

**The Strategic Programme of Scientific Research of the
Faculty of Teacher Education University of Zagreb
(2023 – 2027)**

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1. THE PURPOSE OF ESTABLISHING THE FACULTY AND ITS ACTIVITIES

1.1. The history of the Faculty of Teacher Education

The Faculty of Teacher Education was founded on February 2, 2006 as a constituent unit of the University of Zagreb. It is the successor of the Teacher Training College in Zagreb, Two-year Teacher Training College, Three-year Teacher Training College, Teachers' Academy, the Faculty of Philosophy – Educational Sciences and Teacher Education Academy. The history of teacher education in the Republic of Croatia, as well as the history of the institution itself, can be traced since the 19th century. The first teacher training school was founded in Zagreb in 1849, in Petrinja in 1862, and in Čakovec in 1879.

However, higher education of teachers was introduced in 1919, when the Two-year Teacher Training College was founded in Zagreb, with the aim of preparing teachers for teaching in upper grades of primary school. The College also trained experts in other fields of pedagogical work. In the period between 1941 and 1945, the College was renamed into the Three-year Teacher Training College. In the period between the end of the World War II and 1961, it was again renamed into Two-year Teacher Training College. At first (1945 – 1951), it lasted for two years, training teachers for subject teaching in the lower grades of grammar schools and upper grades of primary school, while in 1951 it began implementing three-year professional studies to train teachers working in the upper grades of primary school. In the early 1960s, two-year higher education of pedagogical experts was introduced, with the aim of preparing them to work as classroom teachers, while in the academic year 1961/1962, the Two-year Teacher Training College became the Teacher Education Academy. Apart from training teachers for work in classroom teaching, it also provided training for teaching in various fields in primary school. Preschool teacher education was introduced in 1968.

In 1981, the Teachers' Academy in Zagreb was significantly reformed both in terms of organization and content, when it (together with academies in Čakovec and Petrinja) merged with the Department of Pedagogy at the Faculty of Philosophy in Zagreb and it became its separate unit. It was named the Faculty of Philosophy – Department of Educational Sciences. From April 1, 1981 it operated as a separate educational and scientific entity for studying pedagogy, preschool education and classroom teaching. The Centre for Pedagogy and Research was founded in 1971 as a separate university institution, operating in the premises of the Faculty of Philosophy. In 1981, the Centre merged with the Faculty of Philosophy – Department of Educational Sciences, and provided pedagogical training for all teacher studies implemented within the University of Zagreb. When the Faculty of Philosophy – Department of Educational Sciences was founded, educational sciences were, for the first time, directly linked to the actual educational practice and it provided training for all teacher profiles. In 1992, a four-year teacher education study was introduced.

The Faculty of Philosophy – Department of Educational Sciences was active until 1997, when the Decree on separation of March 11, 1997 stated that it would be separated into two institutions again: the Faculty of Philosophy and the Faculty of Teacher Education. The decree defined the modality of training in pedagogy and psychology for teacher education students. Pedagogical and psychological training for students of the Faculty of Philosophy would be implemented at Department of Pedagogy of the Faculty of Philosophy, while the Faculty of Teacher Education would implement training in pedagogy and psychology for students of all other teacher education faculties (Faculty of Science, Academy of Fine Arts, Academy of Music, Faculty of Defectology, Faculty of Physical Education and Sports).

In the same year (April 10, 1997), the Teacher Training Colleges in Čakovec and Petrinja were founded, in order to organize and implement professional study programmes for primary teacher education, as well as for teachers and associate teachers in kindergartens. The Teachers' Academy was founded under the Decree of the Croatian Government on May 21, 1998, and was renamed into Teacher

Training College in Zagreb, with the aim of organizing and implementing programmes for permanent professional development of teachers and preschool teachers, performing professional and scientific work in the area of social sciences and humanities, including publishing, library and ICT activities to meet the needs of the teaching process and professional activities. The Governing Board of the University of Zagreb granted its consent to change the name of the institution into Teacher Education Academy, on December 21, 1998. On September 23, 1998, after the expert opinion of the National Council for Higher Education had been given, the Ministry of Science and Technology of the Republic of Croatia granted the permanent work licence to the Teacher Education Academy, a member of the University of Zagreb. The four-year teacher education study programme with a subject major served as the basis on which the present Teacher Education Studies with modules and Teacher Education Studies with English/German language as the subject major have been developed.

The new millennium marked the beginning of a comprehensive higher education reform at the European level, with Croatia joining in. The Bologna Declaration, the fundamental European document the goal of which is to increase the quality and competitiveness of European higher education, was adopted in 1999, while the Republic of Croatia signed the Declaration at the Ministers' conference in 2001. The Act on Scientific Activity and Higher Education of 2003 was based on the Bologna Declaration principles, harmonising the study programmes accordingly since the academic year 2005/2006. The Bologna process was of great significance for the Teacher Education Academy, as its study programmes were transformed. The institution obtained the Licence to implement the Integrated Undergraduate and Graduate University Study for Primary Teacher Education and the Licence to implement the Professional Preschool Education Study. On June 16, 2005, the Teacher Education Academy, following the resolution of the Academy Council, changed its name into the Faculty of Teacher Education. Following the decision of the Senate of the University of Zagreb of February 13, 2007, the Teacher Training College in Čakovec and the Teacher Training College in Petrinja merged with the Faculty of Teacher Education in Zagreb. The above-mentioned colleges at first operated as local branches, and later as departments of the Faculty of Teacher Education. Although the Faculty of Teacher Education performs its scientific and teaching activities as one institution in three locations – Zagreb, Čakovec and Petrinja, the historical features are visible in the names of its location branches: The Faculty of Teacher Education – Branch in Čakovec and The Faculty of Teacher Education – Branch in Petrinja.

The Faculty of Teacher Education comprises three programme departments: Department of Teacher Education Studies, Department of Preschool Education Studies and Department of Educational Studies. The Faculty of Teacher Education organizes the following study programmes at undergraduate and graduate levels: undergraduate university study *Early childhood and Preschool Education*, graduate university study *Early childhood and Preschool Education*, graduate university study *Early Childhood and Preschool Education* with English major (implemented since 2022), integrated undergraduate and graduate university study *Primary Teacher Education with Modules* (Croatian language, Computer science, Visual arts and Educational sciences), and integrated undergraduate and graduate university study *Primary Teacher Education* – orientation: English language; German language; Lifelong learning, and Adult Education. In addition, the Faculty of Teacher Education implements the following postgraduate specialist and doctoral studies: a postgraduate specialist study *Lifelong learning* (implemented since 2015), a postgraduate specialist study *Drama pedagogy* (implemented since 2015), and a postgraduate specialist study *Mental health of the family, children and young people in the community* (implemented since 2023). The Faculty of Teacher Education accredited a postgraduate specialist study *Educational approach to Croatian language as a foreign language in early childhood and compulsory education*. The Faculty is also implementing two doctoral studies: a postgraduate scientific university doctoral study *Lifelong education and educational sciences* (implemented since 2017) and a postgraduate scientific university doctoral study *Linguistic, literary and cultural context of early childhood, preschool and primary education* (implemented since 2019).

1.2. Internal Organization of the Faculty

As a result of developments in the history of the Faculty of Teacher Education described in the previous chapter, the internal organization of the Faculty is complex and, in the context of the constituent parts of the University of Zagreb, it is unique as the Faculty performs its activities in three different locations – the headquarters in Zagreb, and branches in Čakovec and Petrinja. The scientific, artistic, and teaching activities are performed in all locations.

The Faculty comprises different program **departments**: the Department of Teacher Education Studies, the Department of Preschool Education Studies, and the Department of Educational Studies.

In addition, the Faculty of Teacher Education comprises the following **constituent units**:

- 12 chairs
- 6 centres
- offices
- Secretary's Office
- library
- Counselling centre
- gallery
- Music Scene

The chairs of the Faculty of Teacher Education are organizational units whose structures are based on the scientific and artistic fields or scientific branches. The Faculty consists of 12 chairs:

1. Chair of Croatian Language and Literature, Drama and Media Culture
2. Chair of English Language Teacher Education
3. Chair of German Language Teacher Education – intercultural German studies
4. Chair of Mathematics and Statistics
5. Chair of Information Sciences
6. Chair of Science, Geography and History
7. Chair of Kinesiology Education
8. Chair of Arts
9. Chair of Philosophy and Sociology
10. Chair of Pedagogy and Didactics
11. Chair of Psychology
12. Chair of Teaching Methodologies

The Faculty of Teacher Education centres are organizational units of departments or the Faculty, involved in scientific, artistic, teaching, and professional activities. There are six (6) centres at the Faculty of Teacher Education:

1. The Centre for European Education
2. The Centre for Research in Children's Literature and Culture
3. The Centre for Research in Early Childhood and Preschool Education
4. The Centre for Lifelong Education
5. The Diagnostic Centre for Research in Kinesiology Education
6. The Publishing Centre

The Secretary's Office is an organizational unit which encompasses administrative services and is run by the secretary of the Faculty. The secretary of the Faculty provides immediate work-related assistance to the Dean, Vice-Deans, and other employees of the Faculty.

The administrative services of the Faculty include: Student Affairs Service, Accounting and Financing Service, Human Resources Service, IT Support Service and Website Administration, Procurement, Technical and Maintenance Service, Filing and records Office, and Archives.

The Office for Science and International Cooperation provides information about and offers support in applying for and implementing scientific-artistic research and mobilities. In this way, the Office promotes a larger involvement of scientific-teaching and artistic-teaching staff in international scientific and artistic-teaching projects, as well as greater student involvement and Faculty employees' involvement in international mobility programs, and provides support to teachers in project application and implementation.

The library of the Faculty of Teacher Education is a constituent unit which assists teachers, associates and students in achieving scientific, educational and professional goals and tasks. The Faculty of Teacher Education has libraries in all three locations: Zagreb, Čakovec and Petrinja.

The Student Counselling Centre provides support and assistance to students in developing their academic and professional skills and career guidance. The Counselling Centre also provides support to students with disabilities and other vulnerable student groups.

The Faculty also contains the Faculty of Teacher Education Gallery in which theme exhibitions are organized, promoting visual arts creation of students and teachers of the Faculty, as well as those of other artists.

The Music Scene has been promoting the work of young musicians and the already established ones, especially those who are members of the Chair of Arts in the field of music and their students. However, the Music Scene is also open to students of the University of Zagreb and general public of the city of Zagreb.

About the structure of the Faculty of Teacher Education Management

Administrative services of the Faculty have been established to perform legal, human resources, IT, accounting, administrative and other activities.

The Dean is the head and the manager of the Faculty and he/she represents and presents the Faculty. The Dean is assisted in their work by five Vice-Deans: for student and academic affairs of the Faculty; for science, arts and international co-operation of the Faculty; for business and development of the Faculty, and two Vice-Deans for business and academic affairs outside the Faculty Central Branch in Zagreb. The Dean is responsible for the legal aspect of all activities performed at the Faculty and for its general operations.

The Faculty Council is an expert council of the Faculty. It is composed of the employees holding scientific-teaching and artistic-teaching titles, the representatives of the employees holding teaching and associate positions, and student representatives. The Faculty Council is presided over by the Dean, who proposes the agenda for the Faculty Council meetings. The Faculty Council approves the Statute and appoints the Dean and Vice-Deans. In addition, the Faculty Council is responsible for monitoring and making decisions on the quality assurance of the studies and scientific and artistic work.

1.3. Mission of the Faculty of Teacher Education

Through the implementation of university study programs and lifelong learning programs, applying the principles of interdisciplinarity and multidisciplinary, the Faculty of Teacher Education ensures that

educational, scientific, research, arts and other institutions and companies will have qualified and competent employees in their educational, scientific, research, and artistic activities in all areas and fields of their work. The Faculty also ensures vertical transfer through its studies and enables preschool teachers, classroom teachers, subject teachers and scientists lifelong learning and promotes informal forms of education.

The Faculty develops and implements scientific, research, and publishing activities in social, humanistic, scientific, and interdisciplinary areas, promotes creation and co-designs and improves public educational policies by providing counselling support based on the findings obtained in the latest scientific, artistic and professional research. In its educational, scientific, artistic and public activities, the Faculty of Teacher Education cooperates with educational, scientific, artistic and art institutions in Croatia and in the world, as well as with other relevant institutions.

The Faculty promotes innovation in its studies, as well as creativity and excellence of its teachers and students, and pays great attention to professional, scientific and artistic development of its teachers and personal development of its students as future preschool teachers, classroom teachers and subject teachers. While doing so, the Faculty is guided by ethical principles of justice, tolerance, social responsibility and humanity.

1.4. Vision of the Faculty of Teacher Education

The Faculty of Teacher Education is renowned as a research excellence centre, a co-creator of educational policies and a leading European higher education institution in the area of early childhood and education, and research on the child and childhood period. As a coordinator of national and international research, professional and artistic projects in its field of interest, the Faculty trains the experts who are acknowledged and in high demand. Through its activities, the Faculty of Teacher Education contributes to professional standards and affirmation of the preschool teacher, classroom teacher and subject teacher profession, as well as to the general development of Croatian society as a society of knowledge.

1.5. The Strategic Program for Scientific Research Framework

1.5.1. Legal framework

The legal framework within which higher education institutions in Croatia perform their activities is defined by a range of regulations and bylaws and aligned with the Standards and Guidelines for Quality Assurance in European Higher Education Area (i.e. ESG standards) and the Bologna Process.

The key acts defining the activities performed by higher education institutions are:

- Act on Higher Education and Scientific Work (Official Gazette 119/22)
- Act on Quality Assurance in Higher Education and Science (Official Gazette 151/22)
- Act on Academic and Professional Titles and Academic Degree (Official Gazette 107/07, 118/12)
- Act on the Student Assembly and other Student Organizations (Official Gazette 71/07)
- Adult Education Act (Official Gazette 144/21)
- Act on Institutions (Official Gazette 76/93, 29/97, 47/99, 35/08, 127/19)

The most relevant act governing the activities performed by the Faculty is the Act on Higher Education and Scientific Work. It regulates the systems of scientific activity and higher education which are recognized as activities of special interest for the Republic of Croatia and are integral components of international, especially European, scientific, artistic and education area. Furthermore, the Act

elaborates the principles and responsibilities of higher education institutions, as well as all matters and legal framework relevant for the proper functioning of higher education.

Among the acts regulating various matters pertaining to the work performed by the Faculty of Teacher Education, these are the most important ones:

national

- Ordinance on Criteria for Appointment to Scientific Positions (Official Gazette 84/05, 138/06, 42/07 – Decision of USRH, no.: U-II-33/2006 of 4. IV. 2007., 120/07, 71/10, 116/10, 38/11, 99/13 – Decision of USRH, no. U-II/2013; Official Gazette 28/17)
- Ordinance on the Modifications and Amendments to the Ordinance on Criteria for Appointment to Scientific Positions (Official Gazette 111/2022)
- Ordinance on Scientific and Art Areas, Fields and Branches (Official Gazette 118/09, 82/12, 32/13, 34/16)
- Ordinance on the Modifications and Amendments to the Ordinance on Scientific and Art Areas, Fields and Branches (Official Gazette 56/2022)
- Ordinance on the necessary conditions for evaluation of the teaching and professional activities in the election process to art-teaching and teaching titles in the artistic area (Official Gazette 61/2017)
- Student Document Ordinance (Official Gazette 90/14)
- Ordinance on the Content of Diplomas and Diploma Supplements (Official Gazette 9/2005, Official Gazette 77/08, 149/11)
- Ordinance on purposeful longterm institutional financing of scientific work in public universities and public scientific institutions in the Republic of Croatia in 2013, 2014 and 2015 (Official Gazette 69/13)
- Ordinance on the Content of Licence and Conditions for Issuing Licence for Performing Higher Education Activity, Carrying out a Study Programme and Re-Accreditation of Higher Education Institutions (Official Gazette 24/10)
- Ordinance on the Register of Scientific Organizations and the Register of Higher Education Institutions (Official Gazette 72/04, 80/04)
- Ordinance on the Amendments to the Ordinance on the Register of Scientific Organizations and the Register of Higher Education Institutions (Official Gazette 29/2018)
- Ordinance on the Official Register of Scientists (Official Gazette 72/04, 101/04, 82/10)
- Ordinance on Keeping Records on Students in Higher Education Institutions (Official Gazette 9/05)
- Ordinance on the content of Student Document (Official Gazette 118/2013)
- Act on academic and Professional titles and degrees (2019)

university

- The Statute of the University of Zagreb
- Regulations on Studying at the Undergraduate and Graduate Study Programmes at the University of Zagreb
- Regulations on Postgraduate Professional Study Programmes at the University of Zagreb
- The Code of Ethics of the University of Zagreb

Faculty

- The Statute of the Faculty of Teacher Education
- Regulations on the Internal Organization of the Faculty of Teacher Education
- Regulations on Studying at the Undergraduate, Graduate and Integrated Study Programmes of the Faculty of Teacher Education of the University of Zagreb

- Regulations on Postgraduate Professional Study Programmes of the Faculty of Teacher Education of the University of Zagreb
- Regulations on the Quality Assurance System at the Faculty of Teacher Education
- Regulations on the Work of the Centre for European Education of the Faculty of Teacher Education in Zagreb (2022)
- Regulations on the Work of the Diagnostic Centre for Research in Kinesiology Education of the Faculty of Teacher Education University of Zagreb (2021)
- Regulations on the Structure and Work of the Centre for Research in Early Childhood and Preschool Education (2022)
- Regulations on the Doctoral Studies at the Faculty of Teacher Education University of Zagreb (2021)
- Regulations on the Work of the Centre for Research in Children's Literature and Culture (2018)
- Regulations on the Final and Graduation Theses and Final and Diploma Exams (2018)
- Regulations on the Promotion of Scientific and Artistic Work (2020)

The fundamental act of the Faculty is its Statute, which determines the organization, activities and business activities of the Faculty of Teacher Education; the structure, authority and decision-making process of the Faculty bodies; the organization and implementation of study programs at the Faculty; the status of teachers, associates and other employees; the status of students, and other matters of importance for the Faculty.

