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Preschool Teacher Competence from the Perspective of Early Childhood Education and Care Student Teacher

Monika Pažur
Corresponding author, Faculty of Teacher Education University of Zagreb, Croatia, *monika.pazur@ufzg.hr*

Vlatka Domović
Faculty of Teacher Education University of Zagreb, Croatia, *vlatka.domovic@ufzg.hr*

Maja Drvodelić
Faculty of Teacher Education University of Zagreb, Croatia, *maja.drvodelic@ufzg.hr*

The goal of this paper is to determine how senior students at the end of the ECEC university graduate study program assess the level of development of preschool teachers' competence and to explore dimensions of preschool teachers' competence from the students' perspective. The research was conducted in Croatia, where, in line with other European countries, the initial education of ECEC teachers has been radically reformed by upgrading all initial ECEC teacher education programs from professional studies to university programs at the undergraduate and graduate level. The research comprised 191 participants, student teachers that were at the moment of the research at the end of their master's ECEC program. Answers were collected via online questionnaire. The collected results suggest a conclusion that preschool teachers at the end of their ECEC study program are centred towards their performance, or the aspect of "what we do" in everyday work. They focus on the child and the child's environment (both physical and social). On the other hand, they are less involved and prepared for acting at the level of the education system and contribution to the improvement of educational theory and policy. They perceive four dimensions of preschool teachers' competence: theory, practices, beliefs and learning environment and relationships.

Keywords: early childhood education and care, learning environment and relationships, preschool teacher competence, student teacher perspective

INTRODUCTION

The field of higher education there is a clear expectation towards universities to provide more accurate evidence of qualitative learning outcomes (Rhodes, 2012). Higher educational institutions are encouraged to try different, more modern, approaches to learning and teaching (European Union, EU, 2017). The European Union promotes the

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provision of competence-oriented education (EU, 2018). According to the European Qualifications Framework, competence is described as the "proven ability to use knowledge, skills and personal, social and/or methodological abilities in work or study situations and professional and personal development" (EU, 2008, p. 4). The debate about the concept of competence has been ongoing within the educational sector for decades (Brauer, 2019) and a clear definition depends on a concrete context and can be interpreted in different ways (Hodge and Lear, 2011). One of the most influential definitions of competence was developed in the OECD DeSeCo-Project where a competence is defined as the ability to meet individual or social demands successfully, or to carry out an activity or task (OECD, 2002: p. 8). European Commission defines competences as a combination of knowledge, skills and attitudes appropriate to the context (European Commission, 2006), which will also be a definition used in this research. Elements of knowledge, skills and attitudes, as main elements of competence, are recognized by different authors dealing with the topic. In the terms of knowledge, they speak about cognitive (Norris, 1991) and intellectual abilities (Stoof et al., 2002). In terms of skills authors recognize as important part of competence effective power to act (Fűgemann, 2004), universal, modularized ability to acquire something (Kleme & Hartig, 2008) and routines necessary for mastering specific demands, expectations, and performance criteria (Weinert, 1999). Attitudes in the concept of competence are mentioned as motivation (Weinert, 1999), harmony of ought and can (Műller-Ruckwitt, 2008) and responsibility (Fűgemann, 2004). The concept of "competence" is connected to different standards and frameworks that enhance the assessment of learning outcomes (Brauer, 2019). However, the assessment of competence in education is challenging up to misleading dichotomies of its interpretation, where one is seen as the "complex ability" and other focuses on observing behaviour in real-life context (Blőmeke et al., 2015). However, as authors claim, it is important to define and assess competence acquired in higher education in different fields (Blőmeke et al., 2015).

Meanwhile, in many countries across the world, the professionalism of teachers in the field of early childhood education and care (ECEC) has become one of the most important issues for educational experts and practitioners and, for educational policy decision makers (Dalli & Urban, 2010; Havens, 2018; Lino, 2016; Moss, 2006; Vandenbroeck, Urban & Peters, 2016). One of the important elements in the development of the professionalization of the ECEC teacher is the requirement for quality, long-lasting, university education (Bachelor's as well as Master's level) of teachers in early and preschool education (Urban et al., 2012). This requirement is based on research findings that show that the quality of early and preschool education largely depends on the competences of the teacher (Lillvist et al., 2014; Urban et al, 2012). The mentioned structural changes and related changes in the study programs are based on research results and policy recommendations which have shown a high correlation between initial education of preschool teachers and the quality of their future practice (Eurydice, 2009; OECD, 2012). Most research claims that better educated preschool teachers with specialized ECEC education are more effective in providing stimulating staff-child interactions (OECD, 2012). The duration of program participation seems to be more consistently associated with long-term intellectual gains and future achievement

