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CONTINUING EDUCATION

Unmasking Sustainability in Early Childhood Education: Teachers' Voices from Bosnia and Herzegovina, Croatia, and Slovenia

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Abstract

Education for sustainable development is one of the key components of the 2030 Agenda. Previous research emphasizes the importance of access to education as early as possible in accordance with the goals and contents of sustainable development. It is assumed that educational policies have incorporated education for sustainable development (ESD) into key documents regulating the early childhood education (ECE), although the existence of legislation is not a guarantee that the practice follows the educational policy. Preschool teachers are key persons who can integrate content that promotes and encourages acceptance of the concept of sustainability into the ECE setting. In order to determine ECE teachers' understanding of the concept of sustainability and contents that promote a sustainable lifestyle, an empirical study with a qualitative approach was conducted, where 91 ECE teachers from Bosnia and Herzegovina, Croatia and Slovenia participated. The participants presented their views on the socio-cultural, economic and environmental dimensions of sustainability, as well as gave many practical examples that, in their view, promote a sustainable lifestyle. They evaluated the efficacy of the researched segments of sustainability as well. Deductive content analysis was used for the analysis of the ECE teachers' answers. In order to get a real image of sustainability in ECE practices, responses were coded using the SOLO Taxonomy and the OMEP ESD Rating Scale. The empirical study showed that ECE teachers often understand sustainability differently from that described in educational policy documents but also pointed to creative approaches to implementation.

Keywords Early childhood education · Education for sustainable development · Educational policy · OMEP ESD Scale · Teacher's perception

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Résumé
L'éducation au développement durable est l'un des éléments clés de l'Agenda 2030. Des recherches antérieures soulignent l'importance d'un accès à l'éducation le plus tôt possible conformément aux objectifs et contenus du développement durable. On suppose que les politiques éducatives ont intégré l'éducation pour le développement durable (EDD) dans les documents clés réglementant l'éducation de la petite enfance (EPE), bien que l'existence d'une législation ne garantisse pas que la pratique suive la politique éducative. Les enseignants du préscolaire sont les personnes clés qui peuvent intégrer un contenu qui promeut et encourage l'acceptation du concept de durabilité dans le cadre de l'EPE. Afin de conforter la compréhension des enseignants de l'EPE du concept de durabilité et des contenus qui promeuvent un mode de vie durable, une étude empirique avec une approche qualitative a été menée, à laquelle ont participé 91 enseignants de l'EPE de Bosnie-Herzégovine, de Croatie et de Slovénie. Les participants ont présenté leurs points de vue sur les dimensions socioculturelles, économiques et environnementales de la durabilité, ainsi que de nombreux exemples pratiques qui, à leur avis, favorisent un mode de vie durable. Ils ont également évalué l'efficacité des volets étudiés de la durabilité. L'analyse de contenu déductive a été utilisée pour l'analyse des réponses des enseignants de l'EPE. Afin d'obtenir une image réelle de la durabilité dans les pratiques d'EPE, les réponses ont été codées à l'aide de la taxonomie SOLO et de l'échelle d'évaluation ESD de l'OMEP. L'étude empirique a montré que les enseignants de l'EPE comprennent souvent la durabilité différemment de celle décrite dans les documents de politique éducative, mais a également souligné des approches créatives de la mise en oeuvre.

Resumen
La educación para el desarrollo sostenible es uno de los componentes clave de la Agenda 2030. Investigaciones anteriores enfatizan la importancia del acceso a la educación lo antes posible de acuerdo con las metas y contenidos del desarrollo sostenible. Se supone que las políticas educativas han incorporado la educación para el desarrollo sostenible (EDS) en documentos clave que regulan la educación inicial (EPI), aunque la existencia de legislación no es garantía de que las prácticas sigan la política educativa. Los maestros de preescolar son personas clave que pueden integrar contenidos que promuevan y fomenten la aceptación del concepto de sostenibilidad en el entorno de ECE. Con el fin de determinar la comprensión de los docentes de ECE sobre el concepto de sostenibilidad y contenidos que promueven un estilo de vida sostenible, se realizó un estudio empírico con un enfoque cualitativo, donde participaron 91 docentes de ECE de Bosnia y Herzegovina, Croacia y Eslovenia. Los participantes presentaron sus perspectivas sobre las dimensiones socioculturales, económicas y ambientales de la sostenibilidad, y dieron muchos ejemplos prácticos que, desde su punto de vista, promueven un estilo de vida sostenible. También evaluaron la eficacia de las dimensiones de la sostenibilidad investigados. Para el análisis de las respuestas de los docentes de ECE se utilizó el análisis de contenido deductivo. Para obtener una imagen real de la sostenibilidad en las prácticas de ECE, las respuestas se codificaron utilizando la Taxonomía SOLO y la Escala de Calificación OMEP ESD. El estudio empírico mostró que los maestros de ECE a menudo entienden la sostenibilidad de

manera diferente a la descrita en los documentos de política educativa, pero también señalaron enfoques creativos para la implementación.