1.5.2. Strategic framework

The European Union recognizes education as one of its development priorities which can lead to economic progress, social stability and assurance of cultural identity. The fundamental strategic development document of the European Union is *Europe 2020*. *Europe 2020* is a strategy of smart, sustainable and inclusive growth focused on five ambitious goals relating to employment, innovation, education, social inclusion and climate/energy, all of which should be achieved by 2020. The fourth goal, education, states: the percentage of people who drop out of school early should be lower than 10%, while at least 40% of younger generation (30 – 34 years of age) should complete tertiary education. According to the EUROSTAT statistics, in 2021, the Republic of Croatia had 35.7% of population in the age range 25 – 34 with completed higher education, while the expected percentage in the EU was 41.2%. Europe 2020 lists empowerment of the European Higher Education Area as one of its five strategic priorities. Also, within the European Higher Education Area, the EU policies are focused on supporting a more intensive and comprehensive cooperation among universities, especially among international alliances of higher education institutions, as well as the improvement of quantity and quality of teacher and student mobilities, with special emphasis placed on international mobility as an integral component of education.

EUROPEAN PROGRAMMES

In the stage of strategic planning of scientific work, the Faculty of Teacher Education reviewed the programs relevant for national and European programs designed to promote development of science, research and education, funded through structural and investment funds, as well as other EU funds, such as:

- Operational Programme Competitiveness and Cohesion 2021-2027 (The European Regional Development Fund and the European Cohesion Fund)
- Operational Programme Efficient Human Resources 2021-2027 (the European Social Fund)
- Erasmus+ programme guide 2021-2027
- Horizon Europe 2021-2027 (EU Funding & Tenders Online Manual 15/9/2022, EU Funding Programmes 2021–2027)

NATIONAL AND STRATEGIC PROGRAMMES

The Faculty of Teacher Education aligns its activities with the strategic national documents relevant for the development of education and scientific research system. These are the following documents:

- The Strategy of Education, Science and Technology, 2014
- The Strategic Plan of the Ministry of Science and Education 2020-2022
- The Croatian Qualifications Framework (CROQF) and the Croatian Qualifications Framework Act (Official Gazette 64/18, 20/21)
- The National Recovery and Resilience Plan 2021-2026
- The Agency for Science and Higher Education Strategy (2021-2025)

In 2014, the Strategy for Education, Science and Technology was adopted, starting from the following framework goals:

1. quality education is available to everyone, under equal conditions, and
2. science which develops the general world fund of knowledge and contributes to the development of the Croatian society.

The Strategy for Education, Science and Technology introduces lifelong learning as a principle on which the overall education is based. The goal is to develop the processes and system of recognizing the knowledge and skills gained in an informal context and promote the application of information and communication technology in education. One of the key goals of the Strategy is to raise the level of quality of work and social status of teachers. It has been planned to introduce a comprehensive curricular reform in the pre-tertiary level of education, ensure a holistic support system for children and students, and improve the quality of the education system in all its segments. In the higher education domain, it has been planned to develop study programmes and to implement the principles of the Bologna Reform in a consistent manner, ensure the quality human resources and an efficient and developmentally encouraging system of funding higher education institutions, as well as to improve student standard, with special care for social dimension of the studying process. Furthermore, in line with European policies, the internationalization of higher education and its better integration in the European and international higher education area has been mentioned as one of the key goals in higher education. In adult education, the goals are: ensuring precondition for increased involvement of adult citizens in lifelong learning processes, and improvement and expansion of learning, education and professional development at workplace and from workplace. In the area of science and technology, the goals defined in the Strategy are: competitive public universities and public scientific institutes at an international level, and increased investment in research and development by developing the public funding system and encouraging the business and social sectors to make investments in research and development.

The Strategic Plan of the Ministry of Science and Education 2020-2022 was adopted in 2019, and it defines four general goals:

- a quality education system
- improved vocational education and adult education
- improvement of the quality, relevance, efficiency and availability of higher education

- internationally competitive science system.

The Croatian Qualifications Framework was developed as a key reform instrument which regulates the qualifications system by developing the educational programmes aligned with the qualifications standards, their key components, groups of the learning outcomes aimed at raising the quality of the education and its alignment with the labour market needs and lifelong learning. *The Croatian Qualifications Framework Act* (Official Gazette 64/18, 20/21) establishes the Croatian Qualifications Framework and defines its application. It also regulates its alignment with the European Qualifications Framework (EQF).

The National Recovery and Resilience Plan 2021-2026 is a precise and coherent framework for the reform implementation, as well as development, social, environmental and all other goals set by the Government in the current decade. The Recovery and Resilience Plan is aligned with the key and strategic documents, such as the Programme of the Government of the Republic of Croatia 2020-2024, as a document which is rooted in and associated with a range of important programmes. In line with the given framework and specific developmental needs in Croatia, the Croatian Recovery and Resilience Plan comprises five components and one initiative: Economy; Public administration, judiciary system and the management of state assets; Education, science and research; Labour market and social protection, and Health, and the initiative Building reconstruction.

As far as the component Education, science and research is concerned, the Recovery Plan aims to modernize the education system to provide the access to quality and efficient education for all children and adults, which would aid a quicker economic recovery and the resilience of the state and society to new crises. Reforms and investment will lead to the establishment of the quality education system which enables better employment prospects, innovation and individual competitiveness at the labour market. This goal is viewed as a pillar of investment in the competitiveness and human resources for recovery from and resilience of the state and society to crises. In addition, through development of research excellence and strengthening of the innovation capacities, the conditions will be created for attracting researchers to develop their careers in Croatia, with transparent and merit-based employment policy and work at the universities and scientific institutes. Through advancement in science and investment in new research infrastructure, Croatia will be better integrated in the European research area.

STRATEGIC DOCUMENTS OF THE UNIVERSITY

As a constituent unit of the University of Zagreb, the Faculty of Teacher Education aligns its work and goals with the strategic documents of the University:

- Regulations on the Quality Assurance System at the University of Zagreb (2014)
- The Strategy of Study Programmes and Studying at the University of Zagreb (2014–2025)
- The Student Support Development Strategy of the University of Zagreb (2013–2025)
- The University of Zagreb Spatial and Functional Development Strategy (2013– 2025)
- The Strategy for the Development Education in the Arts, Artistic Creation, and Research of the University of Zagreb 2014– 2020, with projections for 2025
- The Strategy of Research, technology transfer and innovation of the University of Zagreb, 2014
- The Strategy of Internationalization of the University of Zagreb 2014–2025

This Strategic programme of scientific research is based on the Strategy of the Faculty of Teacher Education 2021-2025. Bearing in mind the key areas of the quality in science and higher education policy, and starting from the needs analysis, the Faculty of Teacher Education defined its strategic goals in the Strategy. They are attained by introducing measures to achieve the specific goals for which the

success indicators have been defined regarding the expected effect. The basic goals and the specific goals relating to the scientific work area are the basis of this Strategic programme.

2. THE ANALYSIS OF SCIENTIFIC POTENTIAL AND THE STATUS OF THE FACULTY IN SCIENTIFIC AND BUSINESS ENVIRONMENT

2.1. The employees structure

In the period when this Strategic programme was being designed (the academic year 2021/2022¹), the Faculty of Teacher Education employed altogether 141 teachers. The titles they held at the time were:

- scientific-teaching title – 94 teachers
- associate title – 22 teachers
- teaching titles – 25 teachers

With regard to scientific-teaching titles, the employee structure is shown in Table 1:

Table 1. The structure of employees holding scientific-teaching titles

TITLE	academic year
	2021/2022
Full Professor with tenure	6
Full Professor	17
Associate Professor	35
Assistant Professor	36
TOTAL	94

Table 2. The structure of employees with regard to the area in which they hold artistic-teaching titles

Artistic-teaching title	Assistant Professor	Associate Professor	Full Professor	TOTAL
Artistic area / visual arts area	3	3	2	8

Out of 47 employees holding associate and teaching titles, 4 employees (8.51%) have been appointed to scientific titles (Table 3), so it can be assumed that they will be promoted to the corresponding scientific-teaching titles.

Table 3. Employees holding associate, teaching, and scientific titles

TITLE	APPOINTMENT		
	Appointed to scientific title	Not appointed to a title	total
junior assistant	0	16	16
senior assistant/postdoctoral researcher	3	3	6
lecturer	1	11	12
senior lecturer	0	10	10
principal arts teacher	0	3	3
TOTAL	4	43	47

¹ The data were collected at the end of the academic year 2021/2022, i.e., on September 30, 2022

The structure of employees with respect to the area in which they have been appointed to scientific titles, i.e., artistic-teaching title, is presented in Table 4.

Table 4. The structure of employees with respect to the area in which they have been appointed to a scientific title

Scientific areas	Scientific associate	Senior scientific associate	Principal scientific associate	Principal scientific associate with full tenure	Total
Area of social sciences	18	12	11	1	42
Area of humanities	8	10	9	3	30
Interdisciplinary scientific area	3	3	3	-	9
Natural sciences area	0	4	1	-	5
Area of biomedicine	-	-	1	-	1
Interdisciplinary area of science and natural sciences	-	-	-	-	0
Interdisciplinary area of science and social sciences	-	-	-	-	-
TOTAL	29	29	25	4	87

The basic activities of the Faculty of Teacher Education encompass higher education and scientific research, research in arts, artistic work and professional work in various scientific and artistic areas and fields. The Faculty of Teacher Education has a licence to perform scientific activities in scientific areas of social sciences, natural sciences, humanities and the interdisciplinary area of science. Postgraduate studies implemented by the Faculty of Teacher Education fall within the interdisciplinary area of science, field of educational sciences, except the postgraduate specialist study *Mental health of the family, children and young people in the community*, which was accredited in the area of social sciences. With regard to the structure of the employed scientists from various areas, the multidisciplinary of scientific and artistic human resources is one of the basic features of the Faculty of Teacher Education, which is at the same time one of the biggest advantages for scientific and artistic work and development.

Multidisciplinary can best be recognized by analysing the scientific fields in which the scientists hold titles, especially in social sciences and humanities (Table 5). The data presented in Table 5 include the scientists who were appointed to two titles, one of which is either in social sciences or humanities.

Table 5. Appointment of employees to titles in scientific area and fields of social sciences and humanities

AREA	FIELD	TOTAL
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social sciences	pedagogy	24
	psychology	9
	kinesiology	11
	information and communication sciences	7
	education and rehabilitation sciences	2
	demography	0
TOTAL		53
humanities	philology	28
	philosophy	3
	interdisciplinary humanities	2
	history	1
	arts science	3
TOTAL		37

2.2. The current state of affairs in scientific research work

Comprehensive data on scientific research work at the Faculty of Teacher Education are available in the *Self-analysis of the Faculty of Teacher Education (2020)* created for the purpose of reaccreditation, in the *Strategy of the Faculty of Teacher Education, annual reports on the success of the implementation of the Strategic programme of scientific research of the Faculty of Teacher Education* and in annual *Dean's reports*. Thus, in this document, only the relevant data on scientific research work performed at the Faculty of Teacher Education in the past three years will be presented.

2.2.1. Scientific research and professional projects

a) Scientific research projects

In the academic year 2021/2022, the Faculty of Teacher Education implemented a total of three (3) national scientific competitive projects of the Croatian Science Foundation (HRZZ), and one (1) international scientific research competitive project was approved, funded by the Horizon Europe Programme, in which the Faculty is a partner. It is important to note that in the previous programme period (2017-2022), the Faculty was a partner in a project funded by *Horizon 2020*, which testifies to the capacity of the Faculty to implement scientific research work at the highest level.

Among scientific research and professional projects, the following were implemented in the previous programme period (2017-2022):

- An installation project UIP-2014-09-9823 *Building Intercultural Bridges Through Children's Literature Translations: Texts, Contexts and Strategies* (project leader: Prof. Smiljana Narančić Kovač, PhD, 2015-2018) which, among other, resulted in the establishment of the Centre for Research in Children's Literature and Culture as an organizational unit of the Faculty, which successfully continues to implement scientific research work in the mentioned area.
- A bilateral Croatian-Slovenian project, *Giftedness in art - an analysis of the situation among elementary school students in terms of artistic and musical giftedness* (project leader: Prof. Milan Matijević, PhD, 2018-2020), was approved and successfully implemented, funded by the Ministry of Science and Education.
- An international research project *Policies Supporting Young Adults in their Life Course: A Comparative Study of Lifelong Learning and Inclusion in Education and Work in Europe (YOUNG_ADULLLT)* was completed. It was implemented within the *Horizon 2020 (2016-2019) Programme* and led by the University of Muenster, Germany. The Faculty of Teacher Education was a partner, with three researchers involved in the project.

- A total of 142 projects were implemented at the Faculty of Teacher Education in the period between 2017 and 2022.

The financial support for scientific and artistic research of the University of Zagreb amounted to 3,348,299.46 HRK.

- 2017: 19 projects with the value of 565,195.87 HRK
- 2018: 19 projects with the value of 672,607.91 HRK
- 2019: 27 projects with the value of 523,908.68 HRK
- 2020: 22 projects with the value of 536,584.00 HRK
- 2021: 27 projects with the value of 550,000.00 HRK
- 2022: 28 projects with the value of 500,000.00 HRK

- The Faculty of Teacher Education was the leader of an international Erasmus+ KA2 project *Development of literacy and language skill for disadvantaged young learners - DEAL* (2018-1-HR01-KA201-047499, project leader: Full Professor Tamara Turza-Bogdan, PhD, 2018-2020), with partners from the University of Maribor, SS Cyril and Methodius University in Skopje, North Macedonia, and Ivan Gundulić Primary School, Zagreb. In 2022, the project was awarded the European Innovative Teaching Award by the European Commission.

Since 2022, the Faculty of Teacher Education has been a partner in an international project of the Croatian Science Foundation funded within Swiss-Croatian bilateral projects (IPCH-2022-10). In addition, the Faculty of Teacher Education employees are members of the Management Board and researchers in two COST actions.

In 2022, a total of 31 small-scale scientific research projects were approved (institutional projects, 28 of which were funded by the Grant for scientific research of the University of Zagreb).

In 2022, a total of 92% of the Faculty employees were involved in scientific or artistic projects. Some of the remaining 8% of the Faculty employees are assistants who have no obligation to participate in scientific projects.

In the academic year 2021/2022, the Faculty of Teacher Education was the leader in the following national competitive scientific projects funded by the Croatian Science Foundation (programmes: Research projects and Installation research projects).

