

# SOME OF THE SCIENTIFIC CONTRIBUTION FOR ENHANCING EDUCATION IN CROATIA

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## Abstract

Even though the synergy between science and practice present the major prerequisite of quality education of children, very often there is a discrepancy between those two fields. So, the main aim of this paper is to present some recent scientific contributions in the field of education in Croatia, as the attempts of reaching the needed synergy, led by research professors at the University of Rijeka. Scientific research entitled Connectedness to Nature, Organization of Free Time of Young School Children and Digital Technology, aims to determine the extent to which there is a connectedness to nature in children, their parents, and teachers. The aim of this research is also to answer the question of how modern educational processes in schools, the existing organization of free time and adequate application of digital technologies can encourage significant connectedness to nature of young school children as a basis for developing environmental sensitivity and sustainable development. Furthermore, despite the recognition of the importance of professional development there is a frequent occurrence of fragmented, insufficiently connected teachers' professional development with curricula, as well as an inadequacy in relation to teachers' needs, conditions, and opportunities. The aim of the second project is empirical research of students' acquired competencies during their initial teacher education in basic areas of teacher competencies and gaining deeper insight into practitioners' experiences and reflection on formal, nonformal, and informal learning opportunities and conditions for the realization of professional activities. Moreover, during the project related to teacher beliefs as determinants of self-regulation and creativity of students in the STEM, project members noticed that lack of open-source instruments with freely available normative data is a significant problem hindering cross-sectional collaboration between practitioners and scientists. Therefore, one of the project goals is to deliver to teachers and educational experts in schools online instruments that are easy to use and provide interpretable results with open access normative data under development. Furthermore, in this review paper there are several scientific projects presented that are aimed at the empowering children' well-being. First one is the scientific project, and it is aimed to empirically validate the Ecological-dynamic model of transition, and the second one is the project aimed to better connect academics and educational practitioners from kindergartens and a primary school named: How to go to kindergarten and primary school tear-free? – Support for the socio-emotional well-being of children during transition and adaptation. The third one is the Erasmus+ KA3 project PROMEHS that is aimed to create and implement Curriculum for Mental Health in kindergartens and schools. Finally, this paper aims to present the project of developing the online courses at the University of Rijeka, specifically the new elective course and the first one of this kind in Croatia entitled "The psychology of child well-being". Additionally, the research includes theoretical approaches to representative Croatian and foreign picture books, as well as the approaches aimed at exploring possible ways of applying the picture book to the work with pre-school and elementary school-aged children.

Keywords: Children's well-being, Children's literature, Connection with nature, Education, Online measure of self-regulated learning, Science, Transition, Teachers' professional needs.

## 1 INTRODUCTION

Starting from the basic definition of science as a comprehensive way of understanding the world, and its explanation, understanding, prediction and control with a specific relationship to cognition that contains the principles of determinism, empiricism, parsimony and generality [1], it is equally positioned in all areas of human action and life. Thus, the various questions we ask ourselves within the framework of science are equally located within the basic preconditions of science that structure the scientific framework of thinking, which enables a continuous process of drafting research with a dynamic connection between scientific methods, theories and knowledge [2]. This enables the understanding of the phenomena that surround us and ourselves in the form of models or theories that can be tested, and it is precisely this critical attitude of science towards our own research that is something that is its