Introduction

Although the term education for sustainable development has been present in education for many years, it is a topic that does not lose its importance. The term sustainable development first appears in the World Conservation Strategy (IUCN, 1980). The initial idea of sustainability contained primarily guidelines for environmental protection and biodiversity and was linked to the need to combat poverty. Nearly a decade later, the World Commission on Environment and Development (WCED, 1987) highlights the need for strategic planning to achieve sustainability that considers the interdependence of people, resources, environment, and development. The definition of sustainability, as well as sustainable development, has changed and adapted to changes in society. The most accepted definition is one that defines sustainable development as a type of development that meets the needs of today's society without compromising the needs of future generations (WCED, 1987). Despite the differences in the definition of sustainable development, it includes meeting basic human needs, achieving and maintaining justice and fairness, respect for social and cultural diversity, and maintaining environmental integrity (UNESCO, 2016). The terms sustainable development and sustainability are often use interchangeably. They are referring to the same goal-protecting the future of the next generations. Sartori et al. (2014) made distinction and interconnection of the terms at the same time, describing sustainability as a needed process to achieve sustainable development. Borg and Pramling Samuelsson (2022) conclude that contrasting opinions on possible solutions for a sustainable future often arise, so education for sustainability should be seen as a tool that will ensure the right decisions. Consequently, there is a need for education in accordance with the described concept (UN, 1993). Agenda 21 (UN, 1993) emphasizes the importance of integrating content from the field of sustainable development into ECE. Education for sustainable development (ESD) ceases to be a marginalized area of education policies, systems and national curricula in ECE (Davis, 2015), re-examining and gaining its meaning and application in culturally diverse national and international contexts. This proved both in practice, research and theory (Ärlemalm-Hagsér & Sandberg, 2011; Davis, 2015; Hedefalk et al., 2014; Siraj-Blatchford et al., 2016), as well as in the initial preparation of future ECE teachers (Evans et al., 2017; Evans & Ferreira, 2019; Gupta, 2020; Ferreira et al., 2019). Although the modern approach to education and sustainability uses the term education for sustainability, the authors refer to the term education for sustainable development as in the name of the instrument used in research.

The necessity of ESD from early childhood arises from the Convention on the Rights of the Child (UN, 1989), especially from the idea of the necessity of children's participation in decision-making on what is directly related to themselves. Davis (2014, 2015) presented a theoretical framework, in which child's rights are

more closely linked to the concept of sustainability, reconceptualizing children's rights in line with the sustainability towards "a multidimensional rights approach, applicable to adults as well as to children and young people" Davis, 2015, p. 51). In its five dimensions, in addition to the fundamental rights that form the backbone of the concept, each new dimension includes rights and responsibilities for the wider context (from collective rights that include meets the needs of today's society without compromising the needs of future generations, to intergenerational rights and bio / ecocentric/ rights). This concept supports the idea of the child advocating for sustainable development as part of personal and collective rights (Višnjić-Jevtić et al., 2021).

The global goals of sustainable development (UN, 2015) should ensure development that suits all people and parts of the world equally, based on the idea of inclusion. Although it is impossible to point out some of the goals as more or less important, only through cooperation and partnership (SDG 17) it is possible to prevent humanitarian crises. Collaborative skills, in which individuals and groups are aware of their rights and responsibilities, are acquired from an early age. Therefore, it is necessary to provide education for sustainable development in early childhood. Implementing Professionals, working with young children, should take responsibility for the education for sustainable development starting from an ECE (Bahtić & Višnjić-Jevtić, 2020). Therefore, the purpose of the study was to understand the conception of ESD in three national ECE contexts, as ECE teachers explain and practice in their own words and experiences, and to shed light on this complex and multidimensional pedagogical phenomenon from the perspective of ECE teachers' voices.

Education for Sustainable Development in Bosnia and Herzegovina, Croatia, and Slovenia

In Bosnia and Herzegovina (BiH), at the state level, as well as at the entity level, there are no special laws on sustainable development, nor is sustainable development as such a prescribed component of the educational process. The BiH Development Strategy (2010) states as the fourth strategic goal sustainable development within which its need is recognized within agriculture, food, transport, communication and ecology, while special attention is not paid to the importance of education for sustainable development.