Topic	Formal reasoning and semantics (FORMALS)
Leader	Associate Professor Tin Perkov, PhD
The Faculty of Teacher Education (UFZG) team members	Tin Adlešić, Nikolina Iris Filipović
Project duration	December 1, 2017 – November 30, 2022
Partner institutions	The Faculty of Mathematics, University of Rijeka; The Faculty of Science, University of Zagreb; Algebra University; The Faculty of Organization and Informatics, University of Zagreb; The Faculty of Humanities and Social Sciences, University of Zagreb; The Faculty of Science, University of Split
Work programme	The project will establish a new research group in the area of mathematical logic, with the aim of establishing cooperation between researchers whose results were have been more of a theoretical nature and the researchers who have so far focused on the practical applications in their scientific work. Thus, the project emphasizes mutual communication and dissemination, as well as professional development of doctoral students who will be encouraged to adopt a disciplinary approach from the early stages of their career in science. In terms of the content, the aim of the project is to enable mutual enrichment of

	<p>theoretical and applied logic, with focus on the application of logic in computer science and vice versa, and the application of digital tools in research in the areas of logic and mathematics. An additional aim is to apply logic in concrete linguistic problems or, in more general terms, problems in cognitive and information sciences, and interdisciplinary areas in which economy and mathematics overlap (game theory, social choice theory). Although at first logic seems to be a very formal and theoretical discipline, it is very applicable, and it is surprising to find that the same or similar logic systems, especially modal logic, can be applied in very different areas. The formalization creates the precision and clarity of notions, which ensures security in proving new knowledge and sheds light on the complexity of a problem and poses new questions which may remain hidden in informal reasoning. The theoretical aspects of the project include: 1) research on the expressive power of formal languages by applying the model theory methods; 2) adequacy, completeness, decidability and complexity of logic systems, especially modal logic, and 3) research on the possibility of developing abstract theory of formal semantics. The aspects of application are: 1) development, research and formalization of mathematical models for problems arising in other disciplines; 2) development and implementation of algorithms, and 3) discovering relationships between matters in seemingly diverse areas through similar formalizations. The project includes interdisciplinary and international cooperation.</p>
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Topic	Modern women thinkers: intellectual development of women in Croatia in the 20th century (MMŽ/MWT)
Leader	Associate Professor Andrea Feldman, PhD
The Faculty of Teacher Education (UFZG) team members	Marijana Kardum
Project duration	October 1, 2018 – March 31, 2023
Partner institutions	Central European University, Budapest; Charles University, Prague; The Faculty of Humanities and Social Sciences, University of Zagreb; The Croatian Academy of Sciences and Arts, Institute for the History of Croatian Literature, Theater and Music in Zagreb, Division for the History of Croatian Literature
Work programme	The project aims to construct women's intellectual history in Croatia and to identify the changing ideas in comprehending the concept of a woman in the 20 th century, in order to explain the intellectual origins of understanding a modern woman. It will trace the development of ideas which shaped women through their own intellectual activities, influence and critique, changing the social position of women and defining the category of an intellectual. The research focus of the project is on the Croatian and broader Yugoslav and central European area from the end of the 19 th century till the end of the 20 th century. It is the period in which an increasing number of women started participating in social and public life, with the aim of gaining complete legal equality. The interdisciplinary research will encompass theoretical and practical insights from historiography, education, literary theory, anthropology, and philosophy,

	<p>by using Croatian and foreign literature and archive materials in several countries. The project will explore the mechanisms of the construction of (national, religious, gender, class, cultural) collective and individual identities of the female population in all political systems on the Croatian territory throughout the period spanning several centuries. A more complex understanding of the influence of structural changes arising during great social, economic, cultural, and political events in the chosen period will be offered. The project will analyse the people and ideas which created changes in the perception of (the position) women by exploring the forms and modes of their social organization and public activities (women's organizations, intellectuals: writers, journalists, teachers, professors, doctors, artists, scientists, social elite members). Special attention will be paid to unpublished and unexplored archive materials and unconventional public and private historical sources.</p>
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Topic	The model of response to educational needs of children exposed to risk of social exclusion in early childhood and preschool education institutions (MORENEC)
Leader	Full Professor Dejana Bouillet, PhD
The Faculty of Teacher Education (UFZG) team members	Full Professor Vlatka Domović, PhD; Assistant Professor Maja Drvodelić, PhD; Assistant Professor Adrijana Višnjić-Jevtić, PhD; Monika Pažur, PhD
Project duration	January 15, 2020 – January 14, 2024
Partner institutions	University of Rijeka the Faculty of Teacher Education; University of Split the Faculty of Humanities and Social Sciences; The National Centre for External Evaluation of Education
Work programme	<p>The cumulative risk factors of social exclusion have multiple unfavourable effects on the quality of life and development of children in early childhood and preschool stages, which indicates a need for defining their needs and problems, determining the areas in which children and their parents need additional support, determining the availability and quality of that kind of support, defining the goals, content and methods of the necessary educational activities, and the implementation and evaluation of the specific support models. The aim of the proposed project is to contribute to the systematization of the existing and creation of new scientific knowledge about etiological, phenomenological and intervention aspects of the risk of social exclusion of children in early childhood and preschool education period. Achieving this goal is a precondition for further strengthening of early childhood and preschool education in exercising the developmental rights of children exposed to the risk of social exclusion. The goal will be achieved by analysing etiological, phenomenological and intervention aspects of the risk of social exclusion, the characteristics of pedagogical practices employed to deal with it and available support mechanisms for this group of families and children. The research results will enable a comparison and critical analysis of inclusion in early childhood and preschool education institutions. The research connects the theory and methods from education and rehabilitation sciences and pedagogy and qualitative research methods. It has been planned to involve a</p>

	representative sample of 60 early childhood and preschool education institutions in Croatia (children, parents/legal guardians, preschool teachers, and expert associates). Measuring instruments will be developed for determining the educational needs of children at risk of social exclusion, models of response of early childhood and preschool education institutions to these needs will be examined, and a range of diverse methods of support for children in early childhood and preschool education institutions will be developed, based on success indicators.
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The above-mentioned projects of the Croatian Science Foundation in 2021/2022, in which the Faculty of Teacher Education was the leader, were implemented with participation of 7 researchers from the Faculty.

In the last five-year period, 7 doctoral students were employed with the Faculty of Teacher Education within the Croatian Science Foundation programme Young Researchers' Career Development Project – Training New Doctoral Students. They were mentored by 5 researchers, employees of the Faculty.

Topic	Building Intercultural Bridges through Children's Literature Translations: Texts, Contexts and Strategies
Leader	Professor Smiljana Narančić Kovač, Phd
Doctoral student	Corrina Jerkin
Project	DOK-10-2015
Work contract	November 20, 2016 – December 11, 2021
Work programme	The aim of the proposed project is to present and explain the role and the status of the translated works in the corpus of Croatian children's literature, describe the trends and tendencies in historical perspective, and discover and interpret the applied translation strategies. The project focuses on translations of stories into Croatian language and from Croatian to other languages during the 20 th century. International research on children's literature has lately shifted towards comparative children's literature, focusing on translation analysis, intercultural transfer, and contacts between languages and cultures. In that, they overlap with translation studies in a broader sense. It is our intention to establish a group of researchers who will develop such research area in the Croatian context, who will set the research standards, and adjust the applied methodology to the specificities of the described research subject. It has been planned to create a bibliography of children's books translations and crossover texts, that is, works intended both for children and adult readers. The data will be analysed and interpreted with regard to the source and target languages of specific translations, historical trends, the choice of books with regard to the children's literature canon, publishing practices, and other aspects. Furthermore, the selected examples of translation will be analysed in order to determine translation strategies at various discourse levels. Linguistic, narrative, cultural, and intercultural aspects will be explored, with the aim of determining translation norms and <i>domestication</i> strategies. Special attention will be paid to Croatian works translated into other languages. The results will be analysed and interpreted in order to explain translation tendencies, trends and dynamics of literary relationships from Croatian perspective

	during the 20 th century, as well as in the international context. The proposed project will pave the way for further development of the described research area and for future, broader international cooperation.
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Topic	Formal reasoning and semantics
Leader	Associate Professor Tin Perkov, PhD
Doctoral student	Sebastian Horvat
Project	ESF-DOK-01-2018
Work contract	October 12, 2018 – January 1, 2020
Work programme	The project will form a new research group in the area of mathematical logic, with the aim of establishing cooperation between researchers whose results were have been more of a theoretical nature and the researchers who have so far focused on the practical applications in their scientific work. Thus, the project emphasizes mutual communication and dissemination, as well as professional development of doctoral students who will be encouraged to adopt a disciplinary approach from the early stages of their career in science. In terms of the content, the aim of the project is to enable mutual enrichment of theoretical and applied logic, with focus on the application of logic in computer science and vice versa, the application of digital tools in research in the areas of logic and mathematics. An additional aim is to apply logic in concrete linguistic problems or, in more general terms, problems in cognitive and information sciences, and interdisciplinary areas in which economy and mathematics overlap (game theory, social choice theory). Although at first logic seems to be a very formal and theoretical discipline, it is very applicable, and it is surprising to find that the same or similar logic systems, especially modal logic, can be applied in very different areas. The formalization creates the precision and clarity of notions, which ensures security in proving new knowledge and sheds light on the complexity of a problem and poses new questions which may remain hidden in informal reasoning. The theoretical aspects of the project include: 1) research on expressive power of formal languages by applying the model theory methods; 2) adequacy, completeness, decisiveness and complexity of logic systems, especially modal logic, and 3) research on the possibility of developing abstract theory of formal semantics. The aspects of application are: 1) development, research and formalization of mathematical models for problems arising in other disciplines; 2) development and implementation of algorithms, and 3) discovering relationships between matters in seemingly diverse areas through similar formalizations. The project includes interdisciplinary and international cooperation.

Topic	Transforming robots into educational tool
Leader	Associate Professor Kristina Cergol, PhD
Doctoral student	Petra Karabin
Project	DOK-10-2018
Work contract	April 1, 2019 – March 31, 2023

Work programme	<p>The modern trend relies on using a great number of electronic devices in the classroom: smart boards, presentations, the Internet, educational robots. In this multitude of devices and information, it is difficult to determine whether they facilitate the learning process at all. Many activities imply their usage, not the usage of their advantages in order to aid the learning process. The proposed project will develop the methodology of the evaluation of educational robots usage in primary school teaching. While doing so, the achieved level of knowledge will be taken into consideration, as well as student satisfaction during and after the lesson. In addition, the robots will be used to identify individual learning strategies of each student. Based on the developed methodology and experimental results, a comparative analysis of educational robots available on the market will be performed. In order to achieve the project goals, analytical data will be used, collected from the robots and their programme environment during their usage in the class. The collected data processing algorithms will be developed, and their analysis, evaluation and visualisation will be performed as well. A prototype of the system which includes developed educational robots, individual learning strategies and teaching materials, with the aim of achieving the maximum knowledge and comfortable learning experience, will be developed as well. The researchers from the research group have experience in designing, programming, and using educational robots, in the research methodology development, in work with primary school students and in revealing knowledge in data sets and in data science methodology development.</p>
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Topic	Modern women thinkers: intellectual development of women in Croatia in the 20th century (MMŽ/MWT)
Leader	Associate Professor Andrea Feldman, PhD
Doctoral student	Marijana Kardum
Project	DOK-10-2018
Work contract	May 1, 2019 – April 30, 2023
Work programme	<p>The project aims to construct women's intellectual history in Croatia and to identify the changing ideas in comprehending the concept of a woman in the 20th century, in order to explain the intellectual origins of understanding a modern woman. It will trace the development of ideas which shaped primarily women through their own intellectual activities, influence and critique, thereby changing the social position of women and defining the category of an intellectual. The research focus of the project is on the Croatian and broader Yugoslav and central European area from the end of the 19th century till the end of the 20th century. It is the period in which an increasing number of women started participating in social and public life, with the aim of gaining complete legal equality. The interdisciplinary research will encompass theoretical and practical insights from historiography, education, literary theory, anthropology, and philosophy, by using Croatian and foreign literature and archive materials in several countries. The project will explore the mechanisms of the construction of (national, religious, gender, class, cultural) collective and individual identities of the female population in all political systems on the Croatian territory throughout the period spanning several</p>

	centuries. A more complex understanding of the influence of structural changes arising during great social, economic, cultural and political events in the chosen period will be offered. The project will analyse the people and ideas which created changes in the perception of (the position) women by exploring the forms and modes of their social organization and public activities (women's organizations, intellectuals: writers, journalists, teachers, professors, doctors, artists, scientists, social elite members). Special attention will be paid to the unpublished and unexplored archive materials and unconventional public and private historical sources.
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Topic	The model of response to educational needs of children exposed to risk of social exclusion in early childhood and preschool education institutions (MORENEC)
Leader	Professor Dejana Bouillet, PhD
Doctoral student	Marina Panić
Project	DOK-01-2020
Work contract	November 1, 2020 – November 12 ,2022
Work programme	The cumulative risk factors of social exclusion have multiple unfavourable effects on the quality of life and development of children in early childhood and preschool stages, which indicates a need for defining their needs and problems, determining the areas in which children and their parents need additional support, determining the availability and quality of that kind of support, defining the goals, content and methods of the necessary educational activities, and the implementation and evaluation of the specific support models. The aim of the proposed project is to contribute to the systematization of the existing and creation of new scientific knowledge about etiological, phenomenological and intervention aspects of the risk of social exclusion of children in early childhood and preschool education period. Achieving this goal is a precondition for further strengthening of early childhood and preschool education in exercising the developmental rights of children exposed to the risk of social exclusion. The goal will be achieved by analysing etiological, phenomenological and intervention aspects of the risk of social exclusion, the characteristics of pedagogical practices employed to deal with it and available support mechanisms for this group of families and children. The research results will enable a comparison and critical analysis of inclusion in early childhood and preschool education institutions. The research connects the theory and methods from education and rehabilitation sciences, pedagogy, and qualitative research methods. It has been planned to involve a representative sample of 60 early childhood and preschool education institutions in Croatia (children, parents/legal guardians, preschool teachers, and expert associates). Measuring instruments will be developed for determining the educational needs of children at risk of social exclusion, models of response in early childhood and preschool education institutions to these needs will be examined, and a range of diverse methods of support for children in early childhood and preschool education institutions will be developed, based on success indicators.

Topic	Formal reasoning and semantics
Leader	Associate Professor Tin Perkov, PhD
Doctoral student	Tin Adlešić
Project	DOK-01-2020
Work contract	November 9, 2020 – May 8, 2024
Work programme	<p>A new research group in the area of mathematical logic will be formed in the project, with the aim of establishing cooperation between researchers whose results have been more of a theoretical nature and the researchers who have so far focused on the practical applications in their scientific work. Thus, the project emphasizes mutual communication and dissemination, as well as professional development of doctoral students who will be encouraged to adopt a disciplinary approach from the early stages of their career in science. In terms of the content, the aim of the project is to enable mutual enrichment of theoretical and applied logic, with focus on the application of logic in computer science and vice versa, the application of digital tools in research in the areas of logic and mathematics. An additional aim is to apply logic in concrete linguistic problems or, in more general terms, problems in cognitive and information sciences, and interdisciplinary areas in which economy and mathematics overlap (game theory, social choice theory). Although at first logic may seem to be a very formal and theoretical discipline, it is very applicable, and it is surprising to find that the same or similar logic systems, especially modal logic, can be applied in very different areas. The formalization creates the precision and clarity of notions, which ensures security in proving new knowledge and sheds light on the complexity of a problem and poses new questions which may remain hidden in informal reasoning. The theoretical aspects of the project include: 1) research on the expressive power of formal languages by applying the model theory methods; 2) adequacy, completeness, decisiveness and complexity of logic systems, especially modal logic, and 3) research on the possibility of developing abstract theory of formal semantics. The aspects of application are: 1) development, research and formalization of mathematical models for problems arising in other disciplines; 2) development and implementation of algorithms, and 3) discovering relationships between matters in seemingly diverse areas through similar formalizations. The project includes interdisciplinary and international cooperation.</p>

Topic	Transforming robots into educational tool
Leader	Associate Professor Kristina Cergol, PhD
Doctoral student	Valentina Gučec
Project	DOK-02-2021
Work contract	October 13, 2021 – December 24, 2022
Work programme	<p>The modern teaching trend relies on using a great number of electronic devices in the classroom: smart boards, presentations, the Internet, and educational robots. In this multitude of devices and information, it is difficult to determine whether they facilitate the learning process at all. Many activities simply imply the usage of these devices, not the usage of their advantages in order to aid the learning process. The proposed project will develop the methodology of the evaluation of usage of</p>

	<p>educational robots in primary school teaching. While doing so, the achieved level of knowledge will be taken into consideration, as well as student satisfaction during and after the lesson. In addition, the robots will be used to identify individual learning strategies of each student. Based on the developed methodology and experimental results, a comparative analysis of educational robots available on the market will be performed. In order to achieve the project goals, analytical data will be used, collected from the robots and their programme environment during their usage in the classroom. The processing algorithms for the collected data will be developed, and their analysis, evaluation, and visualisation will be performed as well. A prototype of the system which includes developed educational robots, individual learning strategies and teaching materials, with the aim of achieving the maximum knowledge and comfortable learning experience, will be developed as well. The researchers from the research group have experience in designing, programming, and using educational robots; in the research methodology development; in work with primary school students, and in identifying knowledge in data sets and in data science methodology development.</p>
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The employees of the Faculty of Teacher Education were involved in national competitive scientific project as research associates. These projects were funded by the Croatian Science Foundation (programmes: Research projects and Installation research projects) and led by other institutions. According to the Dean's report, from the academic year 2018/2019 to the academic year 2021/2022, a total of 13 research scientists from the Faculty of Teacher Education were involved in 12 projects funded by the Croatian Science Foundation:

Topic	STEM career aspirations during primary schooling: A cohort-sequential longitudinal study of relations between achievement, self-competence beliefs and career interests
Leader	Professor Josip Burušić, PhD, Ivo Pilar Institute of Social Sciences
Associate from the Faculty of Teacher Education	Associate Professor Dubravka Glasnović Gracin, PhD
Project duration	September 1, 2015 – August 31, 2019

Topic	Research activity, collaboration and orientation in social sciences in Croatia and other post-socialist European countries
Leader	Professor Maja Jokić, PhD, Institute of Social Sciences
Associate from the Faculty of Teacher Education	Full Professor Dejana Bouillet, PhD
Project duration	September 15, 2015 – September 14, 2019

Topic	Integration processes of majority and minority in ethnically mixed communities: The role of interethnic contact, perceived threat and social norms
Leader	Professor Dinka Čorkalo Biruški, University of Zagreb, The Faculty of Humanities and Social Sciences

Associate from the Faculty of Teacher Education	Professor Tea Pavin Ivanec, PhD
Project duration	October 1, 2015 – February 29, 2020

Topic	Coherence of written text in another language: Croatian, German, English, French and Hungarian language in comparison
Leader	Full Professor Vesna Bagarić Medve, PhD, University of Josip Juraj Strossmayer, The Faculty of Humanities and Social Sciences
Associate from the Faculty of Teacher Education	Full Professor Lidija Cvikić, PhD
Project duration	March 1, 2017 – February 29, 2020

Topic	Multilevel approach to spoken discourse in language development
Leader	Associate Professor Gordana Hržica, PhD; University of Zagreb, The Faculty of Education and Rehabilitation Sciences
Associate from the Faculty of Teacher Education	Associate Professor Katarina Aladrović Slovaček, PhD
Project duration	January 1, 2018 – March 14, 2023

Topic	Transforming robots into educational tool
Leader	Associate Professor Ana Sović Kržić, PhD; University of Zagreb, The Faculty of Electrical Engineering and Computing
Associate from the Faculty of Teacher Education	Associate Professor Kristina Cergol, PhD, Petra Karabin, Valentina Gučec
Project duration	March 15, 2018 – March 14, 2023

Topic	Computable structures, decidability and complexity
Leader	Associate Professor Zvonko Iljazović, PhD; University of Zagreb, The Faculty of Science
Associate from the Faculty of Teacher Education	Associate Professor Tin Perkov, PhD
Project duration	October 1, 2018 – September 30, 2022

Topic	Professional development of teachers in the function of improving the learning outcomes of primary school students in science and mathematic
Leader	Associate Professor Branko Bognar, PhD, University of Josip Juraj Strossmayer, The Faculty of Humanities and Social Sciences
Associate from the Faculty of Teacher Education	Full Professor Siniša Opić, PhD
Project duration	December 1, 2018 – November 30, 2022

Topic	Child Well-being in Family Context
Leader	Professor Andreja Brajša-Žganec, Ivo Pilar Institute of Social Sciences
Associate from the Faculty of Teacher Education	Full Professor Renata Miljević-Riđički, PhD (retired)
Project duration	February 1, 2020 – January 31, 2024

Topic	The role of personality, motivation and socio-emotional competences in early-career teachers' occupational well-being
Leader	Professor Iris Marušić, PhD, Institute for Social Research
Associate from the Faculty of Teacher Education	Professor Tea Pavin Ivanec, PhD
Project duration	February 1, 2021 – January 31, 2025

Topic	Spatio-temporal variability of terrestrial and aquatic communities in intermittent rivers in the Dinaric karst
Leader	Assistant Professor Andreja Brigić, PhD, University of Zagreb, The Faculty of Science
Associate from the Faculty of Teacher Education	Assistant Professor Marina Vilenica, PhD
Project duration	February 23, 2021 – February 22, 2026

Topic	Learning biology in epidemiologically adapted research environment
Leader	Full Professor Ines Radanović, PhD, University of Zagreb, The Faculty of Science
Associate from the Faculty of Teacher Education	Full Professor Mario Dumančić, PhD
Project duration	September 1, 2021 – February 28, 2023

The Faculty of Teacher Education was a partner in the following international research project implemented in the academic year 2021/2022.

Topic	Transforming Education for Democracy through Aesthetic and Embodied Learning, Responsive Pedagogies and Democracy-as-becoming (AECED; project code: 101094052)
Programme	HORIZON Europe
Leader	Monika Pažur, PhD
The Faculty of Teacher Education (UFZG) team members	Full Professor Vlatka Domović, PhD; Associate Professor Katarina Aladrović Slovaček, PhD; Assistant Professor Maja Drvodelić, PhD
Project duration	April 1, 2023 – March 31, 2026
Partner institutions	University of Hertfordshire, Great Britain; Rigas Tehniska Universitate, Latvia; Lapin Yliopisto, Finland; Philipps Universitaet Marburg, Germany; Universidade Aberta, Portugal

Work programme	<p>The Democracy is a lived experience. To flourish, democracy needs healthy roots in people’s engaged feelings, awareness and sensibilities as embodied beings connected with each other and their localities, communities and the natural world. Democracy cannot be understood and enacted simply through cognitive learning or technical-interactive skills. Yet, education for democracy gives little attention to nurturing those aesthetic, affective and embodied roots of democracy. This is because the learning theory on which most education for democracy is based omits a fundamental dimension of learning – that is, the aesthetic and embodied nature of learning. The ambition of this project is to remedy this omission. The project will: design an innovative, evidence-based aesthetic and embodied pedagogical framework which has an impact on the practice of education for democracy through associated guides to practice (toolkits) that support responsive, participatory pedagogies; test, through participatory action research, a prototype of the framework and guides in differing phases of education and national contexts; refine the framework and guides, and disseminate and activate exploitation of the pedagogical framework and guides by ‘trailblazer users’. The scientific impact of the project will be achieved through ground-breaking, transdisciplinary research that shows how aesthetic and embodied learning and responsive pedagogies for democracy facilitate new ways of ‘seeing’ and exploring self and others, enabling truly democratic relations and nurturing predispositions and capabilities for active democratic citizenship and deepening democracy. Societal impact will be achieved through new pedagogical approaches that engage learners’ and educators’ hearts as well as minds, increase capacity for democratic citizenship that connects and evolves locally, and strengthen affective predispositions for challenging social injustices, engaging with conflict and seeking mutual understanding.</p>
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In the academic year 2021/2022, the Faculty of Teacher Education researchers were partners in the following international scientific projects:

Topic	Measurement reliability of individual differences in sentence processing: A cross-linguistic perspective (MeRID)
Funding	Croatian-Swiss bilateral projects of the Croatian Science Foundation
Leader	Associate Professor Kristina Cergol, PhD
Project duration	January 1, 2023 – December 31, 2026
Partner institutions	University of Zurich; University of Zagreb, The Faculty of Education and Rehabilitation Sciences
Work programme	<p>The project focuses on the current methodological issues relating to possibilities of generalizing psycholinguistic theories and models in languages other than English (English being the language most theories are based on). The second methodological issue is associated with a possibility of generalization with respect to various methods (the project envisages the comparison of data obtained by eye-tracker and self-paced reading method). Within the eye-tracking method, the differences obtained in various experimental paradigms will be studied (primarily reading the constructed sentences and ordinary, “natural” texts). Finally, the third issue refers to individual differences which are interpreted differently in different exam designs (reliability paradox), as research on this matter (considering the differences between participants and with respect to test-retest difference)</p>

	is extremely important as it might enable the usage of the measurements obtained in eye-tracking for diagnostics or monitoring in speech therapy.
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Topic	COST action: Network for Languages in Education: Towards bi- and multilingual disciplinary literacies' (CA 21114)
Participants	Full Professor Lidija Cvikić, PhD, as a member of the Project Management Board; Assistant Professor Željka Knežević, PhD, a project team member
Funding	The European Cooperation in Science and Technology (COST)
Project duration	2026 October 6, 2022 – October 5, 2026
Partner institutions	Scientists from 33 countries are participants in this COST action. The leader: University of Vienna
Work programme	This Action responds to the move into mainstream education of Content- and Language Integrated-Learning (CLIL), i.e., the teaching of non-language subjects through a foreign language. Ongoing challenges in CLIL practice and research negatively affect the realisation of CLIL's full potential, which lies primarily in helping school-leavers achieve the competence to use at least one foreign language confidently for professional and academic purposes. Young Europeans clearly require such bi/multilingual disciplinary literacies, complementing that in their first language, to succeed in employment and higher education. Through connecting researchers across Europe, this Action will develop an impactful, shared research agenda and dissemination strategy, targeting CLIL's educational potential to support the development of bi/multilingual disciplinary literacies. This Action, for the first time, integrates research clusters from Language Education, focusing on CLIL and Subject Education experts working on education through the main language of education. To allow for a holistic understanding of the use and development of bi/multilingual disciplinary literacies, further expertise on digital media and multilingual schools is included.

Topic	COST action: Enabling multilingual eye-tracking data collection for human and machine language processing research (MultipleYE) (CA21131)
Participants	Associate Professor Kristina Cergol, PhD, as a member of the Project Management Board
Funding	The European Cooperation in Science and Technology (COST)
Project duration	September 28, 2022 – September 27, 2026
Partner institutions	University of Zurich, Switzerland
Work programme	The MultipleYE COST Action aims to foster an interdisciplinary network of research groups working on collecting eye tracking data from reading in many languages. The goal is to support the development of a large multilingual eye tracking corpus and enable researchers to collect data by sharing infrastructure and their knowledge between various fields, including linguistics, psychology, and computer science. This data collection can then be used to study human language processing from a psycholinguistic perspective as well as to improve and evaluate computational language processing from a machine learning perspective. The MultipleYE COST Action has three core goals: (1) To provide a platform for discussing the desiderata and reaching a common ground between psycholinguists and computational linguists for a multilingual eye-tracking and self-paced reading data collection. This includes developing and reaching a consensus concerning experiment design, stimulus selection, stimulus layout,

	experimental procedure, and data pre-processing. (2) To enable discussions on the psycholinguistic research questions that can be addressed with multilingual eye movement data and providing a broad network to initiate collaborations focusing on crosslinguistic and multilingual projects. (3) To advance the natural language processing and machine learning applications that leverage eye-tracking data and improve their crosslinguistic generalization abilities by bringing researchers from psycholinguistics and computational linguistics closer together.
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The presented data on scientific research projects implemented by the Faculty indicate that the largest number of projects are focused on the topics that pertain to scientific sciences, the interdisciplinary area of science, and humanities.² These are also scientific areas in which the Faculty implements its study programmes (interdisciplinary area, field of educational sciences; social sciences), as well as areas which are significantly represented in the programmes as study orientation or modules, which testifies to the fact that the teaching process is based on scientific research and strongly associated with it. On the other hand, competitive projects in which The Croatian Scientific Foundation was the project leader and which fall within the scope of scientific areas underrepresented at the Faculty (natural sciences, field of mathematics; humanities, the field of history) justify and reveal positive outcomes of the strategic orientation of the Faculty towards developing all scientific areas in which its employees are involved. It is also important to point out that the analysis of the topics within the Grant for scientific and artistic research of the University of Zagreb reveals significant representation of interdisciplinary topics, especially those combining scientific and artistic areas (e.g., mathematics and visual arts, music and philology, etc.), which creates a huge potential for future research projects.

2. OTHER INTERNATIONAL PROJECTS

In the academic year 2021/2022, the Faculty of Teacher Education was a partner in the following Erasmus+ projects:

Topic	ConnEcTEd – Coherence in European Teacher Education: Creating transnational communities of practice through virtual scenarios (2020–1–DE01-KA203- 005728)
Leader	Full Professor Vlatka Domović, PhD
The Faculty of Teacher Education (UFZG) team members	Full Professor Vlatka Domović, PhD; Full Professor Lidija Cvikić, PhD; Assistant Professor Željka Knežević, PhD
Project duration	October 2020 – September 2023
Partner institutions	University of Freiburg, Germany (project leader); University of Oslo, Norway; University of Turku, Finland; University of Helsinki, Finland; University of Nice, France; Albert-Ludwigs-Universität Freiburg, Germany
Work programme	The internationalisation of teacher education (TE) and the creation of a European Higher Education Area (EHEA) are increasingly important aspects of European TE, political deliberations, and scientific research (European Parliament, 2015; HRK, 2018). The main focus of the internationalisation of TE lies on the enhanced professional development

² For example, in the last three years, out of the total number of 77 projects that obtained the Grant for scientific and artistic research of the University of Zagreb, 30 projects were implemented in social sciences, 19 in humanities, and 17 in the interdisciplinary area of science.

	<p>of teachers, comprehensive cooperation between local and international higher education institutions, joint teaching-learning programs, degrees and research, the creation of coherent curricula, and an increase in both student teachers' and educators' physical and virtual mobility (European Commission (EC), 2013; EP, 2015). The internationalisation of TE can be achieved within the context of coherence, focusing on domains, subjects and phases of TE, thus being implemented both structurally, content-, and staff-related. Considering the rather weak coherence between educational structures and concepts within national TE systems, transnational coherence appears to be especially weak - the large diversity of European TE systems currently represents a central barrier for the physical and virtual mobility of student teachers and educators. A transnational approach to this issue seems promising in two ways: a systematic comparison of TE structures and concepts will provide deeper insights into current paradigms of coherence orientation in European TE. Building on this, a joint development and evaluation of teaching concepts and learning opportunities as good practice can be implemented.</p> <p>The project ConnEcTEd, funded by the EU (Erasmus + KA 203), thus aims at dealing with challenges to structural, conceptual, and transnational coherence in European TE in a collaborative way. ConnEcTEd also supports TE educators of participating universities by establishing transnational professional learning communities, providing knowledge about European TE systems, permitting access to professional training opportunities (e.g., video tutorials, virtual scenarios) and by integrating a coherence orientation in their teaching. This will lead to a further enhancement of European TE and represents an important step towards a strengthened EHEA.</p>
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Topic	EDUCATORE – End of Disaster: Undoing Crisis. Active Tutors Open to Reflective Education (2021-1-PL01-KA220-HED-000022919)
Leader	Assistant Professor Adrijana Višnjić Jevtić, PhD
The Faculty of Teacher Education (UFZG) team members	Associate Professor Višnja Rajić, PhD
Project duration	November 1, 2021 – April 30, 2024
Partner institutions	Universitatea din Oradea, Romania; Universiteit Gent, Belgium
Work programme	The aim of the EDUCATORE Erasmus+ project is to encourage both students and teachers to think about the wellbeing of the stakeholders in the education process during the pandemic and promote cooperation between universities. The aim of the project is to create recommendations for creating an education environment for students, pupils and their teachers, which has a positive and sustainable influence on their wellbeing. The project aims to develop training programmes for educators to provide support for children and young people in the learning process and for teaching in the post-pandemic period. Another aim is to design ways of developing well-being, resilience, and soft skills and to empower teachers and early childhood and preschool teachers to be able to bridge the inequalities affected by the pandemic. The project activities involve training and professional development of early

	<p>childhood and preschool teachers, classroom teachers, and students in early childhood and preschool education studies and teacher education studies, as well as interprofessional cooperation. The project is based on the sustainable development goals, the 2021 UNESCO report on Futures of education, respect of children’s rights, and approach to quality education. The project was initiated in Warsaw, Poland, at the Maria Grzegorzewska University, that is, at the scientific and professional symposium which gathered about a hundred project participants, both students and teachers.</p>
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Topic	CARE2LEARN – Supporting the transition from early childhood education and care to primary school (2021-1-HR01-KA220-SCH-000034443)
Leader	Associate Professor Tea Pavin Ivanec, PhD
The Faculty of Teacher Education (UFZG) team members	Staša Kukulj, PhD
Project duration	November 1, 2020 – April 30, 2024
Partner institutions	The Modern Elementary School, Belgrade; The Emphasys Centre, Nikosia, Cyprus
Work programme	<p>The period of transition into the formal education system, that is, the transition from the early childhood and preschool education system into the primary education system, is considered a key milestone in the childhood period. Successful adaptation of the child to the changes this transition period entails includes is an important perspective of the developmental outcomes which may have a long-term impact on the course of further education, as well as other aspects of the child’s life. Therefore, the aim of the Care2Learn project is to develop a framework for strengthening the key competences which are fundamental for school readiness and future positive outcomes, and which at the same time increase the likelihood of success at the beginning of the stage of formal education. Attention will be paid to key competences of children in various developmental areas, as well as to promoting a greater level of parental engagement by developing the competences of parents to enable them to provide additional support to children while preparing for the period of transition to primary school. A methodological framework will be developed to determine the key knowledge and skills (taking into consideration the theoretical perspective and the actual practice), as well as the materials for developing the competences of children and parents in the school readiness context. One of the project aims is to develop a mobile application which would provide additional support for parents while designing stimulating activities for developing particular types of knowledge and skills relating to the child’s school readiness.</p>

Topic	The Art of Teaching (TAT) (2021-1-SI01-KA220-SCH-000024606)
Leader	Maša Rimac Jurinović, PhD
The Faculty of Teacher Education (UFZG) team members	Associate Professor Katarina Aladrović Slovaček, PhD

Project duration	January 2022 – January 2024
Partner institutions	Tirena Theatre, Ljubljana, Slovenia; Ivan Gundulić Primary School, Zagreb; The Institute for the Deaf and Hard of Hearing, Ljubljana; Emporij Ltd, Ljubljana, Slovenia; EDUCULT, Institut für angewandtes Theater, Vienna, Austria; Volksschule Corneliusgasse, Vienna, Austria
Work programme	The project is intended for primary education teachers and teaching assistants who have not so far been introduced to drama pedagogy approach to learning and teaching in their professional development programmes. Therefore, we will partner to design five professional development modules (1. Educational theatre and drama, 2. Drama for inclusive education, 3. Planning activities with drama, 4. Evaluation and 5. Workshops) for teachers who are beginners in drama pedagogy, in order to increase their motivation and to facilitate the preparation of drama techniques and methods in their teaching. Professional teacher development in these modules will be implemented both at the national and international level, and we also plan to prepare workshops as examples of good practice. In addition, the idea is to design and develop ICT tools for drama pedagogy, and make them publicly available. Therefore, the expected project results and dissemination activities are focused on imparting knowledge, sharing experiences and providing support to teachers and teaching assistants in the teaching process where drama pedagogy approach will be used on a daily basis, with the aim of using drama pedagogy as a teaching tool that encourages children and young people to think critically and engage in collaborative learning in an encouraging and inclusive environment. The project aims to provide an incentive for other young and enthusiastic teachers and expert associates and to empower and train them to use drama pedagogy as a teaching approach.