fundamental feature. It is therefore logical to expect that scientific thought is present in various fields of scientific action and relevant practice. But the question arises, is this really the case when it comes to education? Is there a developed scientific field of research-based education? Namely, although Elkind critically questioned and discussed 22 years ago the serious lack of advanced and quality educational research, as well as their possible reasons, the fact is that there has been no significant shift meanwhile. Namely, three key reasons whose significant impact on the current situation he explains in detail in his work are: rigid boundaries between certain scientific disciplines, imbalance between masculinization of research and feminization of teaching and educational work, and the legacy of the grandmasters (Thorndike, James, and Dewey) which does not account for the digitization of the educational process [3] are still clearly recognizable and dominant in education, regardless of cultural context. Namely, educational research is largely limited to the psychological perspective within educational psychology, which includes scientific interest in learning processes, motivation, personal variables in learning and teaching, student-teacher interaction, knowledge assessment, and self-regulation of learning [4]. In contrast, true science of education needs to be interdisciplinary. This requires the cooperative efforts of scientists from different scientific disciplines, practitioners as teachers specializing in teaching a certain profession (scientific branch), children, methodologists, pedagogues, psychologists and sociologists in accordance with the current requirements of spatial and temporal context, and racial and cultural values and customs. Working together, such teams could design testing educational programs and teaching methods that would be updated and developmentally appropriate [3]. In addition, Shavelson and Towne [5] pointed out that some research in the field of education lacks quality, which is found in other sciences such as neuroscience, medicine, neuroscience, or economics. On the other hand, the same authors cite suggestions for improving scientific research in education so that scientific methods are applied adapted to the specifics of such research [5]. Namely, research design alone does not make research scientific. Only if the basic scientific principles are met, i.e. if the research directly empirically answers the research question, is related to previous research and relevant theories, is competently conducted in context applying valid and reliable measures, with logical connections in interpreting the results, highly ethical, and designed to be available for scientific review, it could then be considered scientific [5]. Given the specifics of the teaching process, scientific methods need to be modified and extended to normative research methods as well as those related to interpretive paradigms - participatory but objective observation, role play, non-directive interviewing, episodes and descriptions [1]. The special value of scientific research in teaching is enabling education professionals to develop a solid knowledge base inherent in other professions and disciplines, which will provide teaching and education with the maturity and sense of progress that it now lacks. In addition, although the study programs of educators and teachers in Croatia reflect this much-needed interdisciplinarity, there are still a number of disagreements and open discourses about whether educators and teachers need research competencies? The latest setback even in relation to Elkind [3] and Shavelson and Towne [5] is the definition of the Croatian Qualifications Framework [6] and the vague definition of what the research competencies of educators and teachers are and how to develop them and in what kind of framework. Considering the current research focuses and efforts of researchers at the Faculty of Teacher Education in Rijeka, Croatia, within the existing discrepancy between educational practice, scientists and users, or children and students, the authors decided to critically review current research projects. Therefore, the paper presents the review of current research projects in educational science, as well as the opinion of practitioners who participated in an interactive lecture with the aim of critically questioning the quality of communication between practice and science, and the possibilities of achieving greater synergies in this area.

## **2 METHODOLOGY AND AIM OF THE PAPER**

So, regarding the fact that even though the synergy between science and practice present the major prerequisite of quality education of children, very often there is a discrepancy between those two fields it is of utmost importance to critically approach to the research attempts in the field of education. The main aim of this paper is to review some of the contemporary scientific contributions in the field of education in Croatia, as the attempts of reaching the needed synergy, led by research professors at the University of Rijeka. Besides, since the workshop has been carried out with the practitioners on the same subjects, their opinions will be shortly presented in the paper.