of ECEC teachers (OECD, 2012). Higher "dose" programs also have a more visible long-term impact on the quality of teachers' practice (Eurydice, 2009). However, not all studies support the general conclusion that higher qualifications among the staff of ECEC programs lead to better pedagogical quality and, therefore, to better child outcomes (Schleicher, 2019). What is crucial is the quality of the curriculum in higher education institutions responsible for the initial education of ECEC teachers. In other words, the duration of the program is important, but the factor that has special significance for children in preschool settings is teacher competence, or what competences are developed during initial education and to what level (Lillvist et al., 2014). Considering both mentioned trends in ECEC field, competence-oriented higher education and professionalization of ECEC teacher, it is important to define a construct of preschool teachers' competence, as a sum of constituents of important knowledge, skills and values of ECEC theory and practice.

Preschool Teachers' Competence

Competence thus involves complex intellectual characteristics along with affect-motivation that underlines observable performance (Blőmeke et al., 20015) or it should be defined what a prospective ECEC teacher *know, believe,* and *is able to do*. Educational experts in the ECEC field discuss different core conceptual elements of ECEC professionalization and explore dimensions of the construct of preschool teachers' competence based on the theory and on students' perspective. Knowledge, skills and attitudes are recognized by many of them in general and specific elements that are addressed as relevant for a student to assess in order to become a ECEC teacher. Urban et al. (2012) presented the dimensions of a component system as knowledge, practices and values within four different dimensions: individuals, institutions and teams, inter-institutional collaboration and governance. Kile (2018) claims that there are four main dimensions of professionalism in the field of early childhood and those are professional knowledge, competence, commitment to ethical standards and personal characteristics. Drawing on a national survey of New Zealand early childhood teachers' views on ethics and professionalism in their practice, Dalli (2008) discussed three key themes that emerged as core conceptual elements in how teachers in ECEC settings defined professionalism. The three themes were: a distinct pedagogical style, specialist knowledge and practices, and collaborative relationships. Within these dimensions, different authors suggest different components of knowledge, skills and values that are important for prospective ECEC teacher.

Within the dimension of knowledge, at the end of their study prospective ECEC teachers should know and understand the relevant theoretical models in the field of ECEC as well as the stages of child development seen from a holistic perspective (Urban et al., 2012). Teachers should understand the characteristics of a safe, healthy and stimulating environment for a child (Cho, 2016) and be introduced with the rights of the child (Urban et al., 2012). It is important for a prospective ECEC teacher to understand the professional standards of ECEC (Kile, 2018). Further on, the prospective ECEC teacher should understand the role of the educational system and the way in which it functions (Urban et al., 2012), and they should be familiar with international, national and local

documents and stakeholders framing education policies (Urban et al., 2012). Knowledge that could additionally improve the practice of prospective ECEC teachers comprises different ways of managing and leading individuals and groups (Cho, 2016), knowledge on community development (Urban et al., 2016), knowledge of information and communication technologies (Winton, Snyder & Goffin, 2016) and understanding essential elements of scientific research study (Recchia, 2016).

The dimension of skills contains skills and abilities that prospective ECEC teachers are expected to have developed by the end of their study program. Some of the skills refer to being able to create a work plan (Kile, 2018; Urban et al., 2012) and to monitor the individual development of each child (Cho, 2016). It is important for an ECEC teacher to be able to critically reflect on their own and others' practice (Peeters, De Kimpe & Brandt, 2016; Recchia, 2016) and self-evaluate their own work performance (Kile, 2018). Thus, prospective ECEC teachers should be able to research their own practice using developed research skills (Recchia, 2016) in order to have the ability of creating new practices and knowledge development (Peeters, De Kimpe & Brandt, 2016). Since an ECEC teacher is part of a wider educational system, it is important that they should *know how* to implement relevant ECEC legal and pedagogical framework documents into the practice as well as to evaluate the achievement of the objectives assigned by those documents (Urban et al., 2012). Additional general skills and abilities that will contribute to a better practice of ECEC teachers are problem solving skills (Kile, 2018), project and program leading skills, social and communication skills as well as skills of team work (Cho, 2016). The ECEC teacher's ability to create quality relationships with others (Kile, 2018; Recchia, 2016) and to share responsibility for goal achievement (Recchia, 2016) will contribute to better ECEC practice. Analysing the needs of local communities (Urban et al., 2012) and using information and communication technologies (Winton, Snyder & Goffin, 2016) will help ECEC teachers to improve their practice both with children and with parents.