Topic	GIFTED - Games and Inclusion for Teacher Education (2021-1-IT02-KA220-SCH-000024512)
Leader	Marija Šarić Drnas, PhD
The Faculty of Teacher Education (UFZG) team members	Staša Kukulj, PhD
Project duration	December 2021 – December 2024
Partner institutions	Grifo Multimedia srl, Italy; Aventura Social Associação Portugal Lisboa; United Arab Emirates University, Abu Dabi, United Arab Emirates; Universitatea Lucian Blagadin Sibiu, Sibiu, Romania; Università Degli Studi Di Ferrara, Ferrara, Italy
Work programme	The education systems in the EU are focused on creating conditions for holistic development of the potential of each individual child. Research shows that gifted and talented students learn in a different way and that they have unique academic and socio-emotional needs. In spite of this widely known fact, these students frequently fail to receive the specific support which they need in school, and they fail to realize their full potential. The aim of the GIFTED project is to find an innovative way of developing the teachers' skills for teaching gifted students and to offer

	<p>them tools for identifying special needs students, for interacting with them by stimulating their socio-emotional competences, and for adapting their learning experiences to the inclusive classroom context, where there is a wide range of skills, learning levels and learning styles, motivation levels, and diverse interests. The GIFTED project aims to respond to the need for further training and professional development of teachers and students in the area of teaching gifted students. The GIFTED project is focused on developing an innovative way of training teachers to work with gifted and talented students by designing and implementing an online training programme based on the gamification model, which can be easily used on a mobile device.</p> <p>The learning environment based on digital games will:</p> <ul style="list-style-type: none"> • promote experiential learning of teachers • develop the knowledge and skills of teachers to identify the gifted and talented students in the class • develop and implement appropriate didactic strategies in the inclusive classroom. <p>Teacher training based on gamification is also focused on developing a self-reflective practice, solving problems, making decisions and sparking creativity in the teaching process. An additional value of the digital tools for teacher training is the implementation of the game-based teaching activities which increase the awareness of teachers and enable them to recognize the gifted and talented students, as well as students with both profiles. GIFTED is a three-year project with the precise aim of designing, developing and piloting an innovative teaching model based on digital games and tools for teachers in Europe through a transnational, collaborative process which involves partners from 4 EU countries (Italy, Portugal, Romania and Croatia) and a non-EU member country (the United Arab Emirates) with widely acknowledged expertise in this area. The GIFTED project will develop an innovative curriculum for training teachers in the area of gifted students' education, which can be used both by teachers and students working and studying in the countries involved in the consortium, and in the later stages, in other countries as well. More precisely, the expected project results will include:</p> <ul style="list-style-type: none"> • an assessment tool based on digital games for improving the teachers' knowledge and skills for recognizing gifted and talented students in the class • a training programme based on an online game for teachers and experts working with gifted children • a manual about the methodology of teaching gifted children • <i>OpenBadge</i> certificate that confirms the attendance of the training programme for teachers working with gifted students, issued by the university participants in the project. <p>The project results encompass a collection of tools which will facilitate training teachers for work with gifted and talented students, starting from their identification and leading to adoption of methods and strategies for achieving their full potential in the most efficient manner.</p>
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In addition to 5 project leaders involved in the Erasmus+ project described above, there are 5 scientists from the Faculty of Teacher Education who are also participating in the projects.

Apart from the mentioned projects, the Faculty of Teacher Education was the leader of the following projects in the academic year 2021/2022:

Topic	Innovating the program of teacher and educator studies by applying HKO - INPUTS
Leader	Associate Professor Višnja Rajić, PhD
Funding	ESF
Project duration	March 22, 201 – September 22, 2022
Partner institutions	The Faculty of Teacher Education in Rijeka; The Faculty of Humanities and Social Sciences in Split; The Faculty of Education University of Josip Juraj Strossmayer in Osijek; The Faculty of Educational Sciences University of Juraj Dobrila in Pula; University of Zadar
Work programme	<p>The aim of the project is to develop the quality of initial education and lifelong learning programmes for teachers, educators and school leaders. The expected project results are aligned with the key strategic documents of the Republic of Croatia and the EU. The project makes a direct contribution to the implementation of the goals stated in the Strategy of education, science and technology (2014):</p> <p>Goal: improving developmental potential of educational institutions Goal: raising the quality of work and social status of teachers Goal: improving the quality of educational institution management Goal: organization of the education quality assurance system</p> <p>By developing a proposal of primary education teacher qualification standards, the study programmes will be innovated and adjusted to the current and future needs of schools, in line with the recommendations by the European Council (Council conclusions of 26 November 2009 on the professional development of teachers and school leaders European Council, 2009).</p> <p>Project results:</p> <ul style="list-style-type: none"> • developed qualification standard proposal for primary education teacher in line with the Croatian Qualifications Framework • developed lifelong learning programme: The Principal of an Educational Institution • training for employees with the aim of improving the process of quality assurance in higher education • teacher training with the aim of developing the teaching process in higher education • improved study programmes.

Topic	Improving the inclusiveness of study programs for initial education of early childhood educators
Leader	Professor Dejana Bouillet, PhD
Funding	UNICEF
Project duration	February 1, 2020 – December 31, 2021
Partner institutions	The Faculty of Teacher Education, University of Rijeka; The Faculty of Humanities and Social Sciences, University of Split; The Faculty of Education, University of Josip Juraj Strossmayer in Osijek; The Faculty of Educational Sciences, University of Juraj Dobrila in Pula

Work programme	<p>The project achieved two fundamental goals:</p> <ul style="list-style-type: none"> • improved capacities of university teachers at 5 higher education institutions for inclusive initial education of early childhood educators (in conceptual and practical aspects) • assurance of the accessibility of inclusive environment and teaching materials necessary for the implementation of inclusive initial education of early childhood educators at 5 higher education institutions. <p>Within the programme, 5 inclusive classrooms were set up, teacher training seminars for university teachers were organized, and manuals were published to aid university teachers in further development of our education system.</p>
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Topic	Programme Phase III: Testing of the Child Guarantee in Croatia
Leader	Assistant Professor Adrijana Višnjić Jevtić
Funding	UNICEF
Project duration	March 1, 2021 – June 15, 2022
Partner institutions	Municipalities of Orehovica, Mala Subotica, Pribislavec, Nedelišće, Podturen and Čakovec (Kotoriba); Open Academy Step by Step; MURID (Međimurje Association for Early Intervention in Childhood); <i>Rastimo zajedno</i> Centre; Medecins du Monde
Work programme	<p>The EU Child Guarantee is the initiative founded by the European Commission with the aim to secure access to health care, adequate housing, and quality nutrition for the most vulnerable children in the EU. The final goal is to secure a progressive realization of the children’s rights in Europe. A 24-month experimental programme “Testing of the Child Guarantee in the EU member countries” will contribute to development of the Child Guarantee framework at European level and present innovative approaches and develop national action plans for reducing child poverty and solving the problem of continuing unfavourable position of children in seven member countries: Bulgaria, Croatia, Germany, Greece, Italy, Lithuania, and Spain. The main results of the Programme Phase III Child Guarantee are: 1. National action plans to reduce the problem of child poverty and social exclusion are developed based on comprehensive activities and policies, and thorough analysis. The national action plans will serve as a model for implementing the Child Guarantee for each child in other EU member countries. 2. Innovative models of services and interventions based on evidence are also being developed, implemented and evaluated as concrete strategies for approach to the most vulnerable children. 3. The operational framework of the Child Guarantee at the European level will be developed, verified and recommended to the Commission with the aim of gathering information on the implementation of the Child Guarantee in the EU member countries. It will also be used to monitor the progress and outcomes by the Commission and member countries. This framework will include regular and comparable indicators, including those specific to some countries, which will be integrated into the general results. It will also contain the recommendations for strengthening the national offices for statistics and databases, as well as the “models” of National action plans for tackling child poverty and social exclusion.</p>

Topic	Teach me!
Leader	Full Professor Blaženka Filipan-Žignić, PhD and Assistant Professor Goran Lapat, PhD
Funding	ESF
Project duration	February 16, 2022 – February 16, 2023
Partner institutions	“Uzor” – Association for Roma education; Association of Foster Parents in Međimurje; Public Open University Čakovec
Work programme	The aim of the project is to provide assistance to the vulnerable groups in terms of developing the competences of their members (foster and Roma children), as well as inclusion of the vulnerable groups by providing various training programmes, designing and implementing volunteering programmes, developing the competencies of programme participants and conducting research on the effects of the designed volunteering programme and its implementation in the vulnerable groups.

Scientific research implemented and funded within the institutional scientific/artistic projects is of special importance for the development of the scientific profile of the institution, as it is a precondition for the further development of scientific topics within national and international large-scale projects with longer duration. In the academic year 2021/2022, a total of 28 projects were approved, with participation of 125 Faculty employees holding scientific-teaching, artistic-teaching, teaching or associate titles, 68 external associates, employees of other constituents of the University of Zagreb or other institutions, and 63 students (16 doctoral students and 2 post-doctoral students). In addition, three additional institutional scientific/artistic projects were implemented, outside the scope of public call.

Short-term institutional projects are implemented within the following scientific areas: social sciences (8), natural sciences (1), humanities (4), interdisciplinary area of science (16) and interdisciplinary area of art (2) and are focused on the development of all scientific and artistic areas the Faculty considers important. These projects confirm the pronounced multidisciplinary nature of the institution.

In 2022, 89% of Faculty employees were active participants in institutional scientific/artistic projects which were at the same time granted the Resources for the basic funding for scientific and artistic activities in 2022.

Topic	Fundamental research in mathematics with applications in educational sciences
Work programme	The project is implemented by a group of researchers from the fields of mathematics, information sciences, philosophy and educational sciences. Mathematical research is conducted within fundamental (logic, set theory) and interdisciplinary topics, their interdisciplinary nature falling within the areas of mathematics (inequalities) and between mathematics and other areas (applications in educational sciences and interdisciplinary collaboration with researchers from information sciences, philosophy and linguistics, where the bridge between mathematics and those fields is logic, as a mathematical discipline on the one hand, and philosophical discipline on the other, with its modern applications in computing and linguistics, information and cognitive sciences). The project will explore bisimulations between Veltman and Verbrügge's models for the

	interpretability logic, and local functional inequalities with unconjugated exponents. It will also explore the application of system dynamic modelling in the education system and the relationship between school management and academic achievements of eighth-graders in primary school.
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Topic	Letter/picture-sign/text
Work programme	The project presents an alphabet book containing texts for children in preschool and early school age. The questions and tasks below each text are intended for checking the comprehension of the text and associating the text with the child's personal experience, with the aim of associating the basic elements of letters/picture – sign/text. The texts in the alphabet book are a segment of the learning outcomes of the course syllabus <i>The Methodology of the Croatian Language and Literature</i> , while the illustrations of letters are the results of the tasks carried out by students in visual arts courses. Other project results will include a linguistic and methodological template for each letter of the alphabet, illustration of each letter of the alphabet, graphical design of the created illustrations, and the visually appealing alphabet book in terms of graphic, visual arts and text.

Topic	Lexical Research of Kajkavian Local Dialects in an Interdisciplinary Context II
Work programme	Intensive lexical research on the speech specific of Kotoriba and Štrigova will be carried out throughout the project. A special emphasis will be placed on the quality sentences recorded frequently, which have a great value for dialect dictionaries. Such data can be of great value not only for teaching Croatian in primary school, but for other subjects as well, primarily History and Natural sciences. An important segment of the project will include the creation of the differential lexical corpus of the researched speech in comparison with the speeches which already have a large scientific dictionary (Prelog, Mursko Središće, speech of the Croats in Pomurje, Sveti Đurđ). The final result will be introducing a distinction between expressive sentences and exemplifications. An important aim is to expand the lexical basis which will serve as a starting point for designing a comprehensive dictionary of the Međimurje dialect.

Topic	Early childhood and preschool teacher job satisfaction
Work programme	The aim of the project is to explore some aspects of work orientation and preschool teacher job satisfaction, as well as their association with the years of work experience and education level. Some of the research questions are: How do preschool teachers assess their job and life satisfaction, and the purposefulness of their job and professional identification?, and What is the work orientation of preschool teachers, i.e., whether they perceive their work in early childhood and preschool education institutions as a job, career or calling? The research conducted within the project has the following aims: gain a more comprehensive insight into the memories and reflections of students, future early childhood and preschool teachers, primary education teachers, and

	teachers of their own learning process throughout all levels of their education; create a holistic view of the preschool and primary school teacher competencies for the implementation of the inclusive teaching process and determine the frequency of support strategies application in immediate work with children with learning difficulties, and determine the frequency of the categories of support strategy application.
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Topic	Application of the Shift-share Model in the Analysis of Employment in Macro- and Regional Centers of Croatia (II)
Work programme	The project aims to explore an interdependence of population distribution and economic activities in Croatia. The main aim of the research is to analyse the changes in various indicators of economic growth and the selected Croatian regions and county (regional) centres. A more propulsive and less developed Croatian region will be selected, and the shift-share method (as a regional analysis model) will be applied to assess its economic development. In this particular case, the shift-share analysis will measure a deviation of the development dynamics of the selected regions/regional centres from the development of the entire national area. It is our intention to conduct a further analysis of the north-western region of Croatia, which is frequently pointed out as the most competitive Croatian region in research on regional competitiveness. The application of the shift-share method will help determine the structural and local impact in the economic development of the two selected regions. As the local impact implies economic growth dependent on the local factors, in this way it will be possible to identify the economic activities which make the selected regions/cities competitive, i.e., which activities tend to develop much faster than they do at the national level.

Topic	Kinesiology and physical activity in primary education
Work programme	The aim of the project is to examine a wide range of scientific interests, such as: the characteristics of children and students; measuring and assessing the epidemiology of physical activity of children and students; motor skills of children and students; functional abilities of children and students; body posture diagnostics; motor skills acquisition assessment. Based on the obtained results, we plan to develop intervention programmes that will promote regular daily physical exercise combined with the activities which influence the development of motor and functional skills in children and students, develop the proper body posture, and promote the optimum level of motor skills and knowledge.

Topic	The role of the proactive engagement in the learning process in the context of teacher education
Work programme	The aim of the project is to determine the structure of the proactive engagement construct and examine the role of contextual and individual determinants in the manifestation of proactive engagement of primary teacher education and teacher education students. Some of the research problems posed within the framework of the research goal are: verifying the validity of the proactive engagement of primary teacher education and teacher education students, and determining the association

	between proactive engagement as a construct and individual differences in personality, students' approaches to studying, and teaching quality characteristics. The project results are expected to contribute to a better understanding of the proactive future teachers' engagement, as well as the role of individual and contextual determinants of proactive engagement in the context of teacher education.
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Topic	(R)evolution of outdoor games – relationships, environment and learning
Work programme	The proposed research aims to determine how external environment in early childhood and preschool education institutions contributes to development of games, the learning process and relationships between the stakeholders, and consequently, how it results in the wellbeing of children at early childhood and preschool education age. The research will be conducted in early childhood and preschool education institutions both in urban and rural environment. A children's perspective of understanding problems will be captured through their drawings and narrative ethnographic research. Some of the expected project goals are: mapping outdoor games in early childhood and preschool education institutions; determining the opinions of preschool teachers on the external environment as a predictor of game development, learning process and relationships, and determining the children's perspective on outdoor games.