### **3 CONNECTEDNESS TO NATURE, ORGANIZATION OF FREE TIME OF YOUNG SCHOOL CHILDREN AND DIGITAL TECHNOLOGY**

Connectedness to Nature, Organization of Free Time of Young School Children and Digital Technology is a scientific university project consisting of two teams of researchers from Croatia and Slovenia. The initial idea of the project was created on the idea of enabling learning outcomes in sustainable development curricula in both countries. This is especially significant in the context of the Comprehensive Curriculum Reform in Croatia (2019) which introduced the curriculum of the cross-curricular theme of Sustainable development, as a compulsory curriculum in primary schools (Ministry of Education, Republic of Croatia, Decision no. NN 7/2019-152). Apart from the fact that such research has not yet been conducted in Croatia or Slovenia, numerous studies have shown significant links between the connectedness to nature and environmental sensitivity, positive attitudes and behaviour of children and adults. The connectedness to nature in numerous studies, both directly and indirectly, has been linked to a numerous of health benefits in both children and adults [7, 8, 9, 10, 11]. Related to this topic is the problem of the modern lifestyles of school children, which is most often reflected in their well-being, healthy growth, optimal development, and the structure of their free time: lack or excessive structure of free time at home and school, but also digital technologies. Digital technologies, in addition to being a learning aid, are often considered a third member of the family [12, 13,14]. Digital technologies have significantly influenced all forms of communication, including especially forms of upbringing and education [15,16]. In this context the main goal and tasks of this research project are aimed at determining the connectedness to nature and the relationship between the structure of free time of young school children in school, but also digital technologies in school and in the family. The project itself is in the phase of realization of field research, on a sample of primary school pupils from 3-5. school class, their parents, and teachers. Three versions of the questionnaire were constructed for each group of participants, which refer to the examination of the connectedness to nature based on two scales: the scale "Connection to Nature index" by [17,18], longer and shorter version [17,18], and the second scale titled "Connectedness to Nature Scale" by [19,18]. The second part of the questionnaire on the structure of free time was constructed based on examining the basic activities of pupils in school, the selection of extracurricular activities, how they are realized outdoors, how they are conducted, the roles of teachers and parents in choosing activities, training in better management of such activities. The third part of the questionnaire, which deals with digital technologies, examines the use of modern digital tools for the purpose of learning and in pupils 'free time, and the role of parents and teachers in managing pupils' digital time in family and school. The last part of the questionnaire is intended to examine the content of learning in school and positive attitudes towards specific teaching contents, but also attitudes towards the environment and nature. An additional section in the questionnaire, intended only for teachers, examines their social competencies and training needs. The research starts during the month of May (2021) and ends in the fall. The notion of Connectedness to Nature is often associated with the notions of biophilia and biophobia. In this context, and as part of this research, was developed a computer application based on a combination of instruments used in previous research [20,21,22] that preliminarily investigates preschool children. The application was created as part of the final thesis of student Andrea Blagovčanin entitled Biophilia and biophobia (2021). In the computer application, children observe photos of plants, animals, and the environment, and in accordance with their experience of fear, sadness, happiness, or love, they assign an emoticon to each photo to express their feelings. After this preliminary research, application of the same research instrument (computer application) will follow on a sample of 1st and 2nd grade primary school pupils. What are the ultimate expectations of this science project? The expectations and hypotheses of this research are based on the view that it will be possible to determine the connection between the constructs of connectedness to nature, the structure of free time, and the use of digital technologies, by pupils, teachers, and parents. It is also expected that in addition to the validation of scales, other instruments designed for the purposes of this research, it will be possible to implement in further research that will include a larger sample of children, teachers, and parents. Ultimately, this research will result in the following results: important scientific knowledge on this issue, significant guidelines aimed at developing significant connectedness to nature as a basis for successful implementation of Education for Sustainable development curricula in schools; guidelines aimed at raising the quality of learning and teaching in schools and strengthening the role teachers and parents in improving the quality of children's free time in the family and school.

## **4 PROFESSIONAL DEVELOPMENT OF TEACHERS**

The project “Professional development needs, conditions, and learning opportunities of student-teachers and in-service teachers” (uniri-pr-drustv-19-13) is oriented towards the empirical research of students’ acquired competencies during their initial teacher education in basic areas of teacher competencies (teaching planning, classroom management, communication, and cooperation with parents, transversal competencies for lifelong learning, with a special emphasis on critical, reflexive, and innovative thinking), and gaining deeper insight into practitioners’ experiences and reflection on formal, nonformal, and informal learning opportunities and conditions for the realization of professional activities. The applied quantitative and qualitative research approach will provide a deeper insight into student-teachers’ status and in-service teachers’ expectations about their professional development. While there is substantial literature on the professional development needs of teachers in relation to various factors arising from the dynamics of social change and the challenges they face in practice, there is still a lack of research in many aspects of this field. Empirical studies insufficiently explore, transfer, and integrate the knowledge gained by researching the competencies and experiences of students-future teachers and teacher practitioners. Teacher competencies are one of the determinants of orientation and readiness for lifelong learning, and self-assessment of professional competency is a kind of indicator of the quality of teacher education. Previous research [23] has shown that, in pedagogical/teacher education programs, there is too little emphasis on raising students’ awareness of important aspects of their future professional work and the development of competencies, especially in the mentioned areas. The research will provide a productive foundation for a comparative study. Few studies focus on the transversal competencies of students who receive too little attention in practice, and which are considered crucial for the implementation of both educational and social goals that are important for all individuals [24,25,26,27]. The experiences and reflections of teacher-practitioners on their learning opportunities and conditions are insufficiently researched. Increased reflexive discussions of teachers in a focus group will deepen the understanding of their perspective and contribute to new insights, research questions, and perspectives. In practice, too little attention is paid to approaches aimed at examining educational needs, educational conditions and educational opportunities, and there are no extensive studies on this issue in the scientific literature. Educational needs, conditions, and possibilities are prerequisites for the realization of professional development and valid curriculum planning of education and teachers’ professional development. Their identification and analysis are the basic premise of valid curriculum development in teacher education. Examination of professional, developmental, and educational needs is a highly promoted, yet insufficiently applied activity within the curriculum development, and it is most often the missing part [28]. One can often observe a one-sided methodological approach that characterizes the reliance on the subjective statements of individuals about the desires and preferences for certain contents, on the basis of which conclusions are made about educational needs. In such an approach, the existing contextual, educational conditions and opportunities on which the success of the learning and teaching process depends are neglected. Professional development does not take place in a vacuum; it is subject to constant change and it is important that it includes other elements in a broader context, which can also affect the quality and effectiveness of the professional development practice [29,30]. The findings will contribute to curricular changes aimed at improving the learning conditions and development of future teachers’ competencies throughout their university studies as well as gaining insight into in-service teachers’ professional development needs and activities. The research results will provide key guidelines for achieving the necessary changes, and we expect an improvement in the quality of teacher education programs and strengthening of the ties between initial education and teacher professional development. Quality examination of educational needs, conditions, and opportunities leads to the improvement of certain educational conditions and opportunities at the state, local/regional, and organizational level, which makes them more likely to be realized at the individual and organizational level and lead, we believe, to a greater satisfaction of teachers and students.