Within the research conducted by the proMENTE agency (Hodžić, n.d.), the contents of sustainable development were mapped in the curriculum, although the elements of all three dimensions of sustainable development are not equally represented. The author points out that the most represented are the elements of the environmental aspect (over 95%), followed by the elements of the socio-cultural aspect, and while the elements of the economic aspect are the least represented. The BiH ECE framework curriculum (APOSO, 2018) indicates the existence of an indirect impact on the learning and development of children in kindergartens in the direction of sustainable development, mediating through various aspects of the curriculum and defined outcomes.

Entity and cantonal curricula, traditionally, have an ecological dimension of the concept of sustainable development (Kamenov, 2004; Klemenović, 2009), and usually, it is positioned in the process of shaping the ECE program within the component of encouraging intellectual and social development of children. Children are acquainted with ecological problems, ecologically sensitize, develop ecological awareness and "intuitive connection with the world of nature" (Klemenović, 2009, p. 111), and ways of getting to know the natural and social environment (Šindić, 2018). Considering the position of the ESD conception in ECE teachers' initial education at higher education institutions in Bosnia and Herzegovina, Pribišev Beleslin et al. (2019) singled out several patterns. These are the existence of separate faculty subjects, the content of sustainable development is represented within the subjects that belong to a specific area of the teaching methodology, and elements of systematic development of ESD concepts through elective courses.

Croatia approaches ESD in early childhood in different ways. The idea of education that will enable sustainable development is visible in the commitment of Croatian educational policy (i.e. Strategy of education, science and technology, MZOŠ, 2014). The Parliament of the Republic of Croatia (Hrvatski Sabor, 2009) adopted the Strategy of Sustainable Development in which it pointed out that kindergartens were much earlier obliged to include ecological contents in their programs, and thus it was considered that such contents were present in the kindergarten. Today's view of sustainable development cannot be satisfied by the environmental dimension alone as sufficient to conclude that there is education for sustainable development in the early years. Although the National Curriculum for Early Childhood Education (MZOŠ, 2015) does not mention sustainable development, compliance with sustainable development goals is reflected in the values and goals that the curriculum promotes. The goals of upbringing and education in early childhood are the personal, emotional, physical educational, social, and educational well-being of the child and can be linked to all sustainable development goals (UN, 2015). Knowledge, identity, humanism and tolerance, responsibility, autonomy and creativity as the curriculum value system, start from sensitivity to the entire living environment (MZOŠ, 2015), which should result in responsibility towards the environment, and consequently, attitudes that are the basis of sustainable.

Analysing the programs of seven Croatian universities that educate ECE teachers, it is visible that only 3 universities offer courses on education for sustainable development (the University of Split and the University of Zagreb each offering one course, and the University of Rijeka two). Despite the possibilities offered by ESD as part of interdisciplinary and integrated content, a search by keywords (sustainability, sustainable) did not find content that would indicate the use of sustainable development in the initial education of ECE teachers. Davis and Davis (2020) came to similar results in a global context. It is possible that the contents are still implemented although they are not clearly highlighted. At the same time, there is a long history of education for democratic citizenship (Spajić Vrkaš, 2002), as civic education may be seen as a part of ESD.

Slovenia has a rich tradition of sustainable development. The Guidelines for Education for Sustainable Development (MES, 2007), among other documents, define the key areas and goals of sustainable development from pre-school education to

universities in Slovenia emphasizes the importance of ESD in formal, non-formal and informal learning.

The global goals of the Curriculum for kindergarten (1999) show that the issue of upbringing and education of children for sustainable development is included as the generally accepted thesis, that the adequate help and incentives for children are an essential condition for their later full development of sensitivity and awareness for sustainable development. The goals of educational work point to several aspects of ESD (Ministry of Education & Sport, 1999): encouraging children to research and explain environmental phenomena from different perspectives; developing their awareness of the interdependence of natural and social phenomena, especially the harmful effects of human activities on the environment, as well as giving children the opportunity to gain knowledge, that is, to understand values, to develop personal views and certain skills.

It is possible to conclude that environmental education in the Curriculum for Kindergartens in the Republic of Slovenia is presented as an interdisciplinary field, respecting in all its areas (Movement, Language, Art, Society, Nature, Mathematics) the paradigm of lifelong learning for sustainable development. Nevertheless, the question of its actual realization in kindergartens throughout Slovenia arises. For now, we can only assume that there is a positive attitude of kindergarten ECE teachers towards the idea of lifelong learning for sustainable development (Lepičnik Vodopivec, 2008).

Unfortunately, there is no detailed analysis of the curricula of current study programs at Slovenian universities according to ESD. Therefore, it can only be assumed that future ECE teachers are introduced to the contents of sustainable development indirectly and then through non-formal education. This gap is somehow bridged by ECE teachers' lifelong education numerous initiatives and networks that voluntarily include kindergartens and schools, such as the network of eco-schools that includes 711 kindergartens, primary and secondary schools, UNESCO schools, Healthy School and the like.