The dimension of values, or prospective ECEC teachers' attitudes and values, highlights the importance for prospective ECEC teachers to have a sense of importance of collaboration with different stakeholders (Kile, 2018) and to be devoted to self-career development (Kile, 2018), and to research and evaluation (Rechhia, 2016). Contributing to a better practice of prospective ECEC teachers is believing that education is a public good and public responsibility (Urban et al. 2012). It is important for prospective ECEC teachers to adopt a democratic and inclusive approach to education (Urban et al., 2012) and to understand the importance of education in creating social cohesion (Peeters, De Kimpe & Brandt, 2016). Devotion to professional values (Cho, 2016), respecting diversity (Rechhia, 2016), interdisciplinarity and interprofessional education (Urban et al., 2012), and nurturing an intercultural dialogue (Winton, Snyder & Goffin, 2016) will significantly improve prospective ECEC teachers' professional work.

Table 1
Dimensions and components of the prospective ECEC teacher's competence at the end of the study

	Know-what	Know-how	Know-why
Content Component	Relevant theoretical models in the field of ECEC (Urban et al., 2012) The stages of child development (Urban et al., 2012) Various developmental aspects of children from a holistic perspective (Urban et al., 2012) Characteristics of a safe, healthy and stimulating environment for a child (Cho, 2016) The rights of a child (Urban et al., 2012) Professional standards of ECEC (Kile, 2018)	Creating a work plan (Kile, 2018; Urban et al., 2012) Self-evaluating your own work performance (Kile, 2018) Monitoring the individual development of each child (Cho, 2016) Skills of critical reflection (Peeters, De Kimpe & Brandt, 2016; Recchia, 2016) Abilities of creating new practices and knowledge development (Peeters, De Kimpe & Brandt, 2016) Research skills (Recchia, 2016)	Sense of importance of collaboration with different stakeholders (Kile, 2018) Self-career development (Kile, 2018) Devotion to research and evaluation (Rechhia, 2016)
System Component	The role and functions of the educational system (Urban et al., 2012) International, national and local documents and stakeholders that frame education policy (Urban et al., 2012)	Implementation of ECEC relevant legal and pedagogical framework documents into the practice (Urban et al., 2012) Evaluating achievement of objectives assigned by ECEC legal and pedagogical framework documents (Urban et al, 2012) Project and program leading skills (Cho, 2016)	Understanding education as a public good and public responsibility (Urban et al. 2012) Adopting a democratic and inclusive approach to education (Urban et al., 2012) Understanding education as a tool for creating social cohesion (Peeters, De Kimpe & Brandt, 2016)
Generic Component	Ways of managing and leading individuals and groups (Cho, 2016) Knowledge on community development (Urban et al., 2016) Knowledge of information and communication technologies (Winton, Snyder & Goffin, 2016) Essential elements of scientific research study (Recchia, 2016)	Analyzing needs of local communities (Urban et al., 2012) Social and communication skills (Cho, 2016) Ability to create quality relationships with others (Kile, 2018; Recchia, 2016) Ability of sharing responsibility for goal achievement (Recchia, 2016) Skills of problem solving (Kile, 2018) Team work (Cho, 2016) Ability to use information and communication technologies (Winton, Snyder & Goffin, 2016)	Devotion to professional values (Cho, 2016) Respect of diversity (Rechhia, 2016) Interdisciplinarity and interprofessional education (Urban et al., 2012) Adopting an intercultural dialogue (Winton, Snyder & Goffin, 2016)

Based on the presented theoretical background of competence theory and a theory of a prospective ECEC teacher, in this research, three dimensions of preschool teacher competence have been identified (Table 1). The dimension of *know-what* constitutes teachers' knowledge and understandings, the dimension of *know-how* demonstrates teachers' skills and abilities, and the dimension of *know-why* demonstrates teachers' professional values and attitudes. Within each of these dimensions there are: the *content component*, the *system component* and the *generic component. The content component* comprises main knowledge, skills, and attitudes of prospective ECEC teachers. This component demonstrates teachers' knowledge and understanding of what being a preschool teacher involves and the competences needed in order to lead and organize preschool activities with children. *The system component* focuses on knowledge, skills and attitudes connected with the wider educational context, helping ECEC teachers to improve their practice and align it with the educational policy and system, and to contribute with their experiences towards improving policy and theory. The *generic component* refers to general knowledge, skills and attitudes which are a part of ECEC initial education programs that are not directly connected with the ECEC teacher. However, if a prospective ECEC teacher acquires such knowledge, skills and attitudes, it could lead towards developing a higher quality pedagogical practice. With this theoretical background, Table 1 is created, that is an overview of the sum of cognitive and motivational resources, or more specifically, the sum if multiple constituents needed for competent performance of ECEC teacher.

