**Montenegrin Key Competence Framework Programme**

**Project "Integration of Key Competences in the Education System of Montenegro"**

co-financed by the European Union and the Government of Montenegro and implemented by the EPRD Consortium

**Version:** 29/02/2020

**Members of the Project Team -** a group consisting of representatives of beneficiary institutions that produced the document: **Zdravko Babić**, Faculty of Philology, University of Montenegro; **Zora Bogićević**, Ministry of Education of Montenegro; **Sandra Brkanović**, Centre for Vocational Education of Montenegro, **Nevena Čabrilo**, National Project Coordinator, Bureau for Education Services of Montenegro; **Nataša Gazivoda**, Bureau for Education Services of Montenegro; **Sanja Jančić Rašović**, Faculty of Science and Mathematics, University of Montenegro; **Branka Kankaraš**, Ministry of Education of Montenegro; **Zorica Minić**, Examination Centre of Montenegro; **Arijana Nikolić Vučinić**, Ministry of Education of Montenegro; **Radoje Novović**, Bureau for Education Services of Montenegro; **Radovan Ognjanović**, Bureau for Education Services of Montenegro; **Žarko Pavićević**, Faculty of Science and Mathematics, University of Montenegro; **Radovan Popović**, Bureau for Education Services of Montenegro; **Milena Roganović**, Ministry of Education of Montenegro, as project manager on behalf of the project office for the implementation of the IPA II programme and beneficiary institution; **Tijana Stanković**, Agency for Quality Control in Higher Education of Montenegro; **Dijana Vučković**, Faculty of Philosophy, University of Montenegro.

**Members of the working groups for the development of outcomes of key competences,** which have identified the definitions and outcomes of key competences: **Anđa Backović**, Advisor to the Bureau of Education Services (Social and Emotional Skills); **Vesna Babović**, Advisor to the Bureau of Education Services (Department of Education for English); **Dušica Marković**, Advisor to the Examination Center for English and German; **Andrijana Bogetić**, sociology teacher at Nikšić Secondary Vocational School; **Sandra Brkanović**, Head of the Qualifications Research and Development Department at the Center for Vocational Education; **Nevena Čabrilo**, Advisor to the Bureau of Education Services (Department of Chemistry Education); **Senada Đešević**, teacher of Montenegrin - Serbian, Bosnian, Croatian in Gymnasium in Plav; **Ana Đukanović Miljkovac**, teacher of the Faculty of Philosophy, University of Montenegro, study programmes for pre-school education and for classroom teaching (teaching methodology of art); **Bogić Gligorović**, elementary school biology teacher; **Anka Grujić Vučinić**, Advisor to the Bureau of Education Services for Montenegrin - Serbian, Bosnian, Croatian language and literature; **Mladen Janković**, high school teacher; **Branka Kankaraš**, Ministry of Education, Directorate for Primary Education; **Vidosava Kašćelan**, Advisor to the Bureau of Education Services (Civic Education); **Milica Jaramaz**, Faculty of Philosophy, University of Montenegro, Teacher Education Programme; **Zoran Lalović**, Advisor to the Bureau of Education Services (Curriculum Development); **Dijana Laković**, classroom teacher; **Zorana Latković**, music teacher at the Art School of Music and Ballet “Vasa Pavić” Podgorica; **Lidija Lazarević**, English teacher High School of Electrical Engineering "Vaso Aligrudić" Podgorica; **Biljana Maslovarić**, Faculty of Philosophy, University of Montenegro, study programme in pedagogy and study programme in pre-school education; **Jelena Mašnić**, Faculty of Philosophy, University of Montenegro; **Marija Mijušković**, Associate Professor at the Faculty of Philology, University of Montenegro (study programme for English language and literature); **Miroslav Minić**, high school teacher in Danilovgrad; **Dragana Nenadović**, Advisor to the Examination Center for Montenegrin - Serbian, Bosnian and Croatian Language and Literature; **Bojana Nenezić**, Advisor to the Bureau of Education Services for Music Education; **Radoje Novović**, Advisor to the Bureau of Education Services (Curriculum Development); **Srđan Obradović**, Center for Vocational Education; **Radovan Ognjanović**, Advisor to the Bureau of Education Services for Physics Education; **Biljana Petrović Njegoš**, teacher at the Secondary Naval School Kotor; **Biljana Popović**, elementary school computer science teacher; **Božidar Popović**, teacher of the Faculty of Science and Mathematics, University of Montenegro, Department of Mathematics; **Danijela Popović**, elementary school teacher; **Dušanka Popović**, teacher of the Faculty of Philology, University of Montenegro (study program for Montenegrin language and literature); **Dragana Radoman**, elementary school English teacher; **Milica Radusinović**, elementary school teacher; **Dragutin Šćekić**, elementary school teacher; **Biljana Terzić**, teacher of secondary vocational school - general subjects; **Gordana Tasić**, teacher of module group in the field of engineering and IT at the High School of Electrical Engineering "Vaso Aligrudić" Podgorica Podgorica; **Mira Vučeljić**, teacher of the Faculty of Science and Mathematics, University of Montenegro, Department of Physics; **Tatjana Vujošević**, Advisor to the Examination Center for Mathematics; **Rade Vujović**, elementary school teacher of history; **Milica Vušurović**, Advisor to the Bureau of Education Services for Biology Education.