## **5 CREATING OPEN ACCESS MEASURES OF SELF-REGULATED LEARNING WITH NORMATIVE DATA FOR TEACHERS AND PRACTITIONERS**

Scientific research projects tend to overemphasize the goal of creating new knowledge and underestimate the challenges of translating scientific findings to information and products readily available for practitioners that need them to advance their practice. This is particularly important for interdisciplinary education sciences projects that investigate the effects of teachers’ beliefs on changes in approaches to teaching and the students’ creativity, motivation, and self-regulated learning skill with full consideration of inclusive education of pupils with special needs [31,32]. With some previous

experience in translation and adaptation of well-being and resilience scale for children [33], in order to address this issue, specific goals were set up for the University of Rijeka project on teacher beliefs as determinants of self-regulation and creativity of students in the STEM field of education. One of the applied research goals was developing instruments and making them available in an easily accessible online format to practitioners and provide them with information about norms. That would make developed measures available and helpful to practitioners and professionals in educational institutions, including teachers, as a valuable indicator of motivation, self-regulation of learning and creativity in teaching. The critical outcome of this project was a development of a digital platform with open access measures of self-regulation components of students learning paired with initial norms. The platform is accessible to experts in the educational process, giving them immediate feedback on the results of their students (currently only for students in primary schools). The digital platform enables professional associates and teachers to use developed instruments easily and automatically report the results and compare them with the norms for the nine scales measuring different components of self-regulated learning. Proof of concept for such online application can be found at the web address: <https://glacial-everglades-97143.herokuapp.com/> implementing open access measures of self-regulated learning presented in the book *Motivation and Self-Regulated Learning Strategies: Theory, Measurement and Application* [34]. Hopefully, such initiatives could help educational practitioners reduce the stress experienced by children in educational settings [35] and provide additional help to teachers during the challenging pandemic time while switching classes from classrooms to online teaching. During these tasking time, teachers, professional associates, children, and parents face significant challenges in motivating students and need to further encourage students' self-regulation of learning.

## **6 SUPPORT FOR CHILDREN'S WELL-BEING WITH FOUR PROJECTS: TRANSITION PRACTICES, TESTING TRANSITION MODEL, PROMEHs AND NEW ONLINE COURSE**