The proposed research will the theoretical developed construction of prospective ECEC teacher competence explore from the perspective of students. Students' perspective would be takin into consideration, not just regarding their perception on how much they gained and developed some knowledge, skills, and values, but as well if they see them as the whole, or as individual outcomes of the study. The long-term impact of the novel of this research is giving an evidence-based direction for improving ECEC teachers university programs.

METHOD

Context of the Research

In Croatia, in the last fifteen years the whole initial teacher education system, including the initial teacher education of ECEC teachers, has been radically reformed due to the implementation of the Bologna process in higher education. At the beginning of the implementation of the Bologna process, in the academic year 2005/06 the duration of the initial teacher education of ECEC teachers was raised from the previous two years to three years (180 ECTS), but it was kept at the level of professional studies leading to the title Professional (Baccalaureus/Baccalaurea) Preschool Teacher with clear competences that should be developed (Domović and Vizek Vidović, 2011). In the academic year 2009/10 some universities began to offer new programs for prospective pre-primary teachers as university programs. Since 2013, all universities have changed their programs for ECEC teachers and have begun to offer undergraduate (ISCED level 6) and graduate (ISCED level 7) university studies (Bouillet, 2017). After completing a three-year undergraduate university study program and earning the title of a specialist

Bachelor degree in ECEC, students can start working as novice teachers in different ECEC settings or they can continue their education at graduate level. A three-year undergraduate university study prepares prospective ECEC teachers for duties and tasks related to educating and nurturing young children up to compulsory school age (from 6 months to 7 years of age). After completion of a three-year undergraduate university study program, Bachelors in ECEC can then continue to follow a graduate two-year university study program for a Master's degree in ECEC. The goal of the graduate study of Early and Preschool Education is to improve the competencies acquired at the undergraduate level, develop additional, more complex competencies, such as research competencies, and open the possibility of continuing education in postgraduate studies. In this way, one of the important structural preconditions for the professionalization of the ECEC occupation is enabled and some learning outcomes of prospective ECEC teachers have been defined. However, the quality of those outcomes are not clear, and it is important to research if prospective ECEC teachers have had some competences outputs regarding the educational inputs of their graduate study. Therefore, this research will be directed towards assessing student's characteristics of preschool teachers' competence, that one had opportunity to develop in a specific learning, competence-based, context. This will be done from two perspectives: the perception of senior students regarding the level of assessment of different ECEC-teacher theory and practice knowledge, skills and values; and by exploring the way that students see preschool teachers' competence elements.

Consequently, the goals of this research were:

1) To determine how senior students at the end of the ECEC university graduate study program assess the level of development of preschool teachers' competence;
2) To explore the dimensions of preschool teachers' competence from a student perspective.

Sample and the research procedure

The research comprised 191 participants, students attending the final year of master ECEC study at five universities in Croatia[1]. The data was collected via online questionnaire in April and May 2021[2]. The data analysis was done in IBM SPSS 25 program, where multiple statistical tests were used (tests of descriptive statistics, a complementary factor analysis).

Instrument

The data were collected with an instrument specifically developed for the purpose of this study. The instrument contained 34 statements, based on the theoretical background

[1] At the moment of the research it was possible to study early childhood and pre-primary education at Bachelor`s level at six faculties (within 6 universities), and at Master's level at five faculties (within 5 universities).

[2] Considering that university teaching process was at the moment of research completely online because of the COVID pandemic, students were asked at the beginning of a class to fulfil the questionnaire.

(Table 1): 10 statements dealing with the dimension of *know-what*, 14 statements belonging to the *know-how* dimension, whereas 10 statements were formulated within the dimension of *know-why*. The participants assessed how much they *agree* with each statement on a 5-level Likert scale. A pilot study was conducted, which is regarded to be a significant approach in ensuring the reliability and validity of the instrument, as well as its adequacy (Baker, 1994). The results of descriptive statistics (M, SD) as well as a factor analysis on the data collected in the pilot, indicated that none of the items needed to be excluded from the instrument, and that the instrument had a high Cronbach Alpha, α=.919.

FINDINGS

The research results reveal that the average values of the estimates of the development of acquired attitudes are relatively high (M=4,50; SD = 0.740), while the estimates of acquired knowledge (M=3,81; SD = 0.854) and skills (M=3,82; SD=0.912) show medium to high values.