All three countries differ in their approaches towards education for sustainability in the early years. While Slovenia implemented guidelines for ESD in the ECE curriculum, Bosnia and Herzegovina and Croatia are nurturing similar approaches in educational values mentioned in their educational policy documents, without strict guidance. The presence of ideas on sustainability in steering documents does not automatically transfer to educational practice. The practice may be influenced by ECE teachers' implicit pedagogy or their understanding of sustainability (Višnjić-Jevtić & Županić Benić, 2021). To understand ESD in early years of practice, to promote it on the international level, a decade ago, the World organization for ECE (OMEP), developed the Environmental Rating Scale for Sustainable Development in Early Childhood (ERS-SDEC) as an instrument used for observation, evaluation, and research in early childhood settings (Siraj-Blatchford et al., 2016). The ERS-SDEC helps practitioners do evaluate their own practice through three pillars of sustainability (environmental, economic, and social and cultural). In 2019, OMEP launched the second edition of the abovementioned scale. The OMEP ESD Rating Scale (hereinafter the Scale) (OMEP, 2019) highlights a holistic approach to curriculum in ECE settings and connection with the United Nation Convention on the

rights of child (UN, 1989). By using the Scale (OMEP, 2019), a practitioner may overcome the gap between the (insufficient) presence of sustainability in policy documents and the need for ESD in early childhood settings. The Scale (OMEP, 2019) may be seen as a tool for professional development and a resource for long-life learning in the field regarding the possible lack of ESD in their initial education. Above all, the use of the Scale may be seen as a guideline on how to implement ESD in the early years.

Inspired by the crucial pillars of sustainability as seen in the Scale, to this study tries to find the ways practitioners in the abovementioned countries understand its multidimensionality, as well as to unmask approaches towards sustainability in early years practice as seen by practitioners themselves. The broader aim was to add a new contextualized knowledge on ESD in early childhood, generated by insights, lived experiences and voices from ECE teachers in three different ECE contexts. The empirical study with the qualitative approach to content analysis was conducted, with the following research questions:

(1) How do ECE teachers define sustainable development?
(2) Do they recognize the importance of education for sustainable development in national educational policies?
(3) How do they assess their own education for sustainable development?
(4) How do they implement ESD in their work?

Method

Instrument

For the purpose of this research, an interview based on the Scale (OMEP, 2019) was developed. The interview was designed in the form of a questionnaire with open-ended questions. The interview has three parts. The first part contained multiple-choice questions on participants' characteristics (length of pre-service education, length of service in ECE, experience on ESD, continual professional development). The second part of the interview has three questions related to the participants' understandings of ESD, and their awareness of the presence of ESD contents in national educational policy documents, as well as in the initial education of pre-school teachers. The third part, addressing the three-dimensional pedagogical conception of ESD in early childhood education (OMEP, 2019)—social and cultural (global social justice), economic and environmental sustainability-focused on the teachers' reflection, evaluation, and presentation of their everyday ESD practice.

Each sustainability dimension has two subquestions with a more detailed description of the indicators of that dimension, based on the Croatian translation of the Scale (OMEP, 2019). For example, for the social and cultural dimension of ESD, the first question was: *Please, evaluate the environment in which you work (your institution, your class). Does the environment promote the principles of social and cultural sustainability (i.e. promote participation and dialogue; respect for*

diversity; promote peace and non-violent conflict resolution; seek to reduce inequalities among children; promote gender equality; encourage empathy; respect family culture in groups; respect justice concepts) and justice)?). Further, the second part was focused on experiences within their practice: *Please, describe the environment, activities and actions of ECE teachers in which the elements of environmental sustainability are visible.*

The interview was constructed using the Google forms and translated into three languages (Serbian, Croatian and Slovenian). The authors were responsible to analyse data in their native languages.

Participants

The research was conducted with a random sample of ninety-one ($N=91$) participants, consisting of the ECE teachers from Bosnia and Hercegovina ($N_1=28$), Croatia ($N_2=29$) and Slovenia ($N_3=34$). The sample is not equalized in terms of professional development in sustainability and knowledge of the Scale. Most participants from Bosnia and Hercegovina (85,7%, $f=24$) and Slovenia (70,6%, $f=24$) have never, or just once, been involved in continuing professional development (CPD) activities on the ESD topics. On the contrary, almost half of the participants in Croatia (48,3%, $f=24$) claimed they attended continuous or at least several times some CPD activities. Regarding the familiarity of participants with the Scale, some of the participants from Bosnia and Hercegovina (50%, $f=14$) stated that they know the scale. The same is claimed by a third of the participants from Croatia (34,5%, $f=10$) and only 17,6% ($f=6$) participants from Slovenia.