University of Rijeka recognized the potential and decided to support four different but interrelated scientific and professional projects that are aimed to support children's well-being. The first one started at the end of 2018. Is the scientific project aimed to empirically test the contemporary Ecological-dynamic model of transition [36,37,38,39,40] named: *Children's well-being in transition periods: the empirical validation of ecological-dynamic model*. Besides, the aim of the project is it clearly define the significant correlates of transition from family home to kindergarten and from kindergarten or preschool to primary school. The early and preschool period is a very dynamic and intense period in the development of children given the significant number of changes which occur, that have a significant effect on the socio-emotional development and well-being of children. This is especially important when it comes to childhood transitions. Based on the results identified in this project, it will be possible to provide clear guidelines for ensuring the highest level of child well-being in transitions for children, parents, educators and professional associates. On representative samples of early children (transition from family home to kindergarten) and preschool age (transition from kindergarten/preschool to primary school), the following are investigated: intrapersonal factors of children (temperament, socio-emotional well-being, strength and difficulties, resilience), caregivers (personality, subjective well-being, resilience) and teacher (personality, subjective well-being, resilience); and interpersonal factors of children/caregivers and educators/environment (attachment, adaptation, relationship with caregiver, relationship with teacher, teaching methods in kindergarten or primary school, family-kindergarten-school relationship, family relationships, relationship between kindergarten/school and local community, social values). This correlation research design will use a quantitative methodology with reliable measures, which will objectively present the perspective of children, parents, teachers and professional associates. The analysis of the collected data will achieve short-term goals (test the validity of the theoretical model and provide guidelines for achieving optimal transition in the early and preschool period) as well as long-term goals (prevention by strengthening children's mental health and increasing their lifelong psychological well-being). Research in kindergartens with young children (nursery) was conducted using surveys of educators, professional associates and parents, as well as interviews with children. Research in primary schools is conducted in the first and second grades (teachers, professional associates and children). So far, the project has produced 24 scientific papers, 23 participation in conferences, 11 diploma theses, 3 books, organization of one conference, 20 activities within the popularization of science, the advancement of a doctoral student, and networking with foreign researchers.

The second project is aimed at connecting science, practice and the local community, and it is a scientific-professional project within the program 27 neighborhoods-University Campus: *"How to go to*

*kindergarten and primary school tear-free? – Support for socio-emotional well-being of children during transition and adaptation*“ It lasted for two years, from January 1, 2019. to 31. December 2020. Childhood transitions and the way children adjust are a real challenge for both children and their parents, with the role of adults (parents, families) and educators (teachers, professional associates) being extremely important. Therefore, the aim of this project was to provide professional support to parents and children who are going through, who have passed and who will just go through a period of transition and adjustment in kindergarten and primary school. At the same time, starting from modern scientific and practical knowledge, the aim of the project was to strengthen the existing competencies of educators in working with children during the transition and adjustment, given that there are no similar professional development programs in our country. Finally, the basic goal of this project was to connect the academic community with practitioners in kindergartens and primary schools, and the local community. Associates-partners in this project were Kindergarten Đurđice and Elementary School Trsat. During two years, a large number of different activities were carried out: a program to support the social and emotional well-being of preschool children through 4 workshops with children; organization of an expert meeting for educators with the aim of strengthening their competencies during transitions; two participations with interactive lectures and workshops on two Rivers of Psychology in 2019. and 2020.; project presentations at domestic and international conferences; making posters and brochures; a play for children and parents, and an e-book [39] in which all project activities are presented in detail.

PROMEHS is an international Erasmus + KA3 project with the basic goal of developing, implementing and evaluating the Curriculum for Mental Health of Children and Youth in Kindergartens, Primary and Secondary Schools, in order to strengthen the connection between science, practice and policy. The project leader is prof. Ilaria Grazzani from the University of Milan, Italy, and in addition to Croatia, universities from Greece, Latvia, Malta and Romania are included as partners. The project started in February 2019 and will run until February 2022. The curriculum was created jointly by scientists, practitioners and representatives of local communities, from these countries on the theoretical basis of socio-emotional learning, resilience and mental health. In the first year of the project and after the professional training, all partners participated in the development of manuals and additional materials for the implementation of the curriculum. At the end of 2020, according to the project schedule, an Opening National Conference was held in Croatia, as well as a series of meetings with the principals of those kindergartens and schools that expressed interest in joining the project. After that, the necessary trainings for educators were conducted. Manuals for educators and children, as well as guidelines for parents and policy makers, were printed at the end of 2020 and distributed together with working materials in 17 kindergartens and school in Primorje-Gorje County. Curriculum activities are have been implementing from January 18<sup>th</sup> this year, three supervision with teachers were held and the last one will be on June 2<sup>nd</sup>. Completion of the first phase is planned for the beginning of June 2021, when the post-evaluation of the curriculum will be conducted, and to announce training for involved educators of kindergartens and schools in the second phase of curriculum implementation, which is planned for September 2021. After getting the scientifically evaluated curriculum effects, it is planned to present them to policy makers in Croatia with the aim of its long-term implementation in schools [41] .

