma$	141	100

In the second group of questions, the attitudes and opinions of classroom teachers on the development of environmental values among students were examined.

Respondents assessed the importance of cross-curricular topics in the school curriculum. Sixty-eight respondents (48.2%) consider the cross-curricular topic of Sustainable Development, which provides students with knowledge about the need to act per the possibilities of natural systems through which ecological values are developed, to be extremely important in the school curriculum. Compared with other cross-curricular topics (Personal and social development, Learning how to learn, Civic education, Health, Entrepreneurship, Use of information and communication technology), respondents ranked the cross-curricular topic Sustainable Development in fourth place in terms of importance. However, most respondents (98= 69.5%) still consider the cross-curricular topic of Health the most important and the cross-curricular topic of Entrepreneurship the least important.

Does the cross-curricular topic of Sustainable Development prepare students for appropriate action in society to achieve personal well-being, 17.7% of respondents believe that it fully prepares them, while 2.1% believe that it does not prepare them at all. Furthermore, 36.9% of the respondents believe that through the cross-curricular topic of Sustainable Development, students are being prepared for appropriate action in society to achieve general well-being, but only partially.

By comparing the respondents' answers regarding the measure of the development of individual generic competencies through the implementation of the cross-curricular theme of Sustainable Development, the examined teachers assess how the students fully develop the competencies as mentioned earlier, which is visible in Figure 1.

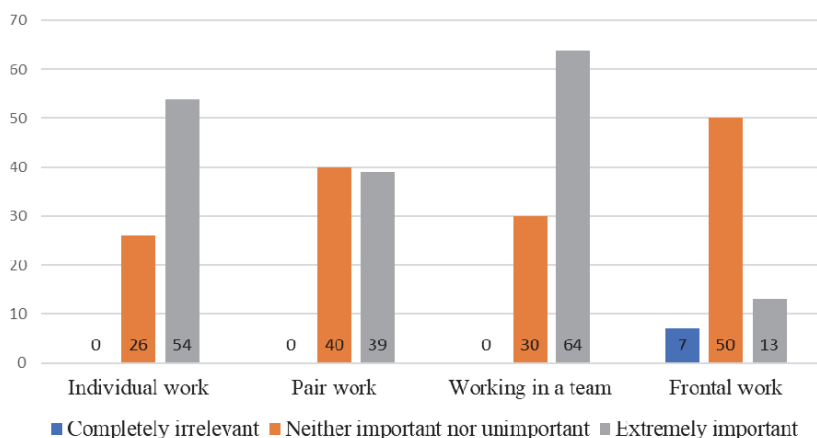


**Figure 1.**

*Generic competencies through the implementation  
of the cross-curricular theme Sustainable Development*

The respondents estimate that to the greatest extent, students develop critical thinking (19.1%) through the implementation of the inter-subject topic of Sustainable Development, and they estimate entrepreneurship (12.1%) as the least fully developed competence.

When asked about practicing forms of thinking to develop ecological values, the respondents indicated that they fully developed problem-solving and decision-making competencies and critical thinking (48.2%), followed by creativity and innovation (47.5%).



**Figure 2.**

*The organization of various social forms of work*

When asked about the organization of different social forms of work for the development of ecological values, working in a team is entirely appropriate (45.4%), which can be seen in Figure 2.

The respondents estimated that ecological values as a component of teaching subjects are fully developed in the lessons on Nature and Society (58.2%) and Class Teachers' Lessons (56.7%). They also state that ecological values are developed to a minor extent in the lessons of Music Culture (16.3%) and Mathematics (18.4%).

When assessing the extent to which respondents develop ecological values through work strategies, the most significant number of respondents state that they fully develop ecological values in students through extracurricular activities (28.4%) and field teaching (27.7%). Among other things, 25.5% of respondents state that integrated teaching content of different subjects, and project learning, most often promotes environmental awareness among students. Respondents also mentioned research work, integrated teaching and environmental projects and workshops as strategies they use in their work to develop ecological values.

When asked about acquiring knowledge about the development of ecological values, the respondents stated that they mainly obtained it through individual professional training (29.1%) and initial education (17.7%). Respondents state that organized professional training (conferences, seminars, expert meetings, workshops) very rarely (7.1%) help them develop environmental values among students.