The research participants have estimated their level of knowledge and understanding (Table 2) and they are most confident regarding the characteristics of a safe, healthy and stimulating environment for the child (M = 4.51, SD = 0.695), the concept of the rights of the child (M = 4.32, SD = 0.795) and various developmental aspects of children from a holistic perspective (M = 4.30, SD = 0.814). They assess that, within their study, they have gained less knowledge with regard to how the local community is functioning (M = 3.08, SD = 0.942), and less understanding of the main documents that frame educational policy (M = 3.16, SD = 0.961) and the way the whole educational system functions (M = 3.28, M = 0.898).

Table 2
Assessment of knowledge-related statements

I UNDERSTAND…	M	SD
…the characteristics of a safe, healthy and stimulating environment for the child.	4.51	.695
…the concept of the rights of the child.	4.32	.795
… various developmental aspects of children from a holistic perspective.	4.30	.814
… the stages of child development.	4.25	.761
…professional standards of ECEC.	4.22	.855
…relevant theoretical models in the field of ECEC.	3.64	.876
… strategies of managing and leading individuals and groups.	3.38	.943
…the way the whole educational system is functioning.	3.28	.898
…the main documents that frame educational policy (international and national).	3.16	.961
… the ways of community development.	3.08	.942

Regarding the assessment of skills development (Table 3), students at the end of their ECEC program perceive that they have highest levels of developed non-violent conflict resolution skills (M = 4.38, SD = 0.843) and social and communication skills (M = 4.23, SD = 0.730). They also feel they are well prepared for sharing responsibility for goal achievement (M = 4.16, SD = 0.792) and creating quality relationships with others (M = 4.13, SD = 0.839). Very similar to the dimension of knowledge, they feel least prepared for the implementation of ECEC relevant legal and pedagogical framework documents

into the practice (M = 3.35, SD = 0.987). Additionally, their lowest assessment refers to skills of researching (M = 3.36, SD = 1.01) and evaluating (M = 3.43, SD = 1.01) their own practice or the practice of others in the educational institution they work.

Table 3
Assessment of skill-related statements

I HAVE DEVELOPED…	M	SD
…skills of non-violent conflict resolution.	4.38	.843
…social and communication skills.	4.23	.730
… the ability of sharing responsibility for goal achievement.	4.16	.792
… the ability to create quality relationships with others.	4.13	.839
… the ability for critical use of information and communication technologies.	4.07	.924
…skills of critical reflection on ECEC practice.	3.85	.888
…skills of creating my own work plan.	3.82	.964
… skills of monitoring the individual development of each child.	3.81	.898
…skills of self-evaluating my own work performance.	3.75	.912
…abilities of creating new practices and knowledge development.	3.71	.945
…project leading skills.	3.47	1.025
…the ability for quality participation in the processes of evaluation in the kindergarten.	3.42	1.017
…skills to research my own practice and the practice of others.	3.36	1.010
… skills of implementation of ECEC relevant legal and pedagogical framework documents into the practice.	3.35	.987

In the dimension of attitudes and values (Table 4), students at the end of their ECEC study program consider professional development very important (M = 4.77, SD = 0.559). Besides, they believe that it is important to deal with problems as soon as they arise (M = 4.64, SD = 0.710) and that cooperation with different stakeholders is important (M = 4.62, SD = 0.644). On the other hand, the lowest assessments are on the statements that indicate that it is important to act in line with clearly defined professional and ethical standards of the profession (M = 4.37, SD = 0.829) and that their work in kindergarten should be founded on research results and be evidence-based (M = 4.14, SD = 0.856).

Table 4
Assessment of attitude-related statements

I BELIEVE THAT…	M	SD
…professional development is very important.	4.77	.559
…it is important to deal with problems as soon as they arise.	4.64	.710
…cooperation with different stakeholders is important.	4.62	.644
…education is a public good and a public responsibility.	4.60	.703
…it is important to nurture intercultural dialogue.	4.49	.717
…an interdisciplinary approach is important.	4.47	.694
… education contributes to social cohesion.	4.46	.800
…different stakeholders have different perspectives in line with their different roles (e.g. parents and principals).	4.45	.792
…the most important thing is to act in line with clearly defined professional and ethical standards of the profession.	4.37	.829
…my work in kindergarten should be founded on research results and be evidence-based.	4.14	.856

In order to explore dimensions of preschool teachers' competence from a student perspective, on the gathered data, a confirmatory factor analysis was employed. The factor analysis with *varimax* rotation of all 34 items affirmed the presence of four factors, clarifying a total of 63.268 per cent of the variance (Table 5).