|  |
| --- |
| * *The contents of this publication are the sole responsibility of the EPRD consortium and do not represent the views of the European Union.* * *The sentences expressed in this publication, which are written in a grammatical form, apply equally to the gender of male and female.* |

**Foreword**

This document was created within the Project *"Integration of Key Competences in the Education System of Montenegro" co-financed by the European Union and the Government of Montenegro through the IPA 2 EU-Montenegro Programme for Employment, Education and Social Welfare.* The project is biennial and has been implemented since 31 August 2019 to 30 August 2021 with the aim to improve the quality of primary and secondary education and support for initial education and continuous professional development of teachers and quality assurance at primary, secondary and higher education levels.

Developing the Montenegrin Key Competence Framework Programme (further referred to Framework) is a central activity of the first phase of the Project. The Framework identifies eight key competences for lifelong learning relevant to the education system of Montenegro, and provides definitions and outcomes for pupils and students to be achieved at educational levels. The Framework is also the starting point for all other activities of the Project, for further development of concepts and training, but at the same time it is a prerequisite for the structured integration of key competences into all levels of the education system of Montenegro.

Through the Project, based on the Framework, following products will be developed: *indicators* to monitor the integration of key competences into school learning that will serve supervisors and quality assurance advisors in monitoring the development of key competences; *programme* for development and integration of key competences in the education system of Montenegro - a strategic document that will define the activities of all actors within the educational system over a three-year period; *a training programme* for school principals and teachers, and training for 360 members of school teams, 900 classroom teachers and 960 STEM teachers; *further concepts of quality assurance* of key competences will be developed, as well as new ways of external evaluation of education, including the development of combined exam questions, with focus on the acquisition of functional knowledge. In addition to contributing significantly to the achievement of project objectives, these and other project activities should provide a solid basis for the *self-sustainable development of key competences* in the education system of Montenegro after the end of the Project.

The framework was created by the Project Team, a body composed of representatives of all relevant beneficiary institutions of the Project, while the definitions and outcomes of key competences by educational levels were developed by four working groups: the Working Group on Literacy and Multilingual Competence, the Working Group on Mathematical Competence, Competency in Science, Technology and Engineering, and Digital competence, the Working Group on Entrepreneurial Competence, and Personal and Social Competence, and the Competence on Learning how to Learn, and the Working Group on Civic and Cultural Awareness and Expression Competence. In addition to representatives of the Ministry of Education, the Institute for Education and the Center for Vocational Education, the working groups also included experienced teachers of primary and secondary schools and teachers of the University of Montenegro. The Project sincerely thanks the members of all groups and bodies who have been very dedicated to developing the document.

The Montenegrin Key Competences Framework Programme is submitted for consideration to the Project Steering Committee, after which its implementation will be tested through training of 1,860 primary and secondary school teachers. Once the experience of the system has been gathered, the Framework will be finalized and submitted to the National Council for Education for adoption.

Contents

[1. Introduction 8](#_Toc36300369)

[2. Goals and principles of the Framework Programme 10](#_Toc36300370)

[3. Descriptions and outcomes of key competences by education levels 11](#_Toc36300371)

[**3.1.** **Literacy competence** 13](#_Toc36300372)

[**3.1.1.** **Goals for pre-school education** 13](#_Toc36300373)

[**3.1.2.** **Outcomes for ISCED 1** 13](#_Toc36300374)

[**3.1.3.** **Outcomes for ISCED 2** 14](#_Toc36300375)

[**3.1.4.** **Outcomes for secondary education (ISCED 3)** 14](#_Toc36300376)

[**3.1.5.** **Outcomes for higher education** 14](#_Toc36300377)

[**3.2.** **Multilingual competence** 15](#_Toc36300378)

[**3.2.1.** **Goals for pre-school education** 15](#_Toc36300379)

[**3.2.2.** **Outcomes for ISCED 1** 15](#_Toc36300380)

[**3.2.3.** **Outcomes for ISCED 2** 16](#_Toc36300381)

[**3.2.4.** **Outcomes for secondary education (ISCED 3)** 16](#_Toc36300382)

[**3.2.5.** **Outcomes for higher education** 16](#_Toc36300383)

[**3.3.** **Mathematical competence and competence in science, technology and engineering** 17](#_Toc36300384)