## Discussion

Environmental values are an essential part of the school's culture. The relevance of the research is reflected in the realization that the curriculum of the cross-curricular theme of Sustainable Development is increasingly looking for new forms of learning that will meet the needs and interests of 21st-century students and train them for generic competencies: logical thinking, innovation, entrepreneurship, creativity, the ability to collaborate, pair, group and work in a team.

The curriculum of the cross-curricular theme of Sustainable Development is applied from the 2019/2020 school year. Its purpose is to create a society based on sustainability. The bearers of this responsibility are educational stakeholders who, through education, must prepare the student for appropriate action in society to achieve general and personal well-being (MZO, 2019) which was the criterion for selecting respondents in the research. As a result of the above,

it is necessary to pay more attention to the realization and implementation of the curriculum of the cross-curricular theme of Sustainable Development, as it encompasses a wide range of knowledge, skills and abilities that will be used to act towards a sustainable future (Marin, 2021).

The research results did not confirm the first hypothesis that classroom teachers consider the cross-curricular topic of Sustainable Development extremely important in the school curriculum. Out of the seven cross-curricular topics mentioned, they placed Sustainable Development in fourth place. However, the introduction of the cross-curricular theme of Sustainable Development has made a step forward in the education process for sustainable development. There are still numerous obstacles to its implementation because it depends primarily on the competencies of educational stakeholders who need to know specific contents and choose appropriate learning strategies. That leads us to other hypotheses of the work that were partially confirmed. Through different subjects and forms of work, classroom teachers use innovative learning strategies when developing ecological values in students. Teachers promote environmental awareness among students through extracurricular activities that include children's active stay in nature, field lessons (visits, walks, excursions) and project-based learning. Sakač, Cvetičanin and Sučević (2012) point out that the work of teachers significantly influences the developmental competencies of students. However, it is evident that the development of students' ecological values also depends on the teacher's global competencies and his will to apply them.

An essential feature of modern teaching is the encouragement of different forms of thinking and the organization of social forms of work to prepare students fully for active work and activity in society. More than half of the surveyed classroom teachers believe that for the development of ecological values, it is essential to encourage different forms of thinking, namely critical thinking, problem-solving and decision-making at the same time. They state that the organization of different social forms of work significantly helps the development of ecological values in students. The classroom teachers singled out the students' competence in critical thinking as the competence developed to the greatest extent by implementing the cross-curricular theme of Sustainable Development. The development of students' critical thinking encourages the formation of their attitudes and participation in discussions so that one day they can make decisions independently and cooperate in the community. In addition to contributing to understanding the teaching content, critical thinking helps students to follow and adopt the teaching content and critically evaluate it, which develops students' independence and sense of responsibility more easily (Buchberger, Bolčević and Kovač, 2017).



Furthermore, the respondents single out the need to work in a team as the most critical form of work for developing environmental values in students. Sekulić (1989) points out that working in a team is desirable in educational institutions because this form of work enables the harmonization of teaching content and different subjects. It also allows creating and exchanging ideas among students, helping each other. It is important to emphasize that it fosters individual advancement through cooperation and social learning (Cindrić, Miljković and Strugar, 2010). The research results confirmed that most teachers believe environmental values are most developed through extracurricular activities. That is surprising because they choose teamwork as the most used form of work.

Since the school's work is imbued with the cross-curricular theme of Sustainable Development, which is realized in compulsory and optional subjects, classroom teachers single out the subject of Nature and Society and Class Teacher's Hour as subjects through which it is possible to develop environmental values in students to the greatest extent.

According to research by Letina and Lacković (2021), classroom teachers believe that through the curriculum of the Nature and Society subject for primary schools, outcomes that include the contents of sustainable development are primarily achieved through the practical aspect of teaching. Also, the obtained results can stimulate further research into the connection of the subject curriculum with the curriculum of the cross-curricular topic Sustainable Development and with other curricula of cross-curricular topics to develop personal and social responsibility necessary for sustainability and the success of the implementation of the cross-curricular topic Sustainable Development could additionally be examined. There is an opportunity to examine students' knowledge of key content within the domain of cross-curricular topics during educational cycles because the expectations in the Sustainable Development curriculum are similar to those of other cross-curricular topics and subjects. An integrated approach opens the possibility of achieving more educational expectations and evaluation.

The teachers in the research state that they mostly gained knowledge about the development of ecological values by the independent reading of professional literature, which opens up the possibility of problematizing teachers' initial education. Also, the possibility of introducing courses that will introduce them to different teaching strategies, as well as lifelong learning and professional development of teachers who need to follow modern achievements in stimulating learning and developing a modern curriculum focused on the development of students' competencies that are necessary for the adoption of ecological values.