Table 5
Factor analysis results: total variance explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	13.347	40.446	40.446	13.347	40.446	40.446	6.399	19.390	19.390
2	4.250	12.879	53.325	4.250	12.879	53.325	6.392	19.370	38.760
3	1.726	5.229	58.555	1.726	5.229	58.555	4.213	12.767	51.527
4	1.555	4.713	63.268	1.555	4.713	63.268	3.874	11.740	63.268
Extraction Method: Principal Component Analysis									

From the student perspective there are four dimensions of preschool teachers' competence: *theory*, *practice*, *beliefs* and *learning environment and relationships* (Table 6).

The first dimension, *beliefs*, contains high loadings (.564 - .850) of all attitude-related statements (10 statements[3]).

The second dimension, *practice*, gathers most (9 statements) of the skill-related statements with loadings from .405 - .806.

The third dimension, *learning environment and relationships*, contains a mix of 5 skills and 2 knowledge statements. All those statements, gathered within this dimension were those that were assessed by students as most developed.

The fourth dimension, *theory*, contains 7 items, all knowledge-related statements (.524 to .785).

[3] All statements of all factors are visible in Table 6.

Table 6
Component analysis – rotated component matrix

Rotated Component Matrix[a]				
	Component			
	1	2	3	4
I believe that an interdisciplinary approach is important.	.850			
I believe that different stakeholders have different perspectives in line with their different roles (e.g. parents and principals).	.797			
I believe that it is important to nurture intercultural dialogue.	.775			
I believe that education is a public good and a public responsibility.	.773			
I believe that education contributes to social cohesion.	.743			
I believe that the most important thing is to act in line with clearly defined professional and ethical standards of the profession.	.743			
I believe that professional development is very important.	.691			
I believe that my work in kindergarten should be founded on research results and be evidence-based.	.685			
I believe that cooperation with different stakeholders is important.	.666			
I believe that it is important to deal with problems as soon as they arise.	.563			
I have developed skills of critical reflection on ECEC practice.		.806		
I have developed skills of self-evaluating my own work performance.		.768		
I have developed the ability for quality participation in the processes of evaluation in kindergarten.		.767		
I have developed project leading skills.		.718		
I have developed skills of implementation of ECEC relevant legal and pedagogical framework documents into the practice.		.699		
I have developed the abilities of creating new practices and knowledge development.		.696		
I have developed skills of monitoring the individual development of each child.		.691		
I have developed skills of creating my own workplan.		.673		
I have developed skills to research my own practice and that of others.		.629		
I have developed skills of non-violent conflict resolution.			.719	
I have developed the ability to create quality relationships with others.			.686	
I have developed the ability of sharing responsibility for goal achievement.			.620	
I have developed social and communication skills.			.610	
I understand the characteristics of a safe, healthy and stimulating environment for a child.			.602	
I understand the stages of child development.			.550	
I have developed the ability for critical use of information and communication technologies.			.518	
I understand the main documents that frame educational policy (international and national).				.785
I understand the way the whole educational system is functioning.				.717
I understand the ways of community development.				.684
I understand strategies of managing and leading individuals and groups.				.628
I understand the concept of the rights of the child.				.596
I understand the professional standards of ECEC.				.532
I understand the relevant theoretical models in the field of ECEC.				.524
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization[a]				

DISCUSSION

Senior students at the end of the ECEC university graduate study program assess that different elements of preschool teachers' competence are at different level of development. Students estimate as lowest-developed the attitudes related to the necessity to base their work on research and evidence-based results. Further on, a lower level of assessment concerns the development of professional and ethical standards of the profession. Finally, they perceive that their skills to research and evaluate their own practice and the practice of others are not sufficiently developed. Urban et al. (2012) see ECEC teacher competences as dimensions of knowledge, practices, and values relevant at all levels of ECEC systems, from the individual level to the level of governance. The collected results lead towards a conclusion that preschool teachers in

Croatia at the end of their ECEC study program are centred towards their performance at the individual level, or the aspect of what they do in everyday work. They focus on the child and the child's environment (both physical and social surroundings). On the other hand, they are less involved and less prepared for acting at the level of the educational system and their contribution to the improvement of educational theory and policy. According to this research, preschool teachers at the end of their initial education perceive their role at the individual level as more important, but they are less aware of reciprocal relationships between and among other levels. The results are in line with previous research (Oberhuemer, Schrreyer & Neuman, 2010; Lillvist et al, 2014) that suggested that long-term marginalization of the professionalism of the preschool teacher results in seeing their work as merely applying technical skills related to the teacher–child interaction. This perception is an estrangement from the idea of a well-qualified profession where teachers are seen as reflective practitioners using an evidence-based approach for planning improvements in their practice, that would lead towards many more competences needed (Vizek-Vidović & Domović, 2013).