[**3.3.1.** **Goals for pre-school education** 18](#_Toc36300385)

[**3.3.2.** **Outcomes for ISCED 1** 18](#_Toc36300386)

[**3.3.3.** **Outcomes for ISCED 2** 18](#_Toc36300387)

[**3.3.4.** **Outcomes for secondary education (ISCED 3)** 19](#_Toc36300388)

[**3.3.5.** **Outcomes for higher education** 19](#_Toc36300389)

[**3.4.** **Digital competence** 20](#_Toc36300390)

[**3.4.1.** **Goals for pre-scholl education** 20](#_Toc36300391)

[**3.4.2.** **Outcomes for ISCED 1** 20](#_Toc36300392)

[**3.4.3.** **Outcomes for ISCED 2** 21](#_Toc36300393)

[**3.4.4.** **Outcomes for secondary education (ISCED 3)** 21](#_Toc36300394)

[**3.4.5.** **Outcomes for higher education** 21](#_Toc36300395)

[**3.5.** **Personal, social and learning to learn competence** 22](#_Toc36300396)

[**3.5.1.** **Goals for pre-school education** 22](#_Toc36300397)

[**3.5.2.** **Outcomes for ISCED 1** 23](#_Toc36300398)

[**3.5.3.** **Outcomes for ISCED 2** 23](#_Toc36300399)

[**3.5.4.** **Outcomes for secondary education (ISCED 3)** 23](#_Toc36300400)

[**3.5.5.** **Outcomes for higher education** 24](#_Toc36300401)

[**3.6.** **Civic competence** 24](#_Toc36300402)

[**3.6.1.** **Goals for pre-school education** 25](#_Toc36300403)

[**3.6.2.** **Outcomes for ISCED 1** 25](#_Toc36300404)

[**3.6.3.** **Outcomes for ISCED 2** 25](#_Toc36300405)

[**3.6.4.** **Outcomes for secondary education (ISCED 3)** 26](#_Toc36300406)

[**3.6.5.** **Ishodi za visoko obrazovanje** 26](#_Toc36300407)

[**3.7.** **Entrepreneurial competence** 27](#_Toc36300408)

[**3.7.1.** **Goals for pre-school education** 27](#_Toc36300409)

[**3.7.2.** **Outcomes for ISCED 1** 27](#_Toc36300410)

[**3.7.3.** **Outcomes for ISCED 2** 28](#_Toc36300411)

[**3.7.4.** **Outcomes for secondary education (ISCED 3)** 28](#_Toc36300412)

[**3.7.5.** **Outcomes for higher education** 29](#_Toc36300413)

[**3.8.** **Cultural awareness and expression competence** 29](#_Toc36300414)

[**3.8.1.** **Outcomes for pre-school education** 30](#_Toc36300415)

[**3.8.2.** **Ishodi za ISCED 1** 30](#_Toc36300416)

[**3.8.3.** **Outcomes for ISCED 2** 30](#_Toc36300417)

[**3.8.4.** **Outcomes for secondary education (ISCED 3)** 30](#_Toc36300418)

[**3.8.5.** **Outcomes for higher education** 31](#_Toc36300419)

[4. Integration of key competences in teaching and learning 31](#_Toc36300420)

[**4.1.** **Support to teachers** 33](#_Toc36300421)

[**4.2.** **Analysis of approaches for evaluation and assessment of key competences** 33](#_Toc36300422)

[**4.3.** **Monitoring and evaluation** 34](#_Toc36300423)

# Introduction

The global changes brought by the fourth industrial revolution have a significant impact on human work and education, posing serious challenges to education systems in order to educate current and future generations to live and work in the new economy. Changes in society caused by new technologies are becoming faster, harder to track and impossible to predict. Creating a knowledge-based society based on artificial intelligence, robotics, autonomous vehicles, new materials, nanotechnologies, biotechnologies, energy storage, or Internet of Things (IoT) requires the development of such human potentials that can sustain and develop competitiveness, quickly and effectively adapt to changing conditions in markets and new technologies in a non-destructive manner for the community and society, responsibly addressing the quality of life and resources and understanding the causes and consequences of climate change and biodiversity change, and to achieve fundamental societal goals, such as productivity growth, social cohesion, sustainable development and democratic processes. It is essential to include skills and competences for future citizens in education systems, which will focus on greater capacity to adapt to a rapidly changing and inclusive society.

Responding to these challenges, since 2006 the European Union has been developing key competences for lifelong learning[[1]](#footnote-1) so the development of key competences is an important educational imperative for European countries as well as accession countries. The European Reference Framework for Key Competences for Lifelong Learning provides the basic conceptual structure of key competences and defines them as a dynamic combination of knowledge, skills and attitudes in the appropriate context that are needed by all people for personal pursuit and development, active citizenship, social inclusion and employment. Based on the frame of reference, education systems at national level, according to their own needs and priorities, are free to develop new models, based on knowledge for life and for the development of each individual and society as a whole. In addition to the fact that key competences are the basis of the idea of lifelong learning, fostering their development is one of the goals of the vision of creating a European area of education and educational reforms put them at the forefront at all levels of education. All European and highly developed countries involve the development of key competences in their educational policies, strategies, regulations or initiatives.