## Conclusion

Through upbringing and education for sustainable development, it is necessary to train students for independent and conscious decision-making and to correct already adopted forms of behavior that are not by sustainability principles. From parents who started education for sustainability to educators who continued, classroom teachers continue to guide the path of lifelong education for a sustainable future. Therefore, it is vital to strengthen environmental awareness early and guide children so that the values acquired through work become part of everyday life.

The research results indicate the opportunities provided to classroom teachers for developing ecological values through the application of different forms and strategies of work. Teachers estimate that ecological values are developed to the greatest extent through extracurricular activities and field teaching. Ecological values are developed to the greatest extent in Nature and Society and Class Teacher's Lessons as a component of teaching subjects. The cross-curricular theme of Sustainable Development provides guidelines and procedures for the implementation and implementation of the content of sustainable development. Teachers consider the cross-curricular topic of Sustainable Development extremely important in the school curriculum. However, comparing it to other critical cross-curricular topics, they rank it only in fourth place, which rejects the first hypothesis. Although the introduction of the cross-curricular topic of Sustainable Development has made a positive shift in the education process for sustainable development, there are still difficulties in implementation, which partially confirms the second hypothesis. The research results indicated that teachers have different opportunities to develop ecological values in students and highly value the need for their development.

The classroom teacher is co-responsible for the development of ecological values in students, and this is achieved by choosing modern sociological forms of work in the realization and application of the idea and concept of sustainable development. Although the mentioned contents are increasingly present in schools, the action itself depends on the personality of classroom teachers who, through their work in a team with school employees, should be aware of their role to progress, act, promote and transfer knowledge through creative solutions to their students who are the bearers of knowledge and values for our sustainable future.

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## COMPETENCE OF FUTURE TEACHERS TO IMPLEMENT THE SUSTAINABLE DEVELOPMENT GOALS

Nikolina Vidović,  
Color trgovina d.o.o.

Tonka Vekić,  
Dječji dom Zagreb

### Abstract

Since the priority in the process of improving education is placed on lifelong learning for sustainable development, we can say that modern teachers are the main implementers of sustainable development goals. They strive to promote goals in students from the lowest grades. According to the above, we can conclude that future teachers will play a very important role in promoting sustainable development in their future pedagogical work. The aim of this paper was to see if future teachers are considered competent enough to implement the goals of sustainable development. For the purposes of the research, the procedure of online surveying of students of Teachers' Faculties in the territory of the Republic of Croatia was used. The paper presents the results of quantitative research that show self-assessment of student competencies for working with students in the field of sustainable development. Based on the conducted self-assessment of students, we wanted to see the level of competence of future teachers to implement the goals of sustainable development and whether there is a need to improve student competencies in the field of sustainable development. Although most study programs implement good and well-designed content, it is important to note that the awareness of students in the field of sustainable development is still in question. For this reason, it is necessary to implement modern methods of learning and teaching in the educational process.

**Keywords:** competence, future teachers, sustainable development goals

### Introduction

Modern educational systems are closely related to social, economic and political factors, which require the continuous acquisition of knowledge and skills that prepare them for a responsible and conscious life in the community. The priority in improving education for sustainable development is lifelong education, and

educational stakeholders are the primary implementers of sustainable development goals in educational systems. The strategy of lifelong education and the concept of education for sustainable development contains identical guidelines for work throughout the educational vertical with the aim of implementation through different forms of learning and teaching (Uzelac and Anđić, 2011). Therefore, it is necessary to promote and apply the principles of sustainable development and education for sustainable development at all institutional levels because, without learning and awareness, there is no possibility of putting it into practice. Education for sustainable development provides the necessary knowledge, skills and shapes the material reality we live in so it can influence and significantly change it. UNESCO (2017) highlights the importance of knowledge, skills, values and attitudes that teachers need to acquire beforehand to become change agents for sustainability.

Previous research on teachers and teacher studies refers to the necessity of applying the concept of sustainable development to educational stakeholders and simultaneously assesses values and competencies based on the understanding of sustainable action (Čurić, 2021; Anđić and Čurić, 2020; Anđić and Tatalović Vorkapić, 2017; Anđić, 2015; Borić, Jindra, Škugor, 2008; Vukelić, Rončević and Vinković, 2018).