Table 1 SOLO TAXONOMY (Biggs & Collins, 1982)

SOLO levels	Examples of teachers' responses on an understanding of sustainable development
Prestructural level-no idea	We need to pay a little more attention to that and enable better sustainable development through various activities
Unistructural level-a single idea	Maintaining ecological balance
Multistructural level-several ideas	Adopting healthy lifestyle habits, celebrating ecological dates, preserving cultural heritage and nurturing the traditions of the region
Relational level–related ideas	Sustainable development means that current and future generations meet their needs and improve their quality of life through the improvement of the environment and economic, social, and cultural development
Extended abstract level-extended ideas	It refers to the coexistence of man with the natural and social environment in such a way that they benefit from each other and does not harm each other in that relationship

Data Collection and Analysis

The research was conducted during the Autumn of 2020. The participants were personally invited to participate in the research amongst the professional network of ECE teachers (within the National Association OMEP Croatia), as well as based on previous involvement in other research, as was a case in BiH and Slovenia. The online interview was distributed to participants via email. In total, 108 emails were sent and 91 accepted the invitation, with a response rate of 84%. Some research (i.e., Hohwü et al., 2013; Massey & Tourangeou, 2013) on the response of participants to surveys shows that is reasonable to expect a 60–70% return of answers. This research showed a higher response rate which can be explained by the participants' earlier collaboration with the researchers.

Due to the pandemic of Covid-19, interviews were held by online application. Possible limitation refers to the lack of interaction between the researcher and interviewee and the difference in the quality of the response (i.e. clarification of the answers). However, Morris (2015) finds that email interviews (like these held by online applications) also have advantages because they allow the participation of people who are not inclined to face-to-face interviews and, avoid visual stimuli that may lead to discomfort between the researcher and interviewee.

The content analysis was used to understand ECE teachers' perspectives and experiences on sustainability in their ECE contexts. A deductive approach to content analysis with predefined categories based on SOLO taxonomy (Biggs & Collins, 1982) was used. Although sustainability as a construct, but also, as a phenomenon is complex, multidimensional and still insufficiently clearly defined (Kuhlman & Farrington, 2010), categories provided a framework for the definitions of ESD provided by ECE teachers. The criterion for the category development was directed towards the ECE teachers' knowledge about sustainability in education, as well as on the stages of structural elements of definition (relevance of data, ways of connecting and interrelating the data, generalization). Answers were coded according to SOLO taxonomy, used as an evaluative tool (Biggs & Collins, 1982), consisting of five levels of understanding: prestructural level, unistructural level, multistructural, relational, and extended abstract level (Table 1). The second and the third level represent quantitative levels of

Table 2 Defining ESD (three countries)

SOLO levels	Countries					
	BiH		Croatia		Slovenia	
	f_1	%	f_2	%	f_3	%
Prestructural level-no idea	5	17,86	5	17,24	4	12
Unistructural level-a single idea	8	28,57	5	17,24	13	41
Multistructural level-several ideas	8	28,57	9	31,03	13	41
Relational level–related ideas	7	25	7	24,15	2	6
Extended abstract level-extended ideas	0	0	3	10,35	0	0

understanding, while the fourth and fifth levels represent the quality and depth of the understanding.

The second research question was aimed at ECE teachers' opinions on the position of ESD in legislation and national curricula that shape and direct the ECE context. Therefore,

inductive content analysis was used, with the aim to describe the state in all three national ECE contexts.

Deductive content analysis was also used for the third and fourth questions, with predefined indicators of the three sustainability dimensions described in the Scale (OMEP, 2019). The ECE teachers' examples and experiences from their practice were coded by the keywords of each of its pillars. The keywords for social and cultural sustainability were considered as participation, dialogue, diversity, peace, pacifism, culture, justice. The keywords for economic sustainability were considered as recycling, savings, social entrepreneurship and the fight against poverty. The keywords for environmental sustainability were considered as biodiversity, nature and care for the environment. Coded answers were compared and synthesized to find the most common practices in early childhood institutions.

Compliance with Ethical Standards

The research was conducted in accordance with the Code of Ethics of the University of Zagreb. Participants were informed about the purpose and course of the research and about the possibility to withdraw from participation. Although the online interview did not allow complete anonymity for participants, as e-mail address information could be visible and available to researchers, the collected data was downloaded from a Google disk without personal data, and as such, was further used. During the analysis of the data, the authenticity of the participants' statements was ensured, which was especially taken into account when using the sentences and ECE teachers' thoughts cited in the answers. The authors were responsible to translate quotes in their native languages to English.

Results

How do the Participants Understand Sustainable Development?

To answer this question, the results obtained based on coded answers according to the SOLO taxonomy were presented in a table (Table 2) and interpreted.