Key competences represent a kind of change in educational doctrine that shifts the focus of education toward the acquisition of functional knowledge, the interactive use of technology, knowledge and skills, the ability to communicate with heterogeneous groups and by autonomous action. Key competences are the cornerstone of employability and flexibility in the global economy, and one of the responses to the challenges of the post-modern era in which change is accelerating and the complexity and interdependence of the local and global is increasing.

However, integrating key competences into education systems is not a simple or short-lived process. Numerous international studies show that education systems continue to seek effective modalities, and that many countries are redesigning national curriculum frameworks and education programmes. There are different motives for this, and above all the necessity of adapting education to challenges such as digitalisation, media literacy, new life concepts for active and engaging citizenship, eliminating deficiencies in existing curricula such as outdated content or lack of coherence of its parts. Society is increasingly mobile, jobs are being automated, technology, especially digital, is playing an increasing role in all areas of work and life. Improving the quality of education is becoming imperative, especially in light of the results of international research and student assessment rankings such as PISA, TIMSS or PIRLS that have indicated a "persistently high proportion of teens and adults with incomplete basic skills".

Montenegro, as a candidate for EU membership, and as a country that has been continuously implementing education reforms[[2]](#footnote-2) since 2000 to create an education system that can meet the challenges of the 21st century, has embraced the concept of integrating key competences into all levels of the education system. Like most European countries, in line with its tradition, Montenegro has incorporated the development of key competences or their broader learning outcomes into their legislation, strategy documents, education programmes and methodological guidance. Key reform activities that form the basis for more effective development of key competences in the education system of Montenegro are:

* The concept of key competences is incorporated into the legislative framework in the formulation of the goals of the law governing the entire education and upbringing system;
* The programme of *Entrepreneurial learning* within the field of activities in preschool education from 3 to 6 years (2016) and the *Education for sustainable development* in the fields of activities in preschool education and upbringing from 3 to 6 years (2015) are implemented as part of the primary programme for this age;
* Key competences have been introduced into reformed primary education programmes (2017), and the Methodological Guidance for Writing Outcome Based Programmes (2017) include key competences in general education programmes;
* Integration of key competences within vocational education has been achieved through the reform of the curriculum based on professional and qualification standards, through the Methodology for the development of professional and qualification standards and the Guidelines for Qualifications (2016), and the Methodology of Curriculum Development (2017);
* The Montenegrin Qualifications Framework was established and a handbook was written (2016);
* The modern quality assurance system for all levels of education has been established, based on self-evaluations and external evaluations;
* Teacher Education Strategy in Montenegro (2017-2024) was adopted, which envisages reforming methodical and didactic subjects and introducing knowledge and skills to develop key competences in initial teacher education at the University of Montenegro;
* UNICEF Montenegro's Education for Life Programme: Key Competences for the 21st Century in Curricula in Montenegro (Pešikan and Lalović, 2016) mapped key competencies and made recommendations for their cross-curricular development;
* The Sustainable Development Education for Pre-primary, Primary and General Secondary Education (2014) programme covers eight cross-curricular topics or areas that are cross-curricular: (1) Climate change (2) Green economy (3) Environmental protection (4) Sustainable cities and cities settlements (5) Biodiversity (6) Health education (7) Human rights education (8) Entrepreneurial learning;
* Several tutorials have been developed to support teachers in implementing cross-curricular topics:

- Guides for the implementation of the cross-curricular topic on entrepreneurial learning for preschool, primary and secondary general education;

- Guide for the implementation of the cross-curricular topic on education for sustainable development for preschool and general education;

- Guide for the implementation of the cross-curricular topic on climate change;

- Guide for the implementation of the cross-curricular topic spatial evaluation and planning;

- Guide for implementing healthy lifestyles;

- A digital literacy implementation guide is under development.

Modernizing Montenegro's education system to respond to lifelong learning needs leads to the need to **introduce a single, integrative document** to link existing fragmented efforts that focus on the development of key competences. Previous activities that have significantly developed the system for key competences have not provided synchronization for all key competences in the same way, or for all levels of education as part of a single unit. However, all activities to date have contributed to the achievement of conditions for vertical and horizontal alignment and cohesion of the system. Creating a consensus by all participants in the system functionally connects elements that already exist in education. The framework document is the widest platform that covers all levels and participants in education with a unique approach to key competences and provides clear recommendations for action, while leaving enough room for specific solutions for each of the key competences and for each level of education.