Uzelac and Pejčić (2003) state that the teacher's occupation, including his competence and efficiency, is one of the critical roles, that is, the bearer of responsibility in the process of upbringing and education for sustainable development. In order for teachers to be fully prepared to implement the concept of education for sustainable development at the school level, universities and teacher education programs must embrace a pedagogy that encourages a change in mindset, critical reflection, and the development of competencies and new skills that will enable future teachers to become expert and responsible agents of change (Brandt et al., 2019). Accordingly, Borić et al. (2008) recommend changes in the educational system of higher education to promote lifelong learning for sustainable development because it must become a fundamental principle in the entire context of learning and teaching. Also, Črnjar (2015) points out the need to change the curriculum, so he suggests supplementing topics related to sustainable development in subjects, courses and work plans and programs.

Namely, according to research by Evans, Stevenson, Lasen, Ferreira, and Davis (2017), sustainable development learning outcomes established in most countries in teacher education should be addressed. It is assumed that the acquired competencies in the process of upbringing and education for sustainable development are used by teachers in classes, during the planning of their work in

an educational institution and during social interaction with the institution's environment (Rauch and Steiner, 2013). Andić (2015) notes the importance of acquiring competencies in teachers' initial and professional education, defining them as an indicator of changes in practice and the basis of future models of upbringing and education for sustainability.

Kostović-Vranješ (2016) states that the realization of education for sustainable development in Croatia is not carried out systematically but depends on the competence and motivation of educational stakeholders to implement and harmonize professional work with the requirements of the modern era. Therefore, it is necessary to systematically implement lifelong learning for sustainable development and introduce the application of modern approaches to upbringing and education to improve students' competencies - future teachers.

## Methodology

The aim of the research and hypotheses

The aim of this paper is to determine whether future teachers consider themselves competent enough to implement the goals of sustainable development in their future work and whether there is a need for the improvement of their competencies by the faculty in the field of sustainable development. In accordance with the subject of the research and the set goals of the work, the following research hypotheses were defined:

H1: Future teachers highly evaluate their familiarity with the characteristics of sustainable development goals.

H2: Future teachers highly evaluate their competencies in the context of sustainable development.

H3: The gender of future teachers does not significantly influence assessing the ability to implement sustainable development goals in their future work.

H4: There is a need for the faculty to improve future teachers' competencies in sustainable development.

## Instrument and procedure

For this research, an online survey was created on the Google forms platform, consisting of 7 questions (4 demographic types and three 5-point Likert scales).

The first scale consisted of 5 statements related to sustainable development. The second scale consisted of 9 statements related to future teachers' competencies, education and sustainable development. The participants had to read each statement and indicate how much they agreed with it by marking the appropriate number (from 1 = "I completely agree" to 5 = "I completely disagree"). Finally, the third scale consisted of 17 statements where the participants had to assess how much the college education contributed to the development of their knowledge, skills and abilities in the field of sustainable development (from 1 = "did not contribute at all" to 5 = "completely contributed"). The test was conducted in the period from September to November 2022. The purpose and goal of the research were presented to the participants in writing. They were told that participation was voluntary and anonymous and that the collected data would be used exclusively to write the paper. Filling out the survey took an average of 8 minutes. The obtained data were processed with the help of the statistical programme for computer data processing (SPSS v20.0), using procedures of descriptive statistics and inferential statistics with the application of the chi-square test.