Topic	The methods of drama pedagogy in teaching Mathematics - DRAMEMATHIC
Work programme	The project starts with the question: What if the approach to teaching mathematics were more oriented towards specific real-life situations enacted in safe drama pedagogy circumstances? The project will be implemented in two parts: creating a methodological and teaching materials for connecting drama pedagogy methods and teaching Mathematics, and research on the usefulness value of drama pedagogy approach to Mathematics teaching. Some of the goals that will be achieved in this project are: creating a repository/a catalogue of methodological materials for teaching Mathematics in lower grades of primary school (some of these materials will be structurally formed as a methodological manual), and creation of teaching materials on mathematical topics. A potential direction in expanding the project is the application of drama pedagogy in teaching Mathematics in secondary schools.

Topic	Integrated preschool curriculum – a constructivist approach, the quality of music teaching practice, and preschool teachers' needs
Work programme	The aim of this project is to provide a description of educational practices and the needs of preschool teachers in the area of music, as well as the level of the implementation of the constructivist approach while performing music activities in early childhood and preschool education institutions in the Republic of Croatia. The scientific contribution of this project will be reflected in connecting the theoretical postulates of the

	integrated preschool curriculum in the context of music education with regard to the analysis, interpretation, and development of music teaching practice in early childhood and preschool education institutions. The obtained research results will point to the current situation and the needs of preschool teachers in the context of music teaching practice in early childhood and preschool education institutions in the Republic of Croatia and to the representation of the constructivist approach to teaching practice, with the aim of raising the quality of implementation of music activities and their greater representation in a daily teaching practice.
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Topic	Implementation of the Montessori pedagogy elements in the future teachers' education
Work programme	The aim of the project is to determine the possibilities of the implementation of the Montessori pedagogy in the future primary teachers' education in the area of adopting language skills and cosmic education. A possibility of applying the activities designed according to the Montessori principles in the STEM area in primary education (especially in natural sciences, with emphasis on sustainable development and humane and legal dimension of civic education) will be considered. In addition, the possibilities of implementing the Montessori activities in the teaching process in schools in Zagreb, Osijek and Split will be considered. Finally, the elements of the professional identity of a Montessori teacher will be determined, and the influence of professional development on the identity development and the way in which this factor affects the evaluation and organization of the teaching process will be defined.

Topic	Art and sustainable development
Work programme	The project is based on the importance of education for sustainable development, which is an integral component of global aspirations (i.e., Agenda 21, Sustainable Development Goals; Agenda 2030 UN, 2018), as well as of national education policies (The Strategy of Sustainable Development of the Republic of Croatia). A majority of the documents mentioned above point out the key role of early childhood and preschool education, as well as of the period of lower grades of primary school in education for sustainable development. This research will, in addition to a scientific perspective, be focused on implementing artistic projects which will be conducted with children in kindergartens and schools, and in which research activities will be encouraged through various languages, arts, visual arts, music, dancing, acting, and new media. The projects will be presented in exhibitions. or teachers and preschool teachers will present them as examples of good practice at professional and scientific symposia and conferences.

Topic	Modern teaching methods and digital media in Croatian language teaching
Work programme	The project focuses on exploring the scientific dimension of the methodological knowledge and on the epistemological contribution the results of which will contribute to a more efficient methodological implementation of Croatian language teaching. The project aims to

	<p>explore the application, purposefulness and efficiency of the digital educational tools included in the education system; i.e., for learning and teaching, and their content and structural dimension. Among other things, the functionality of the digital textbooks will be examined, as well as the advantages of applying the methodological instruments in these textbooks. The purpose of this project is to improve the teaching process quality by using digital educational content based on research results and modern methodological practices, and to encourage educators to use new technologies in teaching, which would imply learning in an innovative way, self-assessment of knowledge, independent learning, and working at home and in school.</p>
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Topic	The instant effect of aerobic exercise on the efficacy in some academic skills and the achieved rhythmic chanting of children at preschool age (continuation)
Work programme	<p>The project is based on the research the goal of which is to verify the hypothesis about the immediate effect of aerobic exercise on the achievement in some academic skills based on processing the numeric, spoken, i.e., linguistic information, and rhythmic chanting at a preschool age. The proposed research is based on a research design which involves the experimental (n = 40) and the control group (n = 40) of children who are 5 years old. Some of the expected project outcomes are: determine a possible influence of the immediate aerobic exercise on the efficacy in solving numerical and linguistic tasks; determine possible differences between the dependent variables (academic achievements) based on a potential differentiated influence of exercise, and identify potential differences between individual domains.</p>

Topic	Anthropological features of preschoolers
Work programme	<p>The project presents research initiated in 1998, whose aim was to define the anthropological features of preschoolers. The obtained research results might be used to define the current status of anthropological features of preschoolers. Apart from defining individual anthropological features of children, it is important to increase significantly the number of adequate tests for motor skills assessment adapted to individual age groups. Motor skills tests will be designed in such way to make each test representative for the assessment of individual latent dimension and appropriate for a particular child's age. The morphological features will be assessed in line with the International Biological Programme (IBP). Some of the expected project results are: defining the anthropological features of preschoolers; a test battery for assessing motor skills, and an increased number of tests for assessing the motor skills of preschoolers.</p>

Topic	Fundamental phraseological vocabulary in English as a foreign language
Work programme	<p>The aim of this research is to determine which figurative English expressions (phrasal verbs and idioms) can be taught at A1 CEFR level. The studies carried out so far have shown that students can easily understand those English expressions whose literal and figurative meanings are associated, which have a simple lexical composition and structure, and</p>

	<p>which contain familiar words. The project consists of two parts. In the first phase, a list of figurative expressions at A1 level will be composed, based on the analysis of textbooks used in teaching English as a foreign language. In the second phase, a digital base of the figurative expressions will be created to be used by EFL teachers.</p>
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Topic	Teacher perceptions of principal support, self- and collective teacher efficacy and preschool/school commitment
Work programme	<p>The project presents a study which was carried out to examine how teachers and preschool teachers perceive principal support, their own self-efficacy, collective teacher efficacy and how committed they are to the institution they work in. In the context of social cognitive theory, the proposed measuring model of the association between the perceptions of principal support, teacher self-efficacy, collective teacher efficacy and teacher commitment to school will be examined. The project will contribute to better understanding of the relationship between these constructs. If the association between the perceptions of principal support, teacher self-efficacy and collective teacher efficacy should be found, such findings will make a significant scientific contribution. In addition, the perceptions of principal support and collective classroom teacher and preschool teacher efficacy have not been a subject of research in Croatia so far, therefore the obtained results might be used to develop and improve the current teaching practice.</p>

Topic	Literary and film narratives: poetic and contextual correlations
Work programme	<p>The project is focused on exploring the interference of literary and film narratives, with special emphasis placed on the translation process and adaptation of literary narratives into audiovisual discourse. The project will focus on Croatian literature, especially children's and young adult literature, and its transposition into the film medium. In addition to expanding the theoretical insights related to the research on intermedial relations between literature and film as artistic discourses based on narration, the project will encompass research on the concrete opus of an author and/or genre: elucidation of individual poetic models in terms of their content, structure, narrative, style and ideas. With regard to films for children and young people, special attention will be paid to the educational components of the two artistic discourses, their alignment with the teaching content, and methodological and educational potential. Also, it is planned to conduct research on the position of film, especially children's film, in a broader social context, with regard to how it is conditioned by cultural, educational, media and market policies.</p>

Topic	Alienation in the contemporary world of work
Work programme	<p>The project is focused on alienation as a concept. As research indicates that nowadays an increasing number of people perceive a large number of jobs or work-related tasks as meaningless and socially useless, the aim is to explain alienated labour in neoliberal capitalism through a prism of Seeman's concept of alienation with emphasis on the meaninglessness, and associating them with the available empirical findings relating to</p>

	various types of alienation (research findings on: extreme working hours, precarious work, work-related burnout, jobs perceived as socially useless and meaningless, abolition of social security, etc.) and to discuss why an individual in the capitalist society exerts alarmingly less influence on and invests less effort in changing the “products”, allowing the products to shape them instead, losing the faith in potential alternatives in the process.
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Topic	Preparing future primary education teachers for dealing with diversity in the teaching process
Work programme	The project presents a continuation of the project activities initiated in the previous year. The project which was conducted last year focused on intercultural competences of future primary education teachers, mainly students in their final year of classroom, foreign languages, IT and religious education studies. This year’s project involves a further and deeper analysis of the obtained insights, following the two main goals: the analysis of study programmes chosen by the study participants in the research conducted last year, which focused on the content associated with diversity, and dissemination of the data obtained in the last year’s and this year’s research. Some of the expected project outcomes are: gaining insight into future primary school teachers’ competences for dealing with diversity in the teaching process, and the analysis of the initial primary school teachers’ (of various profiles) education with respect to development of competences required for dealing with diversity in the teaching process.

Topic	Linguistic and non-linguistic factors of vocabulary acquisition in preschool and lower primary school age
Work programme	The project aims to determine and describe linguistic and non-linguistic features influencing the process of mastering vocabulary in children at preschool (6 years of age, final year of kindergarten) and lower primary school age (Grades 2 and 3). A productive vocabulary range of children in preschool (aged 6 years, final year of kindergarten) and in the first two grades of primary school will be determined. A three-month programme “Linguistic and music stimuli for vocabulary development” will be implemented with preschoolers. Within the project, a particle analysis of the vocabulary used in Croatian language, Nature and Mathematics textbooks will be carried out. These textbooks were published by three publishing houses. In addition, a frequency dictionary based on the compulsory reading items will be designed. The obtained frequency dictionaries will be used for creating tests and comparing the obtained data, especially the productive vocabulary of children in Grades 2 and 3 of primary school. The main goal of this project proposal is to describe and analyse linguistic and non-linguistic factors influencing the process of mastering vocabulary and shaping the mental lexicon of children at preschool and lower primary school age.

Topic	Research on the professional plans of early childhood education and care students
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Work programme	The project presents a study whose aim is to determine the career aspirations of students in their final year in Early Childhood and Preschool Education Studies. Special emphasis will be placed on analysing future career plans during various stages of professional careers. We will also examine in which types of early childhood and preschool education institutions the students would like to find employment, which age groups they would like to teach, whether they aspire to changing their career path and taking over a managerial position in an early childhood and preschool education institution, and whether they have plans to establish their own private early childhood and preschool education institutions. The findings of this study will aid in understanding the extent to which initial preschool teacher education studies are aligned with their professional career development plans.
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Topic	The language of new media through the eyes of teachers and online applications
Work programme	The project is carried out by a team of researchers whose aim is to examine various types of student behaviour exhibited in smartphone apps usage. Taking Facebook and WhatsApp as applications, the aim is to examine how much linguistic and non-linguistic elements are represented in communication between young people (students) with regard to the fact that there is an increasing number of complaints that students' language has deteriorated due to the influence of the language they use in new media. We will explore the usage of linguistic elements found in the new media used by young people in their linguistic expression (abbreviations, dialectal expressions, vulgarisms, English words, etc.), as well as non-linguistic elements, primarily emoticons and emojis.

Topic	Integration of digital educational technologies into the teaching process
Work programme	The aim of the project to examine the ways in which digital environment and the integration of digital educational technologies in various subject areas improves the teaching process. During the project, a critical overview of the application of new digital content and mobile technology, new teaching methods and possibilities, as well as all DigCompEdu elements will be presented. Some of the expected project outcomes are: creating a model of the digital educational technology application and development of future primary teacher education studies with regard to digital educational technology usage.

Topic	Multimodal media and intermedial interweaving in children's culture
Work programme	The project focuses on the aspect of intermedia synergy, as well as competitive conflicts and meta-fictionality of narrative forms found in various types of media. As the phenomenon which is examined within the project is broad, it will be approached from various methodological perspectives: narrative analysis of metafictionality in literary works, historical research on the conditions in which new media emerged in the national context, as well as research of the concrete examples of synergy and conflict, adaptation analysis, and the analysis of the specific poetic range of individual media. In order to create a comprehensive picture of

	intermedial interweaving, the research will focus on diverse media, especially films, picture books, TV, and comics.
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Topic	Elements of the didactic triangle in Mathematics education
Work programme	The aim of this project is to explore individual elements and the relationships between them within the didactic triangle: students – teacher – curriculum. Some of the research questions which are expected to be answered are: (development) of the conceptual understanding of the concept of function in students, within the framework of mathematical skills, as well as preconditions and possibilities for introducing mathematical modelling and problem-based learning. In addition, within the project a comparison will be made between mathematics textbooks for the 4 th grade of grammar schools published after the latest curriculum reform was introduced and the textbooks published before that. In this way, it will be examined how and to what extent changes in education influence curricular material, as well as the implications of such changes in the teaching practice.

Topic	Research of endemic fish species of Dalmatia
Work programme	The project is based on research the aim of which is to collect additional data on the distribution of individual endemic and protected species, their biology, and endangered status. Some of the expected project results include: determining the existence and distribution of endemic, endangered and protected freshwater fish species in karst waters in Dalmatia; determining the human impact and influence on the observed population, types and habitats, and determining the number and status of target species populations in karst waters in Dalmatia.

Topic	Student and teacher wellbeing
Work programme	With regard to the theme, this project presents a continuation of research on student and teacher wellbeing, with special emphasis on the role of student flow during learning (academic flow) for their wellbeing, and the role of teaching as a calling for teacher wellbeing. One of the project aims is collecting data on the role of personal and environmental factors in the association between teaching as a calling and teacher wellbeing, where the positive outcomes (teacher wellbeing) and the negative outcomes (turnover intentions or leaving the profession) will be examined. In addition, one of the aims is to collect and analyse data on the relationship between mindfulness and academic flow for student wellbeing.

Topic	Attitudes, emotional atmosphere and norms in Mathematics teaching as presented in children’s drawings: socio-cultural comparative study of primary school students in Croatia and Germany
Work programme	According to standards in both countries, one of the aims of teaching mathematics is to create a learning environment having an open, encouraging and positive atmosphere, and the responsibility to maintain this between the teachers and the pupils. While the research in the field of affective domain has a long tradition, and is well established in the field

	<p>of mathematics, no studies have been conducted on the affective domain factors (e.g., attitudes, emotional atmosphere, norms) in different mathematics lessons. Scientifically, the goal of this project is to provide meaningful insights into this complex construct by focusing on primary school students' (Grades 3-6) attitudes towards arithmetic and geometry, and emotional atmosphere and norms during lessons when arithmetical and geometrical concepts are taught (1). By comparing Croatian and German pupils' attitudes, emotional atmosphere and norms in different mathematics lessons, we aim to develop a deeper understanding of the factors that may shape and influence pupils' attitudes towards different mathematics areas (arithmetic, geometry), and argue for it as a socio-cultural construct embedded in and shaped by the pupils' learning environment and the context to learn arithmetic and geometry (2). Comparing how these constructs are lived in different contexts (i.e., different mathematics lessons) and cultures (i.e., Croatia and Germany) we can identify not only the similarities and differences within and between cultures, but also help deepen our understanding of what is meant by affective domain in mathematics education. These insights would also allow for practical contributions by providing teachers with ideas for modifying their teaching practices to create a more open, encouraging atmosphere in different mathematics lessons (3). Methodologically (4), we want to employ a relatively new method of collecting young pupils' data by using drawings as an alternative form of expression, which is more appropriate for children. Thus, pupils' drawings will be taken as a research object with the goal of assessing the objectivity and the reliability of the method in the context of affective domain.</p>
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Other institutional projects:

Topic	Integration of a therapy dog into the EFL classroom
Work programme	<p>The results of the project <i>Reading to dogs in English</i> have shown a significant improvement in the pronunciation of children who learn English at an early age, as well as forging of a strong emotional connection between the dog and children which can empower children to cope in the living conditions we have not experienced so far – isolation due to the global pandemic, stress triggered by earthquakes, and other current stressors. Rare reports of the even more rare systematic research confirm the undisputable benefits of the interaction between children and dogs in the school environment. The presence of a dog in the classroom affects the emotional development of children, as well as the achievement of the learning outcomes. No research has been carried out on introducing a therapy dog in English language teaching, and there is only a small amount of research on introducing a dog into the classroom with children with regular psychological and physical development. The aim of the proposed project is to fill these three gaps. A methodology will be developed for systematic examination of the role of introducing a therapy dog into English language teaching for children at an early age and with regular psychological and physical development. For this purpose, twelve children aged 9-10 years will be coming to the Faculty of Teacher Education of the</p>