The Key Competences Framework Programme is a developmental, strategic document and is the basic starting point for a unique approach to the development of key competences for lifelong learning at all levels of education in Montenegro. It is based on the fundamental recommendations of European policies and the educational practices of Montenegro so far, with the aim of providing a useful unifying point for all actors in the education system to cooperate in integrating the development of key competences in the education system in relation to their roles. This refers to all those directly or indirectly involved in education, policy makers, employees of educational institutions - teachers, principals, educators and psychologists, educational counsellors, supervisors, parents, community representatives, or all those who participate in the broad arena of lifelong learning.

# Goals and principles of the Framework Programme

Key competences are developed in a lifelong learning perspective, from early childhood to adulthood, and through formal, non-formal and informal learning in all contexts, including family, school, workplace, personal environment and community. All key competences are considered equally important, and each contributes to a successful life in society. Competencies can be applied in different contexts and in different combinations, overlapping and intertwining, aspects crucial to one area reinforce competence in another area. Skills such as critical thinking, problem solving, teamwork, communication and negotiation skills, analytical skills, creativity and intercultural skills are all key competences. All key competences are necessary and important in the context of sustainable development[[3]](#footnote-3).

**Goals** of the Key Competences Framework Programme are:

* Creating a new perspective for students by enhancing the quality of education, training and lifelong learning so that each individual can fully participate in society and successfully navigate the labour market, and acquire the skills and competences necessary for personal achievement, health, employability and social inclusion;
* Supporting the development of teaching staff as a central part of the education system so that it is ready to explore and apply new ways of learning for a society that is increasingly mobile and increasingly reliant on digital technologies;
* Improving Montenegro's education system and utilizing the full potential of education as a driver of job creation, social justice and active citizenship;
* Developing a European dimension of education, training and lifelong learning.

The development of the Montenegrin Key Competence Framework Programme is based on the following **principles**:

* It is entirely based on the European Framework of Reference for Key Competences for Lifelong Learning and consists of eight key competences tailored to the specificities of the education system of Montenegro;
* Ensures the availability of key competences to each individual;
* Acknowledges the development of key competences in Montenegro's education system so far;
* Defines instruments and procedures for implementation;
* Guided by the principles of: comprehensiveness, science, applicability, transparency and intelligibility.

# Descriptions and outcomes of key competences by education levels

This Framework Programme identifies the following eight key competences relevant to the Montenegrin education system:

1. Literacy competence;
2. Multilingual competence;
3. Mathematical competence and competence in science, technology and engineering;
4. Digital competence;
5. Personal, social and learning to learn competence;
6. Civic competence;
7. Entrepreneurial competence;
8. Cultural awareness and expression competence.

The Framework Programme also defines descriptions (definitions), based on the descriptions of competences from the EU reference framework, as well as the outcomes authentically formulated for each level of education of the entire education system of Montenegro. Levels of education are given according to the International Standard Classification of Education (ISCED) and therefore the National Classification, which has been developed on the same basis. The educational levels are determined taking into account not only the age of the pupil or student, but also the way of teaching, and they include:

* Pre-school education[[4]](#footnote-4),
* ISCED 1 – Primary education from the first to the fifth grade (predominantly class teaching),
* ISCED 2 - Elementary education from sixth to ninth grade (subject teaching in primary school),
* ISCED 3 – secondary education (including general secondary and vocational secondary education), and
* Higher education (combining all three cycles of higher education).

The outcomes of key competences are formulated in relation to the description of competences (definition and descriptions of knowledge, skills and attitudes adapted from the EU reference framework), and give a dynamic combination of knowledge, skills and attitudes applied by the student in different contexts and developed throughout life. Their goal is to determine the level of knowledge, skills and attitudes that a learning person (child, pupil, student) needs to achieve to use in life situations that cover all circumstances: personal, civic, social, and areas of economic and professional engagement.

Key competencies include attitudes and feelings, environmental awareness, conceptual and procedural knowledge, and processes of applying knowledge and skills to real-world tasks and challenges. Given such "lifelong" and broadly understood competencies, learning outcomes for key competences are formulated without separating the cognitive and affective domain as well as the domain of "soft" skills, but formulated rather broadly, with "embedded" knowledge, skills and attitudes. The outcomes of key competencies describe what students achieve at each educational level at the end of the learning process. They point to concepts, principles, and developmental learning processes; they are sometimes expanded by parentheses and explanations, and have sometimes more than one explanatory verb and can be broken down into narrower outcomes. In relation to the structure of the anticipated learning outcome, some outcomes indicate a correlation with each other.

## **Literacy competence**

Literacy is the ability to identify, understand, express, create, and interpret concepts, feelings, facts and opinions in both oral and written forms, using visual, sound/audio and digital materials across disciplines and contexts. It implies the ability to communicate and connect effectively with others, in an appropriate and creative way. Development of literacy forms the basis for further learning and further linguistic interaction. Depending on the context, literacy competence can be developed in the mother tongue, the language of schooling and/or the official language in a country or region.