## Sample

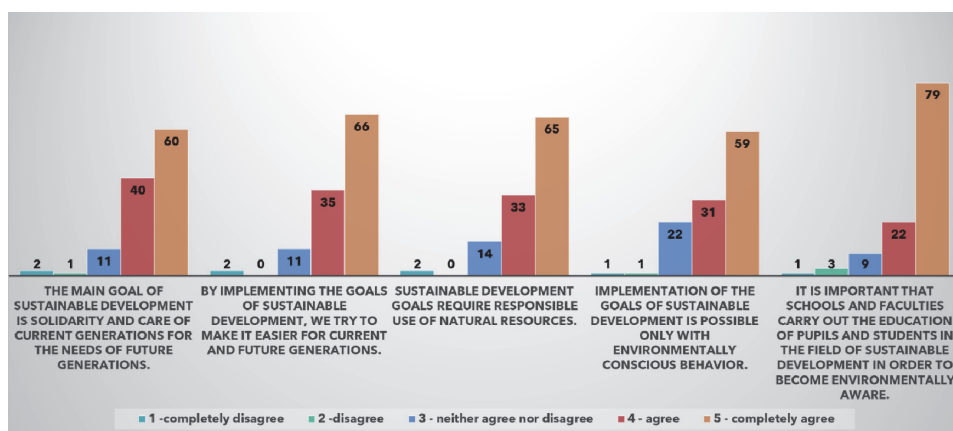
One hundred fourteen participants participated in the research: 26 male and 88 female students. The average age of the participants is 22 years, ranging from 19 to 28 years. Of the total number of participants (N=114), the majority were students between the ages of 21 and 23, most of them from the fifth year of study (N=32, 28.1%). Furthermore, 26 (22.8%) are from the third year, and 25 (21.9%) are from the second year of study. The remaining 24 (21.1%) belong to the fourth and first year N=7 (6.1%). The research covered 5 study years at Teacher Training Colleges throughout Croatia. The most significant number of participants was from the Faculty of Education from Osijek (N=49). A slightly smaller number, N=34, was from the Faculty of Teacher Education in Zagreb. At the same time, the remaining participants attended the Teacher Training Program in Slavonski Brod (N=11), the Faculty of Education in Pula (N= 8), the Faculty of Teacher Education - Department in Petrinja (N=5), the Faculty of Philosophy in Split - Department of Teacher Studies (N=4) and Faculty of Teacher Education in Rijeka (N=3).

## Results and discussion

The research aimed to determine whether future teachers consider themselves sufficiently competent to implement sustainable development goals in their fu-

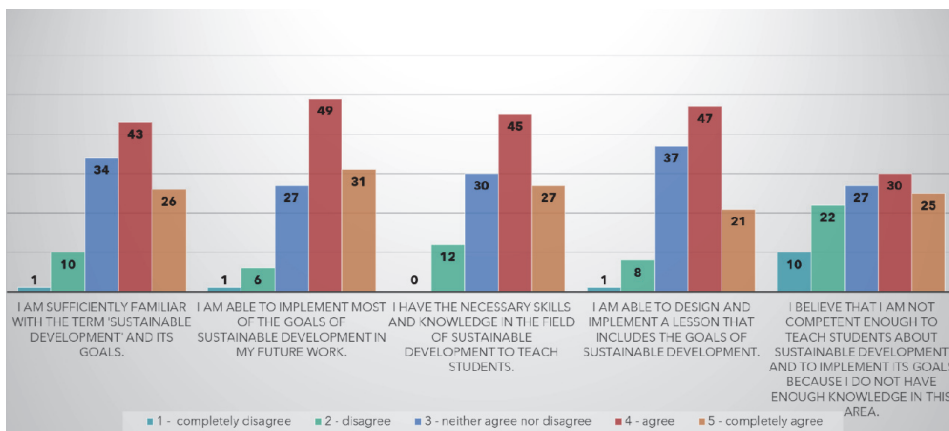


ture work and whether there is a need to improve their competencies in sustainable development. Descriptive statistical analysis is sufficient for commenting on the obtained results and achieving the leading goal of research. The research results showed that future teachers highly evaluate their familiarity with the characteristics of sustainable development goals. For example, graph 1 shows that most participants (more than half of the total N=114) estimated that they fully agree. In contrast, a third of them agree with the stated characteristics of sustainable development goals, from which we conclude that future teachers are well acquainted. They highly value their familiarity with sustainable development and all that characterizes it.