Forth project is online course development project financed by the University of Rijeka: *Psychology of child well-being*, and its duration is from 19. May 2020 to 30. September 2021. The general goal of the course is to acquaint students with the goals and knowledge of child well-being psychology, and positive psychology as the youngest branch of psychology, aimed at strengthening and optimizing positive dimensions, and strengths and potentials in individuals, as a fundamental way to develop resilience, socio-emotional competencies and overall psychological well-being and mental health, both on an individual level and in working with children. Given that the basic prerequisite for strengthening the well-being of children is to strengthen the well-being of professionals working with children, teaching will be aimed at acquiring competencies in this area in relation to themselves, their own growth and development, and in relation to the needs of working with children. The aim of the course is to provide contemporary knowledge in the field of Psychology of Child Well-being, which can provide a better quality of life, both for students themselves and within the application of this knowledge in working with preschool children [42]. It is performed on English language and it is intended for domestic students of the 4th year of Teacher Education, students of the 1st year of graduate study Early and Preschool Education, and students of the YUFE network (foreign students). Course content includes: introduction to the psychology of child well-being with historical view; positive states and positive emotions; positive thinking; positive qualities - human strength; well-being psychology: subjective well-being, adult well-being, child well-being - development perspective; contemporary perspectives and a multifactorial approach to the study of children's well-being; positive motivation, positive relationships and positive institution, society, community; well-being psychology in an educational context; risk and protective

factors of psychological aspects of children's well-being; resilience of children and youth; socio-emotional learning of children and youth; mental health of children and youth; preventive programs for strengthening the well-being of children and youth; and contemporary research and methodology of Psychology of child well-being.

## 7 PRE-SCHOOL AND ELEMENTARY SCHOOL PICTURE BOOK

The research includes a theoretical approach to representative Croatian and foreign picture books and their transpositions into other artistic forms, such as the theater for children and young people or the puppet theater, as well as a practical approach aimed at exploring possible ways of applying the picture book to the work with pre-school and elementary school-aged children. Based on the research results, the aim is to offer forms of application of picture books in the work with pre-school and elementary school-aged children. The starting point is the linguistic-communication educational area of the National Curriculum Framework for Pre-school Education and General Education and Secondary Education, whose fundamental purpose is to enable pupils to acquire knowledge, develop skills and abilities, and adopt values and attitudes that are closely connected to language, communication, and culture. This area also encompasses the development of readership interests as well as the need for media literacy content and a critical approach to different media and their contents. In this respect, the research will also include examinations of elementary school-aged pupils' desire to read picture books, i.e., the experience of their transpositions into other artistic forms. Project aims in the area of work with early and pre-school-aged children are based on the aims set out in the National Curriculum of Early Childhood Education and Care, which include ensuring children's wellbeing (personal, emotional, physical, educational, and social), children's upbringing and learning, and competence development (the National Curriculum of Early Childhood Education and Care encourages the development of eight core competencies for lifelong learning). Picture books used in the pre-school institution are a means of achieving the stated goals of the National Curriculum of Early Childhood Education and Care. The implementation of a literary-theoretical analysis of representative examples of picture books is planned pictorial productions in diachronic and synchronic sequence with respect to visual and verbal discourse, based on contemporary scientific knowledge in the field of theory and the history of the picture book. As an essential, central moment of the pictorial form of artistic expression contemporary literary-theoretical cognitions emphasize the interaction of art (visual) and verbal dimensions. The meaning of the picture book is created in the interaction of textual and visual picture book levels, which is also the place of difference between a picture book and an illustrated book. As Barbara Bader writes: *"The picture book is the text, the illustrations, and the whole design, it is production and commercial subject, social, cultural, and historical document, and finally, the child's experience. As an art form it implies the interdependence of images and words, on the simultaneous stage of the two pages, as well as the drama of turning the pages."* [43, p.164] In working with children of early and preschool age, the picture book is also the first book as well as a toy. Reading to children from an early age, especially picture books, is associated with development communication and intercultural competences in children's mother tongues and foreign languages early and preschool and younger school age. Development of communication competencies at mother tongue and foreign languages of children of early and preschool age and students at younger school age is a significant learning outcome within the acquisition of educators or teachers competence in higher education study programs. It is therefore very important identify the factors that affect the level of quality of these competencies in the field of methodological and professional training of students for the future vocation educators and teachers. It is the educators and teachers who will one day prepare young people for a cultural plural society by developing their intercultural competencies which they are acquired by becoming aware of and deepening their knowledge of their own and other cultures. Research shows that preschool and early elementary school children develop attitudes according to "others" [44] it is therefore from the earliest days of life the child's need to create awareness of other cultures, understanding and respect for cultural diversity. The research team is composed of the teachers from the Faculty of Teacher Education in Rijeka as well as of the external associates – teachers from University of Rijeka, Pula and Zagreb. The participation of teachers is also planned in the work of the team class teaching of the Elementary School-SE San Nicolo as experts in practice. By gathering like this the composition of the team aims to achieve the promotion of the Faculty of Teacher Education, University of Rijeka, within the academic community and beyond, as an Institution committed to promoting these extremely important topics in contemporary society and communities. The picture book can be interpreted from different points of view (linguistic, stylistic, aesthetic, artistic, communicative, psychological, philosophical, and sociological) and thus it becomes a valuable subject of learning, but also a means of teaching. Previous research confirms the use of the picture book in regular, all - day and additional classes, in extended stays, as well as in school non-