This competence involves the knowledge of reading and writing and a sound understanding of written information and thus requires an individual to have knowledge of vocabulary, functional grammar and the functions of language. It includes an awareness of the main types of verbal interaction, a range of literary and non-literary texts, and the main features of different styles and registers of language.

Individuals should have the skills to communicate both orally and in writing in a variety of situations and to monitor and adapt their own communication to the requirements of the situation.

This competence also includes the abilities to distinguish and use different types of sources, to search for, collect and process information, to use aids, and to formulate and express one’s oral and written arguments in a convincing way appropriate to the context. It encompasses critical thinking and ability to assess and work with information.

A positive attitude towards literacy involves a disposition to critical and constructive dialogue, an appreciation of aesthetic qualities and an interest in interaction with others. This implies an awareness of the impact of language on others and a need to understand and use language in a positive and socially responsible manner.

### **Goals for pre-school education**

Literacy competency in preschool age is developed through:

* Expand and enrich vocabulary
* Develop the ability of confident verbal and non-verbal communication
* Develop the ability to listen while understanding the meaning
* Develop a speaking skill

### **Outcomes for ISCED 1**

At the end of the ISCED 1 primary school learning process (grades first to fifth), the student:

* Communicates verbally and in writing in a variety of situations, adapting their own communication to the needs of the situation and using the right vocabulary
* Adopts vocabulary through play, song and other content and activities
* Applies language standards in oral and written communication
* After listening or reading and analysing texts, identifies key terms and related data, classifies, compares and supplements them, then memorizes and uses them in new situations (learning by reading)
* Evaluates and creates different types of texts according to the needs and occasional use of digital technology

### **Outcomes for ISCED 2**

At the end of the ISCED level 2 learning process in primary school (grades sixth to ninth), the student:

* Participates in oral and written communication in standard language, using appropriate vocabulary
* Analyses, interprets, creates and evaluates texts according to needs
* Checks source reliability and critically analyses arguments and claims
* Presents, interprets and collates information and data from multiple sources using charts and diagrams
* Edits, corrects and enhances their own text
* Collects, writes/archives, organizes and evaluates information and data and presents it using a variety of media

### **Outcomes for secondary education (ISCED 3)**

At the end of the ISCED 3 (secondary education) learning process, the student:

* Participates critically and constructively in a dialogue, actively listens to and appreciates the opinions, attitudes and emotions of others
* Expresses opinions, participates in discussions and debates, presenting appropriate arguments
* Evaluates the role of language and other forms of communication in the formation of opinions and attitudes (e.g. for political, advertising, propaganda and other purposes)
* Analyses texts of different kinds from different points of view (target audience, genre, author's point of view, cultural/historical point of view, etc.).
* Uses available digital technologies to improve language skills (listening, speaking, reading and writing)
* Creates in different genres and uses multiple forms to express their ideas
* Applies functional literacy in everyday life situations

### **Outcomes for higher education**

At the end of the higher education learning process, the student:

* Critically compares and analyses information (facts, claims, conceptions) from a literature relevant to the research field
* Functionally uses the language of the profession, finding and analysing professional and scientific texts
* Presents complex ideas and concepts (e.g. business ideas, innovations, new scientific insights, etc.) in a concise and compelling way, appropriate to the context, using various forms of graphic, visual, digital and audio presentations
* Writes seminar, professional, scientific and other papers in accordance with the rules of academic integrity
* Initiates and engages in constructive and critical dialogue.

## **Multilingual competence**

This competence defines the ability to use different languages appropriately and effectively for communication. It broadly shares the main skill dimensions of literacy: it is based on the ability to understand, express and interpret concepts, thoughts, feelings, facts and opinions in both oral and written form (listening, speaking, reading and writing) in an appropriate range of societal and cultural contexts according to one’s wants or needs. Languages competences integrate a historical dimension and intercultural competences. It relies on the ability to mediate between different languages and media, as outlined in the Common European Framework of Reference. As appropriate, it can include maintaining and further developing mother tongue competences, as well as the acquisition of a country’s official language(s).

This competence requires knowledge of vocabulary and functional grammar of different languages and an awareness of the main types of verbal interaction and registers of languages. Knowledge of societal conventions, and the cultural aspect and variability of languages is important.

Essential skills for this competence consist of the ability to understand spoken messages, to initiate, sustain and conclude conversations and to read, understand and draft texts, with different levels of proficiency in different languages, according to the individual’s needs. Individuals should be able to use tools appropriately and learn languages formally, non-formally and informally throughout life.