**Figure 1.**  
*Characteristics of sustainable development goals*

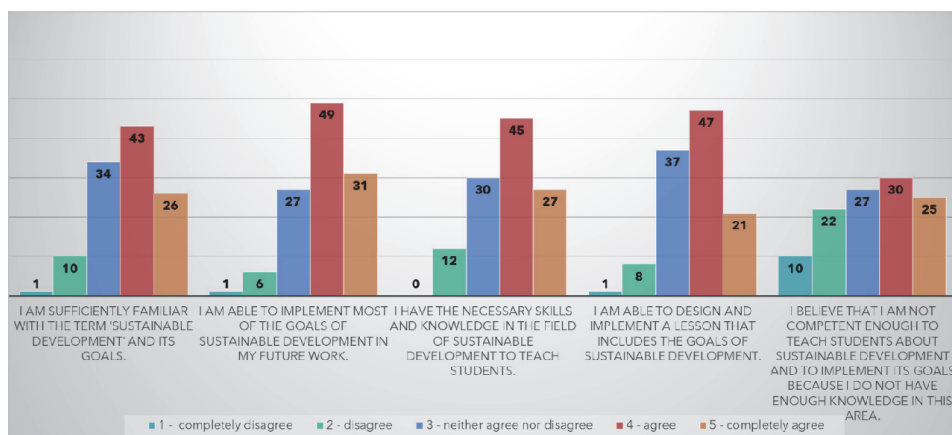
Furthermore, from Graph 2, we can conclude that the most significant number of participants (more than a third of the total number N=114) agreed that they possess the necessary skills and knowledge in the field of sustainable development for teaching students and that they can design and implement a lesson that includes the goals of sustainable development. In contrast, when asked if they think they need to be more competent to teach students about sustainable development and implement its goals, they need more knowledge in this area. Nevertheless, they also agreed to the greatest extent, so the assessment of their knowledge about sustainable development is nevertheless called into question and should be investigated in more detail.



**Figure 2.**

*Competencies of future teachers in the context of sustainable development*

Graph 3 shows that the most significant number of participants fully agreed that, regardless of acquired knowledge and skills, teaching student's sustainable development requires a specially educated and professional person. Nevertheless, also that they, as future teachers, can come up with ideas in teaching that, through their implementation, would promote equal opportunities for male and female students. Out of the total number of respondents (N=114), 43 of them agreed and believed that as future teachers, they are competent enough to implement modern methods aimed at students, which at the same time achieve one of the goals of sustainable development. In contrast, 52 of them agreed and believed they were competent enough to encourage critical thinking in students focused on the future. Considering the obtained results, we can conclude that future teachers highly evaluate their competencies in the context of sustainable development. However, we must recognize that the acquired knowledge and skills should be investigated in more detail since the sincerity of the participants when filling out the survey was called into question. The obtained results point to the need for further research related to future teachers' competencies in sustainable development and the development of additional standardized testing instruments to obtain more accurate and precise data.



**Figure 3.**

*Competencies of future teachers in the context of sustainable development*

Given that the research participants were male and female students, we wanted to examine whether the gender of future teachers impacts the assessment of the ability to implement sustainable development goals in their future work. Based on the obtained results, which are presented in Table 1, we can conclude that there is no statistically significant difference in the frequency of gender between the five levels of assessment of the ability to implement the goals of sustainable development ( $\chi^2 = 5.346$ ,  $df = 4$ ,  $p = 0.05$ ), with the fact that among those who disagree entirely or only disagree that they are capable of implementing the goals of sustainable development in their future work, there are the fewest participants in both male and female genders.

**Table 1.**

*The influence of future teachers' gender on the assessment of the ability to implement the goals of sustainable development in their future work*

I am able to implement the goals of sustainable development in my future work.	GENDER		TOTAL
	MALE	FEMALE	
1-completely disagree	0 (0,0%)	1 (1,1%)	1 (0,9%)
2-disagree	1 (3,8%)	5 (5,7%)	6 (5,3%)
3-neither agree nor disagree	3 (11,5%)	24 (27,3%)	27 (23,7%)
4-agree	11 (42,3%)	38 (43,2%)	49 (42,9%)
5-completely agree	11 (42,3%)	20 (22,7%)	31 (27,2%)
TOTAL	26 (22,8%)	88 (77,2%)	114 (100,0%)
$\chi^2 = 5,346$ $df=4$ $p=0,05$			

**Table 2.**  
*Assessment of future teachers to what extent college education contributed to the development of their knowledge, skills and abilities in the field of sustainable development*

	Assessment of future teachers as to how much college education contributed to the development of their knowledge, skills and abilities in the field of sustainable development.								
	1 - did not contribute at all	2 - did not contribute significantly	3 - neither did it contribute, nor did it	4 - contributed significantly	5 - contributed fully	M	SD	min	max
How to ensure inclusive and quality education and promote opportunities for lifelong learning.	5	3	22	41	43	4,56	1,256	1	5
How to ensure a healthy student life.	7	5	19	43	40	4,46	1,324	1	5
How to achieve gender equality among students.	8	8	18	41	39	4,37	1,381	1	5
How to promote peaceful and inclusive societies for sustainable development, ensure access to justice for all and build effective, accountable and inclusive institutions at all levels.	8	19	32	20	35	3,97	1,455	1	5