While assessing the level of development of acquired knowledge, skills and attitudes, senior students at the graduate ECEC university study program in Croatia assessed professional attitudes as highest altogether, while the development of skills was assessed as lowest. One of the reasons for that is a possibility that students know *what* they should do (they are familiar with the theoretical background of ECEC) and *why* they should do it. However, they are not confident enough to apply knowledge in practice. The problem of ECEC students in connecting theory with their practice is something that has already been recognized in other research in Croatia (Domović, Drvodelić & Pažur, 2019). Shin (2012) argues that there is a need for teacher education programs to focus on the 'whole teacher', or making it possible for pre-service students to learn in an environment in which they can perform critical analyses of what it means to be a professional teacher, discuss the role of dispositions in teaching and professional learning, and develop leadership in the fields of early childhood and elementary education, that will lead towards a connection of knowledge, skills and attitudes. Another question that arises here, from competence-based theory, is a question of how much of development of each constituent that sums up the preschool teacher's competence, is enough for someone to be called "competent" (Blőmeke et al, 2015). More specifically, if there are lower and higher levels of development of each element of preschool teachers' competences assessed by the students at the end of their graduate study, an important question for responsible educational institution, that gives a final professional certificate is if all students, have successfully used educational inputs and developed needed competence outcomes.

According to these research results, seen from a student perspective there are four dimensions of preschool teachers' competence: *theory, practice, beliefs* and *learning and environment relationships*. This could lead to the conclusion that students mostly perceive knowledge, skills and attitudes as three separate dimensions, and they do not perceive them as a combination of competences they have gained. Further on, based on the research results it is possible to propose a model of dimensions of preschool teachers' competence from the perspective of students. It could be assumed, that student

teachers at the end of their ECEC graduate program perceive the field of *learning and environment relationships* as the most important mix of knowledge and skills they have developed during their study and that will be most useful to them in their future work (Figure 1). They perceive the other three dimensions – *theory, practice* and *beliefs* – in relation to this dimension. Statements with highest loadings on the factor called *learning environment and relationship* are statements that students perceive as those that they have developed most, such as skills of non-violent conflict resolution, the ability to create quality relationships with others, understanding the characteristics of a safe, healthy and stimulating environment and the stages of child development. Meanwhile, statements with highest loadings on the other three factors are the statements that were assessed by students as less developed than others. The proposed model assumes that students perceive the knowledge and skills of *learning environment and relationship* dimension as something they know best and they will use in everyday-work situations. However, they are aware that several other elements of *theory, practice,* and *beliefs* are important for their work, but they do not know them well enough, and in a specific situation the *learning environment and relationship* factor will be supplemented with elements of additional knowledge, skills or values. The result that students perceive preschool teacher's competence as four elements, where one specific filed of their work they see as a separated part of their" complex ability" to preform ECEC practice in future, opens a discussion on how well future ECEC teacher's cognition and affect-motivation developed during their initial education will be used in their real-life situations. As Blőmeke et al. (2015) suggest, competence includes "criterion behaviour" as well as the knowledge, cognitive-skills, and affective-motivational dispositions that underline that behaviour. Thus, with this results in mind, the higher education programs should be designed with recognition that a competence is a process, a continuum with many steps in between (Blőmeke et al., 2015). That should specially be takin into consideration while coming up with the programs where educational institution is delivering basic knowledge first before students undergo practical training, instead of enabling students' growth continuously happening on all dimensions at the same time (Baltes, Reese & Lipsitt, 1980).