	University of Zagreb over the period of 5 consecutive weeks to participate in English classes which will include a therapy dog. The teaching process and interaction between children will be recorded in a video and audio format. The methods which will be applied include observation, assessment of progress in pronunciation, the diary method, an interview, and pre-test and post-test to examine the knowledge acquired. All ethical requirements will be met and written parental consent will be obtained from parents.
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Topic	The child in the centre – kindergartens and schools as places of holistic social change
Work programme	<p>This aim of this project is to contribute to better and quality society which the child experiences as the greatest value, the child being the basis of our future. Starting from the its fundamental mission to educate modern teachers and educators as agents with a wide range of interests, sensitive to and flexible for changes they both initiate and actively participate in, the Faculty of Teacher Education initiates a series of activities aimed at strengthening the influence of the early childhood, preschool, and primary education community on the awareness of parents and society as a whole.</p> <p>The planned initial activities of the project are:</p> <p>PRESCHOOL AND PRIMARY SCHOOL TEACHER TRAINING In the period between June 15 and June 17, 2021, a three-day scientific and professional conference will be held, which will gather acknowledged professionals in the fields of early childhood, preschool and primary education. They will discuss the problem of child abuse and neglect from various perspectives, and present possible activities which could have efficient impact on creating child wellbeing.</p> <p>WORKSHOPS FOR CHILDREN AND PARENTS Spending quality time with children is the main goal of workshops which will be delivered outdoors throughout June (in accordance with the epidemiological measures) by our early childhood and preschool teacher education studies and primary teacher education studies.</p> <p>PUBLIC CALL FOR CONCEPTUAL DESIGN ENTITLED: THE MONUMENT TO THE CHILD The aim of this public call is to obtain a conceptual design for THE MONUMENT TO THE CHILD to be installed at the Faculty of Teacher Education, Savska 77 in Zagreb. The monument will be made based on the conceptual design of an authentic children’s artwork. The proposed motives are a figure of one child or figures of children in a group, with an open interpretation.</p>

Within the framework of scientific research activities, international and national professional projects are of great importance. These projects connect science and scientific research with application in educational practice or they aid in creating better preconditions for the implementation of the teaching process at all levels, including higher education. In the last three years, the Faculty of Teacher Education participated in the implementation of the following professional projects:

- *Introducing Competence-based Preschool Teacher Education Curricula in Bosnia and Herzegovina*, Erasmus+ KA2 programme, project leader the University in Travnik, Bosnia and Herzegovina; project manager: Full Professor Siniša Opić, PhD

- *Development of Literacy and Language Learning for Disadvantaged Young Learners – DEAL*,

Erasmus+ KA2 programme, project leader the Faculty of Teacher Education University of Zagreb; project manager: Full Professor Tamara Turza-Bogdan, PhD

- *Child-Centred Competences for Early Childhood Education and Care*, Erasmus+ KA2 programme, project leader University of Plymouth; project manager: Assistant Professor Adrijana Višnjić Jevtić, PhD

It is important to mention the projects and initiatives which have been recognized and awarded due to their scientific contribution, and professional and international components.

The project led by Professor Dejana Boulet, *PhD*, *Improving the inclusiveness of study programs for initial education of early childhood educators*, was awarded the Award for university innovation of the year, the innovator of the year, and the most successful technology transfer, in the category “the most successful technology transfer”. The project was implemented in cooperation with the UNICEF Office for Croatia and associated higher education partner institutions in the period from February 2020 to December 2021.

An Erasmus+ KA2 project *Development of Literacy and Language Learning for Disadvantaged Young Learners – DEAL (Razvoj pismenosti i učenje jezika za djecu mlađe dobi u nepovoljnom položaju)*, was selected by the European Commission as *an example of good practice* in promoting inclusivity in education. It was also awarded *the European Innovative Teaching Award* in 2022. Full Professor Tamara Turza-Bogdan, PhD, was the project leader from 2018 to 2020, while other participants from the Faculty of Teacher Education were: Full Professor Lidija Cvikić, PhD, Full Professor Vladimira Velički, PhD, Associate Professor Katarina Aladrović Slovaček, PhD, Assistant Professor Jelena Vignjević, PhD, Associate Professor Predrag Oreški, PhD, and Associate Professor Kristina Horvat Blažinović, DArts.

In addition, Assistant Professor Ivana Milković, PhD, the Faculty of Teacher Education in Zagreb, received *The Initial Teacher Education Award (ITE)* for her work with students, future teachers, in eTwinning, within the *2022 National eTwinning Conference Inclusive dream school: eTwinning for digital education*, held on November 22, 2022.

2.2.2. Publication of scientific papers

The scientific work of the Faculty is evident in the number and quality of the published scientific and professional papers written by the Faculty employees, as well as in the number of their citations. As the data on scientific work are analysed annually (based on the calendar year), the data for 2018, 2019, 2020, 2021 and 2022 are presented (Table 6). It is evident that there is a continuous increase in the number of the published scientific papers.

Table 6. Papers published by the employees of the Faculty of Teacher Education in 2018, 2019, 2020, 2021 and 2022

WORK CATEGORY	2018	2019	2020	2021	2022
Total number of papers published by Faculty	49	35	41	55	35

employees and indexed in the of Science ³					
Total number of papers published by Faculty employees in journals indexed in the Scopus database ⁴	10	9	15	15	16
The total number of other papers subject to assessment in the process of election to scientific-teaching titles ⁵	85 31 50	46 ⁶ 64 ⁷ 51 ⁸	39 34 35	44 33 57	19 23 40
Total number of authored scientific books	7	3	6	8	6
Total number of edited scientific books	6	5	4	2	2
Total number of professional books ⁹	3	3	2	2	0
TOTAL	241	216	176	216	141

Table 7 presents the total citation of papers written by the employees of the Faculty of Teacher Education (Web of Science and Scopus databases) in 2018, 2019, 2020, 2021 and 2022.

Table 7 Total number of citations of papers written by authors employed by the Faculty of Teacher Education University of Zagreb in 2018, 2019, 2020, 2021 and 2022.

CITATION BASE	2018	2019	2020	2021	2022
Citations in the Web of Science ¹⁰	1,132	1,234	1,287	1,301	1,285
Citations in Scopus ¹¹	70	90	120	162	224

Total number of citations on December 31, 2022 in the Web of Science database = 1,285

Total number of citations on December 31, 2022 in the Scopus database = 224

³ Data on the number of papers according to WOS Core Collection and SCI-Expanded, SSCI (Social Sciences Citation Index), A&HCI (Arts & Humanities Citation Index), and ESCI (Emerging Sources Citation Index) databases

⁴ Papers in the SCOPUS database were deduplicated, therefore the papers repeated from the WOS Core Collection database were excluded from the mentioned 4 databases.

⁵ Deduplicated papers in journals mentioned in the WOS Core Collection and Scopus databases. The papers from conference and book chapters collections of papers were included.

⁶ Scientific papers in journals, deduplicated in WOS and Scopus.

⁷ Chapters in books (scientific and professional).

⁸ Scientific papers in conference collections of papers.

⁹ Edited and/or authored books.

¹⁰ Citations of all papers without self-citation, regardless of the year of publication in the WOS Core Collection databases (SCI-Expanded, SSCI, A&HCI, ESCI)

¹¹ Citations of the deduplicated papers without self-citations, regardless of the year of publication in the WOS Core Scopus database

2.2.3. Scientific and professional conferences and publishing activities of the Faculty of Teacher Education

With the aim of achieving its mission and vision, the Faculty of Teacher Education regularly organizes and co-organizes international and national scientific, artistic and professional conferences. In the last five-year period, the Faculty has organized or co-organized a range of conferences, symposia, festivals and seminars, among which we can point out the following conferences, which the Faculty of Teacher Education organized as the main organizer: an international scientific and artistic conference *Contemporary Themes in Education (STOO) on the occasion of the 100th anniversary of the Faculty*; the *Second International scientific and artistic conference Contemporary Themes in Education STOO2*, organized as a tribute to Professor emeritus Milan Matijević, PhD; International scientific conference *4th Međimurje Philological and Pedagogical Days*; *The 2nd Artistic and Scientific Conference ACE 2020*; *The 3rd Artistic and Scientific Conference ACE 2022*, and the *First Puppet Festival LUF UF*.

Collections of papers from these conferences have been published, and they are available on the Faculty's website, with open access.

Scientific work of the Faculty is strongly supported by the work of the Publishing Centre of the Faculty of Teacher Education. In addition to regularly publishing the *Croatian Journal of Education* and collections of papers from scientific conferences organized or co-organized by the Faculty, the Publishing Centre publishes monographs and textbooks for higher education students.

Table 8 presents the total number of publications published in each of the previous calendar years respectively, as well as the number of publications co-funded by the Ministry of Science and Education. It is evident from Table 8 that there was a decrease in the number of publications in 2021, which may be seen as a consequence of the earthquake and the COVID-19 pandemic. Also, it can be noticed that there was a slight increase in the total number of publications in 2022 (5 publications), while additional 9 publications are in the process of being published. The public call issued in 2022 by the Ministry of Science and Education for support in funding the publications of scientific literature and textbooks for higher education, the Faculty of Teacher Education received funds for 5 publications.

Table 8. The number of publications in the Publishing Centre of the Faculty of Teacher Education

PUBLICATIONS	2018	2019	2020	2021	2022
Total number of released publications	4	16	14	4	5 (9)
The number of publications co-funded by the Ministry of Science and Education	4	8	7	2	- (5)

2.3. SWOT Analysis: Strengths, Weaknesses, Opportunities and Threats

Within the scope of activities performed to design the Strategy of the Faculty of Teacher Education (2021 – 2025) and the quality assurance activities, the Faculty of Teacher Education conducted a SWOT analysis as a starting point for setting the general and specific strategic goals of the institution, and the Strategic Programme of Scientific Research. A comprehensive SWOT analysis has been mentioned in the Strategy of the Faculty of Teacher Education, while this Strategic Programme lists the strengths, weaknesses, opportunities and threats, all of special importance for the development of the scientific work at the Faculty.

Among the key strengths of the Faculty of Teacher Education are its good recognizability and visibility at the national and international level, both due to the Faculty's reputation in general and its individual

teachers and students, as well as its reputation in the fields of science and arts. Furthermore, additional strengths pointed out by the employees are the implementation of international, national, and institutional projects, and the organization of various scientific, artistic and professional events (conferences, round tables, plays, exhibitions). The Faculty has its own journal listed in the WOS, rich publishing activity, and e-resources (databases, software, e-learning opportunities) availability. The employees state that the number of employees is sufficient, and that there is a high percentage of those holding scientific-teaching titles, that the Faculty keeps track of promotion and provides financial support for participation in symposia and conferences, as well as for students' projects. A relevant strength is the Faculty's own source of financing, which the Faculty is granted. In terms of weaknesses, the following issues have been mentioned: insufficient investment of financial resources in scientific, artistic and teaching activities, which is evident in a lack of resources for reputable international papers; a lack of resources for rewarding scientific excellence, and insufficient availability of the relevant literature. The employees also report an insufficient number of competitive projects, as well as support for applying for such projects. They point out inadequate collaboration between the teachers at the Faculty level, but also insufficient collaboration with international faculties and scientists. The employees also mention as a weakness a lack of assessment of work performed by the employees, insufficient support and motivation for professional development, and unavailability of coefficients for hiring new employees. With regard to the infrastructure, the weaknesses include insufficient equipment and inadequate functionality of ICT equipment, insufficient number of offices and lack of modern space. On the other hand, digitalization, e-learning opportunities, increased number of mobilities and international programmes, as well as international funds are all perceived as external opportunities for Faculty development. Among threats, the following issues have been mentioned: frequent changes in the legal framework (especially modifications of the Act on Scientific Activity and Higher Education), approval of various regulations without active participation of the Faculty in the decision-making process, and educational policies which are not grounded on the evidence collected in research.

From the SWOT analysis carried out to design the Strategy of the Faculty of Teacher Education (2021 – 2025), till the end of 2022, the following positive changes were noticed:

- The Office for Science and International Collaboration has been established
- administrative support for scientific and artistic project applications has been provided
- annual support for promoting scientific excellence
 - 2020 – 37 employees have been rewarded in the total amount of 100,000.00 HRK
 - 2021 – 43 employees have been rewarded in the total amount of 119,200.00 HRK
 - 2022 – 56 employees have been rewarded in the total amount of 123,600.00 HRK
- established relationships with international universities. International collaboration is strategically planned, so 15 bilateral agreements were renewed or drawn with partners within the ERASMUS+ 131 programme, as well as with 4 partner faculties within UNIC alliance for the academic year 2023/2024. There is a noticeable increase in the number of bilateral agreements (5 agreements outside the EU and one in the process of being signed) with universities around the world, which is a result of visits by researchers from the Faculty of Teacher Education.
- continuing mobilities of the teaching and non-teaching staff and students within the ERASMUS+ and CEEPUS programmes, as well as bilateral agreements:

		2020/2021	2021/2022
Teaching/non-teaching staff	incoming	2	5
	outgoing	2	1

Students	incoming	2	16
	outgoing	8	9

- systematically delivered workshops for training teachers for applying for the Croatian Science Foundation and Erasmus+ projects.

3. SCIENTIFIC TOPICS WHICH THE SCIENTIFIC ORGANIZATION PLANS TO RESEARCH

In accordance with the above-mentioned international, national scientific research, artistic, professional or institutional projects in which the employees of the Faculty of Teacher Education participate either as project leaders or collaborators, within the five-year period included in the Strategic Programme of Scientific Research, the Faculty of Teacher Education plans to conduct scientific research in eight thematic areas:

- Substrate sciences and arts in preschool and primary school teacher education
- Disciplinary, interdisciplinary, and transdisciplinary research on methodological theory and practice
- Stakeholders, processes and aspects of the modern education system
- Modern pedagogical theories and practices focused on child development
- Formal, nonformal and informal learning in the education vertical
- Philological and interdisciplinary research on the mother tongue and foreign languages, literature, and culture
- Media, media literacy, and media culture in the education system
- Democratization of education and development of critical thinking
- Science, art, and culture in the educational and social context

4. STRATEGIC GOALS OF THE SCIENTIFIC ORGANISATION (GENERAL GOALS)

The Faculty of Teacher Education in Zagreb has structured its strategic goals bearing in mind the key areas of its quality policy, according to which the SWOT analysis for the design of *the Strategy of the Faculty of Teacher Education (2021 – 2025)* was carried out. One strategic goal was set for each area of the quality policy mentioned in the *Strategy of the Faculty of Teacher Education (2021 – 2025)*. Some of the strategic goals and associated specific goals of the Faculty are directly focused on scientific development. In order to attach greater importance to scientific activities of the institution within its broader activities, to provide a more comprehensive definition of the scientific profile of the institution and steer more efficiently its scientific development, the goals relating to scientific activities of the institution must be defined clearly and precisely. Therefore, one of the goals listed in the *Strategy of the Faculty of Teacher Education (2021 – 2025)* is the design of this document, i.e., 5.1.1. *Define the research programme of the Faculty based on the current situation, with plans, indicators, monitoring system and plan for associating the research programme with the teaching process.*

The basic strategic goal of the Faculty of Teacher Education as a scientific institution is presented in the Mission and Vision of the Faculty:

The Faculty develops and implements scientific research and publishing activities in social, humanistic, natural sciences and interdisciplinary areas, promotes creation and co-creates and develops public educational policies by providing counselling support based on the findings of contemporary scientific, artistic and professional research.

By carrying out scientific research activities and related study programmes, the Vision of the Faculty of Teacher Education is to be a *recognizable (...) centre of scientific excellence, a co-creator of educational policies and one of the leading European higher education institutions in the area of education and research on the child and childhood.*

The fundamental goals of the Faculty of Teacher Education University of Zagreb as a scientific institution are:

Goal 1: Develop continuously the scientific profile of the institution

Monodisciplinary study programmes have developed into interdisciplinary and multidisciplinary study programmes, as a result of development and modernisation of preschool and primary school teacher education. Thus, it is necessary to continue developing the scientific profile of the institution, which already has scientists active in seven areas and ten fields. This development should lead to a continuous and equal promotion of scientific activities in various scientific areas and fields, as well as in the artistic fields, and strive to interweave them.

Goal 2: Promote scientific and artistic excellence of teachers and professional associates of the Faculty

The Faculty of Teacher Education of the University in Zagreb will provide comprehensive support for the development of its scientists in all stages of their careers, from young researchers to the independent and experienced ones, and will introduce special measures to develop their research competencies and excellence, in order to continue increasing the number of scientific papers, primarily in the most renowned journals, and their citation. Artistic creation and personal artistic development will be supported, as well as public artistic activities of teachers who teach the courses in the areas which can be best imparted by artists, in order to deliver the artistic component indivisible from the

artistic-teaching title. Special attention will be paid to creating research teams and networks of scientists, both national and international.