How to ensure access to reliable, sustainable and modern energy.	10	19	27	24	34	3,95	1,487	1	5
How to protect, establish and promote the sustainable use of terrestrial ecosystems, sustainably manage forests and prevent the destruction of biological diversity.	11	16	30	23	34	3,95	1,487	1	5
How to preserve and sustainably use oceans, seas and marine resources for sustainable development.	9	18	34	19	34	3,93	1,459	1	5
How to strengthen the means of implementation and strengthen the global partnership for sustainable development.	10	18	34	18	34	3,90	1,476	1	5

How to promote inclusive and sustainable economic growth, full employment and decent work for all.	10	16	34	26	28	3,88	1,419	1	5
How to ensure access to drinking water for everyone, sustainably manage water and ensure hygienic conditions for everyone.	1	20	28	23	34	3,87	1,197	1	5
How to promote inclusive and sustainable industrialization and encourage innovation.	8	21	33	22	30	3,87	1,425	1	5
How to ensure sustainable forms of consumption and production.	12	19	29	24	30	3,83	1,488	1	5
How to make cities and settlements inclusive, safe, adaptable and sustainable.	12	19	30	23	30	3,82	1,487	1	5

How to take urgent actions in the fight against climate change and its consequences.	14	17	32	23	28	3,76	1,491	1	5
How to reduce inequality within and between countries.	17	14	33	19	31	3,75	1,548	1	5
How to eradicate hunger, achieve food security and improved nutrition.	18	15	32	19	30	3,70	1,558	1	5
How to eradicate poverty.	23	14	31	26	20	3,48	1,525	1	5

From Table 2., we can see that for most of the variables, the participants thought that college education neither contributed nor contributed to developing their knowledge, skills and abilities in sustainable development. The variable How to ensure inclusive and quality education and promote opportunities for lifelong education has the highest arithmetic mean ( $M=4.56$ ,  $SD=1.256$ ). How to ensure a healthy student life ( $M=4.46$ ,  $SD=1.324$ ) and Achieving gender equality among students ( $M=4.37$ ,  $SD=1.381$ ) have slightly lower values. The results indicate that the research participants recognized which sustainable development goals are promoted to the greatest extent by the faculties they attend. Considering that the research participants are students at Teacher Training Colleges, these results should not be surprising. The remaining variables, which include the goals of sustainable development such as How to promote peaceful and inclusive societies for sustainable development, ensure access to justice for all and build effective, accountable and inclusive institutions at all levels, How to ensure sustainable forms of consumption and production and How to eradicate hunger, achieve food security and improved nutrition ( $3,7 < M < 3,97$ , 1), were evaluated moderately by the participants. That is, they believe that college education neither contributed nor did not contribute to their development. The variable How to eradicate poverty has the lowest arithmetic mean ( $M=3.48$ ,  $SD=1.525$ ), which indicates the need to improve the competencies of future teachers by the faculties in that area.

Although the obtained results are not worrisome, they indicate the need to enrich the skills, abilities and awareness of future teachers about sustainable development goals so that their performance of lessons in the future contributes to sustainability. Faculties have to recognize the impact of the educational programs they implement among students and contribute to an even greater extent to the development of their knowledge, skills and abilities in the field of sustainable development, especially in their practical work, because a sustainable future is not possible without well-educated and competent teachers that educate future generations.

## Conclusion

Integrating sustainability in education is crucial because it strengthens the awareness of the needs and decisions essential to face emerging changes. In order for students to effectively learn about sustainable development, they must develop critical thinking, the ability to think in new ways so that in the future, they can deal with different views of the world because they are the creators of change and the promotion of a sustainable way of life.



Future teachers should be aware of their roles in upbringing and education for sustainable development and, per future challenges, continue to develop professionally and improve professionally continuously. Therefore, it is necessary to strengthen the didactic-methodical competence of future teachers on sustainable development goals to achieve the highest quality approach to the concept of upbringing and education for sustainable development by implementing them. The limitation of this work is that only self-assessment of knowledge of sustainable development goals was examined, and not actual knowledge about the mentioned domain, which opens up opportunities for further research. The role of higher education institutions is vital to recognize the impact of the educational programs they implement among students to a greater extent contribute to developing their knowledge, skills and abilities in sustainable development, especially in practical action because the key to a sustainable future is reflected in quality-educated and competent teachers who prepare and educate future generations for improving social well-being and community development.

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