One-third of all participants (N = 91; 34,1%) are having several ideas on understanding sustainable development, but almost half of them of them (f = 41, 45,1%) have none or single idea. Due to complexity of the model of sustainable development, more ideas are important for interpreting and defining this construct, so we concluded that only answers at the multistructural, relational and extended abstract levels could be considered as understanding the sustainable development. Thus, 55%

(N = 91) of the participants understands sustainable development in accordance with the modern definition of the concept.

A further analysis of answers by countries shows a similar distribution. About 46,4% ($N_1 = 28$) participants from Bosnia and Herzegovina are at the prestructural level or unistructural level – without ideas or with single idea about sustainable development. It was noticed that ECE teachers define sustainable development by putting more emphasis on the ecological dimension, and less on the cultural and economic. Multiple concepts were found amongst 28,6% ($N_1 = 28$) of participants. Less than one-fifth of the participants (18%, $N_1 = 28$) defined this term more precisely (relational level). No answers were noticed at the extended abstract level.

About one-third (34,45%, $N_2 = 29$) of the Croatian participants have single or not at all ideas on sustainable development. Fewer of them (31%, $N_2 = 29$) have multistructural ideas. Extended abstract level of understanding the sustainable development were found only amongst Croatian participants (10,34%, $N_2 = 29$). These are participants who work continuously on enhancing their competence for ESD and are familiar with the Scale. Although participants mentioned all aspects of sustainability, they are still focusing on the environmental pillar.

About half of the Slovenian participants (52,94%, $N_3 = 34$) are at the pre-structural level or unistructural level of understanding the sustainable development. As with ECE teachers in BiH, Slovenian ECE teachers most often explain the concept of sustainable development through the ecological component or see it as lifelong learning. They rarely single out the cultural and they do not mention the economical component. About 41% ($N_3 = 34$) of the participants are at multistructural level. Thus, only few of the Slovenian participants (5,88%, $N_3 = 34$) precisely defined sustainable development (relational level).

The Importance of ESD in National Educational Policies

Most of the participants recognize ESD in national educational policies, although there are differences in understandings. Almost half of the participants (47%; $N_1 = 28$) in Bosnia and Hercegovina clearly see the elements of ESD in the documents that regulate ECE, while 35% ($N_1 = 28$) find the elements of ESD arise from other statements. Participant B6 said, "the Preschool program clearly states the principles of sustainable development through aspects of development and outcomes." Another participant (B9) doesn't seem to be so sure ("Maybe in environmental activities, hygienic activities."). Participant (B15) combine the abovementioned answers:

> Elements of sustainable development certainly exist in the Preschool education program. Some are clearly stated, some are recognizable in the fact that a wide range of learning outcomes is given. But the question is how much the educational staff is ready to use the wide range of challenges offered by the Program…. (B15)

One-third (31%, $N_2 = 29$) of Croatian participants find ESD to be clearly stated in national ECEC documents. Almost half of them (45%, $N_2 = 29$) recognize ESD in

"values and key competencies" (C25) and "social sustainability part" (C13) of the national curriculum. Participant C18 analysed the Croatian national curriculum and find that "… one of the values of the national curriculum is to nurture responsibility in children, which includes responsibility for natural resources.". It is interesting that 20% ($N_2 = 29$) participants don't recognize elements of ESD in the documents, while one of them stated "it is not necessary to be stated at all" (C2). Similar to participant B15 one of the participants concludes:

> In my opinion, they (elements of ESD, a.c.) are not clearly stated.… For someone with many years of practice, the document is understandable and logical and for someone who is just "entering" the practice, it is not easy to understand everything stated there. (C15)

Contrary to the abovementioned participants, more than three quarters (79%, $N_3 = 34$) of Slovenian participants acknowledge national educational policy documents as "ESD friendly". Some of the participants claim that ESD cannot be separated because of its interdisciplinary characteristics:

> Sustainable development is not specifically defined in the curriculum. However, we can understand the ideas of sustainable development from the goals, principles, even from the proposed activities. I believe that the ideas of sustainable development are manifested primarily through goals and activities in the field of society and interdisciplinary integration. (S2)

> We find elements in the Curriculum for kindergartens, but they are not precisely defined as the area of sustainable development. Something from sustainable development is written in each of the areas. Sustainable development is interdisciplinary as it covers different areas. (S33)

Just a few of the participants (11%, $N_3 = 34$) didn't recognize ESD in relevant documents. One of them (S8) understands ESD as part of (ECE teachers') implicit curricula.

Practitioners' Education for Sustainable Development

In sum, almost half of the participants (43%, $N = 91$) find there is education for sustainable development represented within ECE teachers' initial education. Some of them (28%, $N = 91$) concluded it is integrated with all subjects. One of the participants find that practical activities give opportunity for ESD, while another (S14) concluded it is interdisciplinary approach contribute to ESD: "… you can find elements of sustainable development in almost everything. If we are sufficiently aware of this, we can intertwine these elements into all activities. In kindergarten, we adhere to these principles and encourage them."