teaching hours. We hope that the results of our research will contribute to the further promotion of the application of the picture book in kindergarten and primary school.

## **8 INTERACTIVE LECTURE AND WORKSHOP WITH TEACHERS AT RIVER OF PSYCHOLOGY IN RIJEKA, CROATIA**

The River of Psychology is an annual event held once a year in February and it is organized by psychologists in Rijeka. This year, the 10<sup>th</sup> Rijeka of Psychology was held, and also the 14<sup>th</sup> Week of psychology in Croatia. The goal of this event is to popularize psychology through free lectures, workshops, round tables and other activities (<https://rijekapsihologije.uniri.hr/program>). On February 19, 2021, from 5 pm to 7 pm online on the Microsoft Teams, an interactive online lecture and workshop entitled *Science in the Service of Education* was held. Trying to respond well to the modern needs of education in Croatia, the lecture described the projects described in this paper. The purpose of this lecture, aimed at educators, teachers, students, psychologists, pedagogues and other similar professions, was to discuss with the participants the needs of the education system in our country in the context of science, and studies that could respond to these needs. We also discussed the challenges in cooperation between academics and educational practice and how to achieve greater synergy between them. A total of 45 participants from all over Croatia expressed satisfaction with this topic, the possibility of joint discussion and information on current scientific and professional project activities of UFRI. During the workshop, participants were asked two questions via a Mentimeter. When asked to what extent they think there is a synergy between science and practice in education, a total of 18 answered in a way that 13 of them think that there is a moderate, two that there is little, two that there is a lot and one person who considers to exist completely. The second question related to their proposals for improving the relationship between science and educational practice was answered by 9 of them, and the largest number of answers was related to better communication, openness and cooperation. Other proposals were related to performing joint projects, proactivity of all participants, joint activities, creating of networking sites, workshops, doing trainings for personal development. The mutual conclusion was to organize more similar activities with the purpose of more quality networking between academics, educational practitioners and local community.

## **9 CONCLUSION**

As presented, all project activities are interdisciplinary and open to critical discussion regarding their potential to enhance the educational practice. Even though they are focused on different research aims, what reflects the multidisciplinary and complexity of educational processes, they are flexible adjusting to the actual needs from the educational practice. Therefore, we hope that these projects, with their various focuses will have a positive impact on the school-university initial teacher education partnership and contribute to strengthening of the collaboration, dialogue, and connection with practitioners. As pointed out in the work of Gutierrez and Kostogriz ([45], p. 478), "*Good teaching and research are made better only through collaboration with practitioners.*" Effective communication between scholars and practitioners encourages cooperation and innovation of educational activities. Improving communication and interaction between scholars and teachers will contribute to improvements in research, classrooms, and the community.

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