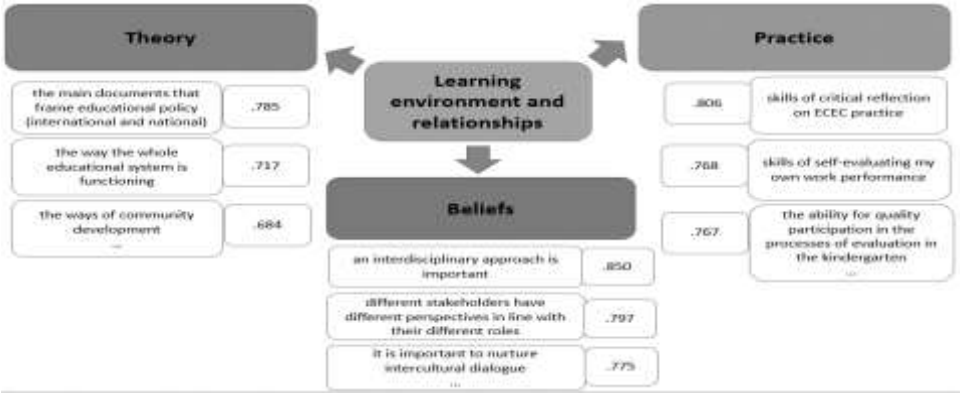

Figure 1
A model of preschool teachers' competence from a student perspective

The presented results should be perceived in a wider social and cultural context, where the ECEC teacher is considered in a holistic way. The meaning of preschool teacher competence is tied to the influence of culture, context and societal intentions, and the political and educational intentions behind preschools and preschool teacher education (Sylva et al., 2006). More specifically, preschool teacher competence is thus a result of societal values and expectations about what constitutes a 'good' preschool teacher, based on what competences, skills and knowledge are valued in today's society (Lillvist et al., 2014). These expectations, as expressed in the goals of the preschool teacher educational program, serve as *the master blueprint* (Garbarino, 1992). However, at a more detailed level, all preschool teachers will develop their own teacher competence, based on their interpretation of 'the master blueprint' and based on the everyday transactional processes in which they are involved (Lillvist et al., 2014). In the field of higher education nowadays, to meet societal demands, educational institutions have had to reconsider, which attributes are most important to graduates, and the extent to which various programmes develop these desired qualities (Little and McMillan, 2014). Presented research leads towards the conclusion that higher education institutions while trying to collect more accurate evidence of qualitative learning outcomes should take into the consideration both cognitive abilities as well as observed behaviour of prospective ECEC teachers in real-life situations.

The results of this study need to be interpreted in the light of its limitations. Each educational programs and its outcomes should be assessed from different angles, and students' perception of its implementation is an important element of it, although it cannot be the only one. Even so, changes that occur in the rapidly transforming systems of early education and care are not radical reconstructions with a clear vision of the required professional profile. Thus, one attempt to untangle the meaning of professionalism is to focus on the training of students and how they perceive the competences developed during their training and the competences needed in the work of early childhood education (Oberhuemer, 2011), which is the underpinning of this paper.

CONCLUSIONS

Senior students at the end of the ECEC university graduate study program are well prepared for creating quality practice with children on everyday basis but are not prepared enough for researching and reflecting their work and sharing their knowledge with educational community. Their skills to research and evaluate their own practice and the practice of others are not sufficiently developed, as well as their values on importance of ethical standards in their everyday profession. Further on, students mostly perceive knowledge, skills, and attitudes as three separate dimensions, and they do not perceive them as a combination of competences they have gained. These results might lead towards the conclusion that professionalization of the ECEC teachers in Croatia is still facing many challenges in their initial education. Since development of ethical sensibility is one of the most important elements in professionalization, some improvements of educational programs of ECEC teachers should be considered. One of the sufficient methods in developing sensitivity to ethical issues is creating opportunities for students to participate in decision making processes (Anggraini, Siswanto & Dew,

2020). Onwards, educational programs of prospective ECEC teachers should highlight more the importance of connecting level of knowledge, skills and values in competences that would contribute towards developing a professional ECEC teacher. These may be improved, as some previous research propose, by introducing more pedagogical courses and adequate ssupport of student teachers from their mentors, as well as giving students the opportunity to apply knowledge in practice and discuss challenges which student teachers face during practice (Rrustemi & Kurteshi, 2023).

This study was conducted within the context of preschool teacher education in Croatia. However, the theoretical background for instrument development was based on relevant international literature and research in the field of ECEC. The instrument has adequate metric characteristics and shows a significant degree of reliability and validity. Consequently, it can be recommended for use in general international practice as well as in future research.

Students' assessment of acquired competences of ECEC teachers is a measure of qualitative learning outcomes. However, the learning outcomes are achieved if the results of the official, written, delivered and estimated educational program are in harmony (Glathorn 2004). Future research could focus on a more holistic approaches where knowledge, skills and values are measured, along with the performance of those competences. Assessing the level of development of preschool teacher's competence where students are observed in real-life situations, would promote the vision that prospective ECEC teacher professionalization is a lifelong process of continuous professional development. Therefore, the results of this and future researches in the field should be perceived as a potential starting point for the improvement of other stages of ECEC teacher initial education (such as internship), as well as for adapting ECEC teacher training and professional development.

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