Moreover, the participant (B9) finds it sufficient but gives a suggestion:

> Even more attention can be dedicated to it at faculties. Especially in the practical works of students. It is important to point out the implementation

> of education for sustainable development from the earliest childhood and to point out how the richness, uniqueness and peculiarity of culture and natural heritage can be the starting point in shaping lifelong sustainable attitudes, values and patterns of behaviour. (B9)

Still, one-quarter of all participants (26%, N = 91) find the ESD within ECE teachers' initial education insufficiently.

Implementation of ESD in Everyday Practices

Implementation of the activities and environment that contribute to ESD were analysed with the SOLO taxonomy. The participants understand the social and cultural aspects of sustainability predominantly on multistructural and relational levels. While most participants stated they see these aspects as respecting for family cultures especially minority ones, some participants find it as respectful actions, empathy, the right to make mistakes and giving a second chance. The latter may be seen as relational level. Interestingly, while participants' explanations of everyday activities showed a higher level of understanding of the social and cultural aspect of sustainability, in describing the activities they highlighted activities that promote respect for diversity and tolerance. Some of the participants describe the environment that promotes social-cultural pillar as an inclusive one:

> The environment must be suitable for all involved, it must be a stimulating and learning environment. Differences between children and adults should not be perceived in the environment. The activities that ECE teachers carry out must be and must show children that we respect each other, that we are all equal (regardless of skin colour, appearance, etc.), that we respect the culture of all involved, that problems and conflicts are resolved on the respectful way. (S4)

> ECE teachers try to include children who do not fit in something, to provide them with a healthy environment in which everything is achieved with beautiful words, in which it is important that we love each other and socialize with each other. (B17)

Participants from the three countries mentioned similar activities and similar environments as enabling. Given that social competencies are promoted in the curricula of all three countries, it is possible that the environment reflects the sociocultural aspect of sustainability as a consequence.

The promotion of the economic dimension of sustainability divided the participants. Some of them do not recognize the promotion of this aspect in their institution at all. However, all Slovenian participants stated that their institutions promote it. Regarding the residency, those who recognize it are at the multistructural and relational levels. The extended abstract level is not present at all. Yet, ECE teachers present a variety of activities:

> Recycled paper, plastic, bio waste, but it could be even better to better organize the type that we have zero waste policy. Part of the waste is recycled as new incentives for children, who occasionally participate in actions to help the

> community, sensitizing children to various problems and vulnerable groups and how to help them. (C14)

Many participants see economic sustainability through eco-kindergarten and gardening projects. Contrary, some of them are sure that gardening isn't part of it. Further, one of the participants (B9) stated that "children don't understand economic concepts". The participant S29 emphasizes the importance of developing awareness of savings: "We encourage children to turn off the lights, to close the water while washing their hands, to pour exactly as much water into a glass as they will drink, to put exactly as much food on the plate as he will eat, …".

Opposite to the economic dimension of sustainability, the ecological is almost omnipresent in kindergartens as stated by participants. However, in describing the activities and environment, they still focus on the elements of economic sustainability (savings, recycling). Consequently, an understanding of this aspect is found in most participants at the unistructural level, rarely on the multistructural level. Only one participant (S25) shows understanding on the relational level:

> We go to the countryside several times a week because we live in such an environment. We monitor nature in different seasons and observe changes in trees, gardens and meadows. On the meadow we get to know meadow plants, in the forests the trees, we find out why the leaves are falling. We focus on caterpillars, earthworms, beetles, ants ... We see an anthill, moles and children learn about nature and its significance for our existence in the natural environment.

However, many of the participants mentioned they are part of Eco-gardens, so they focus mostly on gardening activities.

Discussion

The study aimed to answer the question how ECE teachers with a different scope of professional experiences determine the concept of ESD. The results show that most of them have an understanding expressed to the multistructural level, which was established by Biggs and Collis (1982) in their SOLO taxonomy of knowledge. This implies that ECE teachers' are knowing the facts, but still doesn't make relation to these facts (Caniglia & Meadows, 2018). This is shown through knowledge of some relevant facts, although it remains unrelated and often "isolated relevant data" (Biggs & Colllis, 1982, pp. 24–5). However, a large number of ECE teachers shows an understanding that can be described as ignorance of relevant facts, and lack of ability to process them in terms of their connection, inductive and deductive reasoning, connecting with hypotheses and devising new, alternative approaches. The research of Summers et al. (2000) shows similar results-teachers had some understanding on environmental issues, without possibilities to upgrade ideas.