A positive attitude involves the appreciation of cultural diversity, an interest and curiosity about different languages and intercultural communication. It also involves respect for each person’s individual linguistic profile, including both respect for the mother tongue of persons belonging to minorities and/or with a migrant background and appreciation for a country’s official language(s) as a common framework for interaction.

### **Goals for pre-school education**

The multilingual competence in preschool age is developed through:

* Encouraging interest in children to learn a foreign language through play, music, songs, colouring and more
* Developing the ability to remember, imitate and be creative
* Getting to know other cultures through story, song, drawing and colouring

### **Outcomes for ISCED 1**

At the end of the ISCED 1 elementary school learning process (grades first to fifth), the student:

* Understands familiar words and basic phrases that relate to their own family and immediate concrete environment, when spoken slowly and clearly
* Recognizes key terms, words and very simple sentences (ads posted in public places, posters, in catalogues, etc.)
* Conducts simple conversation with repetition or reformulation of sentences by the interviewee
* Asks and answers simple questions on well-known topics
* Uses simple phrases and sentences in speaking on a specific topic
* Writes short simple essays on a given topic or on their own initiative
* Adopts vocabulary through play, song and other content and activities
* Uses available digital technologies to enhance multilingualism skills

### **Outcomes for ISCED 2**

At the end of the ISCED level 2 learning process in primary school (grades sixth to ninth), the student:

* Understands phrases and commonly used words in the area of immediate personal interest
* Understands the basic meaning of short, clear and simple messages and public announcements from various sources (encyclopaedias, dictionaries, internet, etc.)
* Reads texts and finds specific, predictable information in everyday written materials (advertisements, prospectuses, menus, timetables, letters, etc.)
* Communicates in common situations that require immediate exchange of information on known topics and activities, and participates in conversations
* Uses phrases and sentences to describe current, age-appropriate topics in simple language
* Writes compositions with given guidelines on a given topic within appropriate vocabulary and grammar
* Develops a positive attitude towards other languages and cultures

### **Outcomes for secondary education (ISCED 3)**

At the end of the ISCED 3 (secondary education) learning process, the student:

* Understands longer speeches and lectures, follows complex argumentation on a familiar topic from various sources (TV, news, Internet, etc.)
* Reads and understands articles and reports that address contemporary and/or professional content
* Communicates sufficiently fluently and spontaneously to allow normal interaction with the native speaker; actively participates in discussions, reasoning and defending their views
* Speaks clearly and in detail about general and professional topics in the area of personal interests.
* Writes various functional texts and written forms (CV, e-mail, application, essay, etc.) using appropriate vocabulary and style
* Respects cultural diversity, interests and curiosity about different languages and intercultural communication

### **Outcomes for higher education**

At the end of the higher education learning process, the student:

* Understands texts and other media that use vocabulary characteristic of the profession
* Finds, searches and uses literature in different languages
* Use language effectively and flexibly in social and business situations (e.g. meetings, presentations, seminars, professional and scientific conferences, etc.)
* Communicates verbally and in writing in a foreign language on topics specific to the profession, including writing seminar, professional, scientific and other papers

## **Mathematical competence and competence in science, technology and engineering**

Mathematical competence is the ability to develop and apply mathematical thinking, knowledge and skills to solve various problems in everyday situations. It is based on knowledge of mathematical concepts and complete mastery of computation, with an emphasis on understanding processes and activities, i.e. to develop functional mathematical knowledge and skills, which can be applied in different situations. Mathematical competence includes, to varying degrees, the ability and willingness to adopt and use other forms of mathematical thinking and to present their application (formula, model, constructs, graphs, mathematical modelling).

Competence in science refers to the ability and willingness to explain the natural world by making use of the body of knowledge and methodology employed, including observation and experimentation, in order to identify questions and to draw evidence-based conclusions. Competences in technology and engineering are applications of that knowledge and methodology in response to perceived human wants or needs. Competence in science, technology and engineering involves an understanding of the changes caused by human activity and responsibility as an individual citizen.

Necessary knowledge in mathematics includes a sound knowledge of numbers, measures and structures, basic operations and basic mathematical presentations, an understanding of mathematical terms and concepts, and an awareness of the questions to which mathematics can offer answers. An individual should have the skills to apply basic mathematical principles and processes in everyday contexts at home and work (e.g. financial skills), and to follow and assess chains of arguments.

An individual should be able to reason mathematically, understand mathematical proof and communicate in mathematical language, and to use appropriate aids including statistical data and graphs and to understand the mathematical aspects of digitalisation.

A positive attitude in mathematics is based on the respect for truth and a willingness to look for reasons and to assess their validity.

For science, technology and engineering, essential knowledge comprises the basic principles of the natural world, fundamental scientific concepts, theories, principles and methods, technology and technological products and processes, as well as an understanding of the impact of science, technology, engineering and human activity in general on the natural world. These competences should enable individuals to better understand the advances, limitations and risks of scientific theories, applications and technology in societies at large (in relation to decision-making, values, moral questions, culture, etc.).