Goal 3: Stronger links between the scientific and teaching activities and engaging students in scientific research activities

Study programmes implemented at the Faculty of Teacher Education are designed to equip students with skills necessary to engage in professional and scientific work. Therefore, the development and improvement of scientific competencies of students and stronger links between science and practice are among the fundamental strategic goals. Students will be encouraged to participate in scientific research activities and artistic creation processes, which included participation in conferences and art exhibitions, as well as publishing papers. That is why the study programme will place special emphasis on the strengthening of scientific competencies, academic skills and generic competencies required for scientific work of students at all levels of education – undergraduate, graduate, and postgraduate. Such systematic care for scientific research competencies of students will ensure quality doctoral students and new generations of scientists at the Faculty.

Goal 4: Quality system development with the aim of creating an appropriate environment for and promoting scientific research and artistic activities

In order to create an adequate environment which promotes scientific research and artistic creation, the Faculty will continue strengthening institutional and professional resources to support the planning and implementation of scientific research and artistic projects. The support system will include an increased number of professional administrative staff, as well as development of the necessary competencies of the scientific staff to apply for and implement projects. Special attention will be paid to the acquisition and modernisation of equipment, as well as better access to professional and scientific literature and databases.

Goal 5: Continue developing the system of promoting and supporting international cooperation and mobilities

The Faculty of Teacher Education hosts foreign students and professors, but the strategic goal is to turn internationalization into an important feature of the Faculty. Along with this goal, it is necessary to strengthen institutional and professional capacities to provide support for, plan and implement international projects and mobilities, increase the number of student and teacher mobilities, and enable students from other countries to enrol into the whole study or training programmes, and to enable foreign teachers to participate in the implementation of these programmes.

5. SCIENTIFIC INSTITUTION'S ORGANISATIONAL DEVELOPMENT PLAN

5.1. Organization

A detailed description of the current organisation of the Faculty of Teacher Education is provided in chapter 2.1. The complex structure of the Faculty is specific as it performs its activities in three locations (the headquarters in Zagreb, Čakovec Branch, and Petrinja Branch) within three departments (Department of Teacher Education Studies, Department of Preschool Education Studies and Department of Educational Studies). In addition, the Faculty consists of 12 chairs, 6 centres, the gallery, and three libraries in three locations.

There are six centres at the Faculty of Teacher Education: the Centre for European Education, the Centre for Research in Children's Literature and Culture, the Centre for Research in Early Childhood and Preschool Education, the Centre for Lifelong Education, the Diagnostic Centre for Research in Kinesiology Education, and the Publishing Centre.

The Centre for European Education is directly associated with scientific research activities with the primary goal of implementing international projects, study programmes at various levels, lifelong learning programmes, organization and implementation of other forms of scientific and professional activities, with special attention paid to engaging students and young scientists in scientific activities. Scientific research activities performed by the Centre for Research in Children's Literature and Culture is based on the principles of interdisciplinary approach; the knowledge about comparative science of literature; cultural, literary, and historical research; translation science; narrative theory, imagology and other theories and disciplines aimed at expanding theoretical, literary and historical knowledge and developing specific research methodology.

Research on topics relating to early childhood and preschool education at the Faculty of Teacher Education is conducted by the Centre for Research in Early Childhood and Preschool Education.

The work performed by the Centre for Lifelong Education is based on securing adequate institutional conditions for development and implementation of professional development programmes for professionals in the area of education, in order to ensure that the Faculty participates actively, systematically, and continually in the process of renewing the existing and adopting new competencies of professional stakeholders in the education system.

The main task of the Diagnostic Centre for Research in Kinesiology Education is to explore, analyse and publish the findings of kinesiology research involving preschoolers and primary school students, their developmental phenomena and work modalities, organizational forms of work and curricular aspects. The Publishing Centre performs work and activities relating to organisation of publications, publishing, popularization, sales and funding of textbooks, scientific monographs, manuals, brochures, translations, journals, sheet music, audio and video materials, and other scientific, artistic and professional types of work of teachers and associates at the Faculty.

The organisational development of the Faculty of Teacher Education as a scientific institution is focused on strengthening the capacities to conduct scientific research. This implies continuous improvement of material (spatial, technical and financial) conditions necessary for scientific research activities, as well as increased scientific resources through professional development and promotion of the current employees and employment of young researchers. A continuous alignment of scientific and teaching activities will be an important activity in the organisational development of the Faculty of Teacher Education, and stronger links between scientific research activities and study programmes and lifelong learning programmes, as has been outlined in the goals of scientific work.

The organisational development plan of the institution involves a further increase in and development of quality work performed by all organisational units. The development of branches (in Čakovec and Petrinja) will be based on the development of their research and professional capacities, especially

with regard to scientific research and professional topic relating to specificities and needs of the area in which they are located. For example, these include: research on education of minorities and inclusion of vulnerable groups in the education system; research on dialects and biological diversity, etc.

5.2. Human potential

The plan for organisational development of human potential of the Faculty for the following five years has been aligned with the mission and vision and is based on the strategic goals. Professional advancement of scientists and teachers, as well as employment of new, young researchers, will be enabled through the retirement and increase in the number of new positions, in line with the scientific research and teaching needs, and previously mentioned goals.

Scientific research projects applications imply hiring assistants, i.e., doctoral students, and this goal will contribute to the rejuvenation, and an increased number and quality of scientists and scientific capacities. The Faculty continues to improve the employment policy. In spite of harsh policy and a limited number of new vacancies in higher education, the Faculty will make an effort to create new jobs and employ new, young scientists and teachers in the following period.

In addition, in cooperation with the University and the Ministry of Science and Education, the Faculty will try to obtain the approval to hire additional administrative and professional staff, especially in the offices which have expressed the need for new employees due to complex structural organization of the Faculty. These offices are: ICT Office, Library, and the Office for Science and International Cooperation. The establishment of the Office for Science and International Cooperation and permanent employment of the associate in the ICT Office resulted in further development of offices which provide support for scientific research. Depending on financial resources, the Faculty will try to finance part of the administrative staff which is in high demand, due to spatial and organizational complexity of the Faculty, using its own funds, that is, project financial resources, in order to facilitate the process of strengthening scientific research capacities listed in the previous chapter on Faculty organization.

5.3. Funding

Salaries and other material rights of the Faculty employees have been secured by the State Budget of the Republic of Croatia. However, the Faculty generates income from its own activities. In the following period, the Faculty will use this income to secure and promote scientific development, publication of papers, scientific conferences organisation, procurement of scientific literature and software, and diverse equipment necessary for research.

The Faculty also plans to strengthen and train administrative and professional staff, as well as Professional Services of the Faculty for project applications, which would draw financial resources from the national and international funds for science and scientific research, and for the infrastructure development of the Faculty.

5.4. Space and equipment

As two buildings of the Faculty of Teacher Education (in Zagreb and Petrinja) have suffered damage caused by the earthquake, the overall activities of the Faculty have been hindered, which may have had an aggravating influence on the scientific research activities. The earthquake-damaged headquarters building in Zagreb entered the project of reconstruction on January 27, 2013. The aim of

the reconstruction project is to reinforce the building and modernise its internal space, in order to create modern workspace for researchers and project teams at the Faculty.

Also, it has been planned to undertake a comprehensive renovation and reconstruction of the Faculty building in Petrinja, which suffered severe damage caused by the earthquake in December 2020.

The Faculty building in Čakovec is undergoing the process of façade renovation, consisting of several phases, one of which has been completed. After the renovation, the building will be more secure.

The above-mentioned reconstruction projects are of extreme importance for researchers in all three locations of the Faculty, as they will make a long-term contribution to the infrastructure modernisation and creation of inspiring, modern space in which research teams will perform their work without interruption.

The Faculty will make an effort to establish cooperation with the City of Zagreb and the competent City Office for Education, Sport and Youth to find a way to use more efficiently the space that the Faculty shares with the primary school and grammar school, thereby increasing the spatial capacities of the Faculty.

6. SUCCESS INDICATORS OF THE STRATEGIC PROGRAMME OF SCIENTIFIC RESEARCH IMPLEMENTATION

The success of the implementation of the Strategic programme of scientific research will be monitored and assessed on an annual basis, based on the success indicators, and encompassing the following activities of the scientific organisation:

- a) the fundamental scientific research
- b) applied and developmental scientific research and technology transfer
- c) providing scientific, counselling, and professional services
- d) scientific and professional training and development for doctoral and postdoctoral students, and other scientific and professional human resources.

6.1. Success indicators in fundamental scientific research

- the number of scientific projects applications (call for proposals) in which the Faculty of Teacher Education is the project leader
- the number of approved of scientific projects (call for proposals) in which the Faculty of Teacher Education is the project leader
- the ratio of scientists holding scientific-teaching and scientific titles involved in scientific research projects in which the Faculty of Teacher Education is the project leader or a partner
- the ratio of scientists holding scientific-teaching and scientific titles involved in scientific research projects of other scientific institutions
- the number of published scientific papers at the institutional level with regard to the publication category
- citation of the published papers at the institutional level
- the number of published papers and delivered presentation per each active project in which the Faculty of Teacher Education is the project leader
- the number of defended doctoral theses relating to the topics of the projects in which the Faculty of Teacher Education is the project leader
- the number of artistic productions with respect to the space/type of event in which they were performed
- the number of conferences which the Faculty has organised or co-organised
- the number of graduation theses resulting from the work performed by students involved in scientific research
- the number of papers presented at symposia or published in journals, which are the result of co-operation or student involvement in scientific research activities

6.2. Success indicators in the applied and developmental scientific research and technology transfer

- the number of applied and developmental project applications (call for proposals) in which the Faculty of Teacher Education is the project leader
- the number of approved applied and developmental projects (call for proposals) in which the Faculty of Teacher Education is the project leader
- the number of applied and developmental project applications (call for proposals) in collaboration with other education system stakeholders
- the ratio of scientists holding scientific-teaching titles involved in applied and developmental research

6.3. Success indicators in providing scientific, counselling, and professional services

- the number of teachers who are members of programme and organisational committees of national and international conferences
- the number of teachers who are members of editorial boards of national and international journals and books
- the number of the signed collaboration agreements
- the number of participants in lifelong learning programmes
- the number of activities organised with the aim of providing professional development for preschool teachers, primary education teachers, expert associates and principals

6.4. Success indicators in scientific and professional training and development for doctoral and postdoctoral students, and other scientific and professional human resources

- the number of students enrolled in doctoral studies
- the percentage of students in doctoral studies who have defended the theme of their doctoral thesis
- the percentage of students in doctoral studies who have defended their doctoral thesis
- the number of doctoral students employed at the Faculty of Teacher Education who have defended the theme of their doctoral thesis
- the number of doctoral students employed at the Faculty of Teacher Education who have defended their doctoral thesis
- the ratio of teachers at the Faculty of Teacher Education who are mentors or co-mentors to doctoral students
- the number of students and teachers involved in mobilities
- the total number of months the teachers and students spent in outgoing mobilities
- the number of courses in which a segment of the teaching process is delivered by visiting teachers

7. THE EXPECTED OUTCOME INDICATORS OF THE STRATEGIC PROGRAMME OF SCIENTIFIC RESEARCH (RELATING TO GENERAL GOALS)

GOAL	MEASURES	OUTCOME INDICATORS
1. Continuing development of the scientific profile of the institution	1.1. Align the scientific profile of the institution with the fundamental documents.	<ul style="list-style-type: none"> • Modified Statute of the Faculty of Teacher Education, aligned with the Statute of the University of Zagreb • documents pertaining to scientific research activities aligned with the Act on Higher Education and Scientific Activity and Act on Quality Assurance in Science and Higher Education
	1.2. Promote and develop scientific research and artistic activities in all relevant scientific and artistic areas	<ul style="list-style-type: none"> • established research teams acknowledged both at national and international level, which include external associates • approved projects in areas not adequately represented so far in the Faculty's research areas • increased number of competitive project applications in calls for proposals • increased number of young researchers – scientific project applicants
	1.3. Increase the scientific productivity of the institution	<ul style="list-style-type: none"> • continuing annual increase in the number of published papers • continuing annual increase in the quality of journals in which the papers are published • continuing annual increase in citations of the published papers at the institutional level • continuing increase in the number of artistic productions in areas relevant for appointment to artistic titles
	1.4. Ensure the availability of young researchers and scientists	<ul style="list-style-type: none"> • hired new young researchers – assistants and senior assistants • adopted Regulations on assessment of work performed by assistants, senior assistants and mentors • developed model of material support in scientific research

		activities performed by young researchers
2. Promote scientific and artistic excellence of teachers and expert associates at the Faculty	2.1. Design personal research plans for employees holding scientific or teaching titles, and align them with the Faculty programme, with clear efficiency indicators	<ul style="list-style-type: none"> all employees have developed their personal short-term and long-term research plans in line with the strategic goals of the institution
	2.2. Align the teachers' workload with the needs of the teaching process and scientific activity	<ul style="list-style-type: none"> within the legal framework and obligations, the teaching workload aligned with the workload in scientific research activities
	2.3. Development of internal rewarding system for various forms of scientific activities and artistic creation (project management, publishing of papers, etc.)	<ul style="list-style-type: none"> improved internal document on the modalities of promoting and rewarding scientific research and artistic activities
	2.4. Encourage the organisation of and participation in international conferences	<ul style="list-style-type: none"> increased number of teachers as active participants and members of programme and organisational boards in international conferences
	2.5. Motivate teachers to participate in editorial boards of reputable national and international scientific journals and/or publications	<ul style="list-style-type: none"> increased number of teachers as members of editorial boards of national and international journals and publications
	2.6. Motivate Faculty employees to engage in reviewing activities (reviews of papers, books, projects, programmes) for national and international institutions	<ul style="list-style-type: none"> increased number of teachers as reviewers
	2.7. Publish scientific papers in Faculty publications and other reputable national and international scientific publications	<ul style="list-style-type: none"> created and adopted annual plan of publishing activities annual increase in the number of co-funded publications of the Publishing Centre
	2.8. Organise conferences at the Faculty	<ul style="list-style-type: none"> designed (two-year) plan of the conferences with the Faculty as the main organiser
	2.9. Increase the visibility of the Faculty's scientific activity	<ul style="list-style-type: none"> increased number of scientific publications of the Faculty (books, collections of papers) with open access researchers who share research data with open access

3. More efficient links between scientific and teaching activities, and introduction of students into scientific research activities	3.1. Create a model of introducing students into scientific research and artistic activities	<ul style="list-style-type: none"> • created model of introducing students into scientific research and artistic activities • increased number of papers and projects in which students are involved • created model of informing students about opportunities for participation in scientific research activities • organized workshops for doctoral students and their mentors
	3.2. Promote student participation in conferences	<ul style="list-style-type: none"> • organised student conferences or student sections at conferences organized by the Faculty • open call for funding for student participation in conferences
4. Development of quality system aimed at promoting scientific research and artistic activities	4.1. Strengthen institutional professional capacities for support in project planning and implementation	<ul style="list-style-type: none"> • professional services employees at the Faculty have passed additional training for project applications and implementation (e.g., applying for EU projects, project management, etc.)
	4.2. Inform and train teachers on scientific project preparation and implementation	<ul style="list-style-type: none"> • continued practice of organising at least 1 workshop per term on the topics relating to scientific project application and implementation
	4.3. Develop teacher competencies for scientific and professional activities in foreign languages	<ul style="list-style-type: none"> • organised foreign language workshops and courses
	4.4. Enable access to professional literature and databases	<ul style="list-style-type: none"> • increased fund of scientific and professional literature for the needs of scientific work • increased access to scientific journals and databases
	4.5. Develop spatial and technical conditions for scientific research and artistic creation	<ul style="list-style-type: none"> • renovated space for scientific research activities • updated ICT and other types of equipment • secured space for the joint activities of research and artistic teams
5. Continue the development of the system of promoting and providing support for international	5.1. Strengthen institutional and professional capacities for support, planning, and implementation of international mobility projects	<ul style="list-style-type: none"> • designed website of the Faculty containing relevant information in foreign languages • continuing training of employees in the Office for Science and International Cooperation

cooperation and mobilities		
	5.2. Develop internal system of informing about and training on available programmes and open calls	<ul style="list-style-type: none"> • improved wiki pages to provide better internal information sharing • continued practice of organized workshops and presentations (per term) on the topics relating to international cooperation and mobility, as well as publication of thematic newsletter • continued practice of sending e-circular letters
	5.3. Increase the number of visits of foreign teachers to the Faculty	<ul style="list-style-type: none"> • designed annual plan of incoming teacher mobilities • courses in which some parts are delivered by visiting teachers from abroad
	5.4. Develop student and teacher mobilities	<ul style="list-style-type: none"> • increased total number of months that students and teachers spend on mobilities • reaching the maximum number of incoming student mobilities (with regard to the Faculty capacities) • all available mobility programmes are used
	5.5. Improve conditions for hosting foreign teachers	<ul style="list-style-type: none"> • secured work space and equipment for teachers on incoming mobilities