ECE teachers represent a kind of agents for the development of ESD from early childhood because their perspectives can shape children's knowledge and attitudes towards sustainable development (Kahriman Öztürka & Olgan, 2016). They are expected to have true participation, reflexivity and commitment, as well as training

to provoke development based on ESD values in children through their model, actions and attitudes.

We were interested in the position of ESD in legislation and national curricula in three countries (Bosnia and Herzegovina, Croatia and Slovenia), which have a tradition of education directed towards the ecological dimension, but also a period of autonomous development from the 1990s. The data indicate that almost all ECE teachers recognize the ideas of ESD in their curricula. In Slovenia and Croatia they are more clearly highlighted through the core values of the curriculum or pedagogical areas determined by the learning outcomes, although not completely clear. In Bosnia and Herzegovina, the position of the concept of sustainability is visible, so, ECE teachers can recognize it as an indirect value. This suggests that upbringing and education for sustainable development in early childhood in all three ECE contexts are still at the initiative level (Pribišev Beleslin et al., 2019).

A comparative analysis of the position of ESD in higher education programs in the three countries indicates sporadic approaches, in which the obligation to promote values and ideas of sustainability is still not recognized at the system level, as an important teaching content for developing personal and professional competencies of future ECE teachers. Higher education institutions should be arenas for implementation ESD. Still, international research (Emery et al., 2017; Hirst, 2019) shows lack of ESD curricula, courses or programms at higher education institutions.

The three countries differ in their approaches to sustainable education in the early years. Although Slovenia has implemented guidelines for sustainable development in state documents, BiH and Croatia nurture a similar approach to the educational values mentioned in their education policy documents, without strict guidelines. No differences were found in the ECE teachers' responses from different countries as to whether the policy documents supported ESD or not. There is a difference in the professional development of preschool teachers, where Croatia is in the lead and it is most underrepresented in BiH. Also, it was noticed that the undergraduate study program for ECE teachers' initial education in all three countries does not have a clear strategy for ESD, nor separate subjects. The curricula of these countries do not provide explicit ideas and guidance on the ESD in all areas.

The study, finally, points to the need for a comprehensive and systematic approach in implementing ESD as key components of the 2030 Agenda. The Embedding Change Model (Ferreira & Davis, 2019), which addresses the ECE teachers' initial education, could be a starting point for considering local ECE approaches to higher education reforms, given that it involves a large number of stakeholders (Ferreira, 2019), and starts from the students who are at the beginning of their professional development.

Conclusions and Implications

Through an empirical study of mixed multilayer design in which 91 ECE teachers from Bosnia and Herzegovina, Croatia and Slovenia participated with the help of the adapted OMEP ESD scale (OMEP, 2019), we tried to explore the sustainability in ECE practice from the perspective of practitioners.

When defining ESD, most ECE teachers do not go beyond the multistructural level and do not interpret this term with more ideas (focusing on the environmental and completely neglecting the economic aspect), which does not mean that they are not familiar with this issue, which is evident from their later responses when explaining their practices in the light of particular aspects of the ES.

In the context of the application, it is noticed that ECE teachers understand the social and cultural aspects of sustainability mainly at the multistructural and relational levels. The promotion of the economic aspect of sustainability divided the participants, and Slovenian ECE teachers are at the forefront of its understanding. Contrary to economic sustainability, the ecological dimension is fully represented in kindergartens, as stated by the participants. However, when describing activities and the environment, they continue to focus on the elements of economic sustainability (savings, recycling). Consequently, the understanding of this dimension is found in most participants at the unstructural level, rarely at the multistructural level.

The necessity of educational understanding of the connection between all three aspects of sustainability is noticed, in order for the practice of ESD in kindergartens to be improved. We also find the need for, in line with the insights we gained through research, the existence of precise curriculum guidelines, and the need for a systematic university approach to sustainable education in undergraduate education for ECE teachers in all three countries.

Achieving the SDGs presupposes individuals who will be able, individually and in the community, to contribute to their realization. Starting from early childhood as a key period in which dispositions and habits are acquired, it is necessary to intervene in the educational context in order to contribute to the education of responsible citizens. ECE teachers may be seen as agents of change in the implementation of ESD. It is therefore necessary to provide teachers' education that will enable them to understand sustainability and apply ESD in practice. Competent teachers can contribute to quality education, which itself is one of the SDGs. Consequently, quality early childhood education should lead to achieving other SDGs. Competences of ECE teachers, in addition to initial education, are developed through continuous professional development. Professional development in the field of ESD can be based on (self) assessment using the Scale. The Scale as a tool provides the possibility of self-insight, environmental assessment, and joint reflection in the field of ESD. Giving structure and openness at the same time, it strengthens the reflective skills of ECE teachers and contributes to the education for sustainability, and consequently, achieving SDG 4.

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