Skills include the understanding of science as a process for the investigation through specific methodologies, including observations and controlled experiments, the ability to use logical and rational thought to verify a hypothesis and the readiness to discard one’s own convictions when they contradict new experimental findings. It includes the ability to use and handle technological tools and machines as well as scientific data to achieve a goal or to reach an evidence-based decision or conclusion. Individuals should also be able to recognise the essential features of scientific inquiry and have the ability to communicate the conclusions and reasoning that led to them.

Competence includes an attitude of critical appreciation and curiosity, a concern for ethical issues and support for both safety and environmental sustainability, in particular as regards scientific and technological progress in relation to oneself, family, community, and global issues.

### **Goals for pre-school education**

Mathematical competence and competence in science, technology, engineering in preschool age is developed through:

* Fostering curiosity, asking questions and exploring through play and fun
* Recognition of geometric shapes in the environment
* Developing the child's ability to classify and sort objects according to a specific criterion (shape, size, colour, etc.)

### **Outcomes for ISCED 1**

At the end of the ISCED 1 elementary school learning process (grades first to fifth), the student:

* Effectively uses basic computational operations with natural numbers to solve problems in everyday life situations
* Solves problems using known sizes, mathematical procedures, and the occasional use of digital tools
* Estimates and measures length, distance, time and mass by selecting appropriate units and instruments to measure them
* Reads, collates and displays data in tables and graphs
* Describes objects with mathematical terminology, numbers and drawing
* Classifies objects and phenomena according to common features
* Performs simple experiments by describing and interpreting the results of the performed experiment and drawing conclusions, taking into account safety and environmental impact
* Recognizes and uses simple ones (lever, wheel, straight hair, stud and screw)
* Demonstrates systematicity, precision and perseverance in work and learns from mistakes

### **Outcomes for ISCED 2**

At the end of the ISCED level 2 learning process in primary school (grades sixth to ninth), the student:

* + Uses mathematical equality and inequality to describe real-world processes and regularities
  + Presents objects, ideas and procedures in words, drawings, diagrams, graphs, numbers and symbols
  + Analyses the essential properties of objects, phenomena and processes and presents them as variables, to which they are associated with numerical values ​​(counting, comparing, estimating, measuring or calculating) and monitor the interdependence of the relevant variables
  + Applies proportionality, scale and percentage calculation
  + Collects, classifies and organizes empirical data according to the required criteria
  + Uses and adjusts measuring instruments, keeping in mind that measurements always have errors
  + Analyses the structure and properties of living and inanimate nature and their relationship
  + Distinguishes scientific question from questions that modern science cannot answer
  + Performs simple experiments and reports on progress, results and conclusions
  + Explains the characteristics of technological processes and the development of medicine that have significantly influenced the development of humanity.
  + Compares explanations of natural phenomena throughout history and assesses the importance of scientific discoveries
  + Assess the advantages and disadvantages of existing technologies, accept new ones and apply them in accordance with the rules

### **Outcomes for secondary education (ISCED 3)**

At the end of the ISCED 3 (secondary education) learning process, the student:

* + Interprets the links between phenomena in nature and society using simple mathematical modelling techniques
  + Uses a series of logical arguments to conclude, prove, generalize, and identify special cases
  + Uses methodology for data collection, processing and analysis, (observes, measures, experimentally records, analyses and verifies results; presents data using descriptive statistics, tables and charts).
  + Interprets and applies technical instructions and technical documentation for daily use
  + Creates a technical drawing and uses tools, appropriate materials and techniques to build models, models and prototypes
  + Writes and discusses essays through research, using scientific concepts and verifiable sources of information
  + Analyses a complex problem, divides it into steps, and solves it through an algorithm
  + Recognizes the importance of ethical issues related to health, safety and environmental sustainability in terms of scientific and technological progress

### **Outcomes for higher education**

At the end of the higher education learning process, the student:

* + Appropriately applies the methodology of scientific research
  + Applies complex mathematical and statistical techniques within quantitative research methodology
  + Applies the rules of academic integrity
  + Applies scientific methods to review and control data and decisions
  + Uses existing scientific knowledge to foster innovative solutions
  + Uses research for independent learning
  + Applies a value system to which in science and research responsibly treats oneself, others and the environment

## **Digital competence**

Digital competence involves the confident, critical and responsible use of, and engagement with, digital technologies for learning, at work, and for participation in society. It includes information and data literacy, communication and collaboration, media literacy, digital content creation (including programming), safety (including digital well-being and competences related to cybersecurity), intellectual property related questions, problem solving and critical thinking.

Individuals should understand how digital technologies can support communication, creativity and innovation, and be aware of their opportunities, limitations, effects and risks. They should understand the general principles, mechanisms and logic underlying evolving digital technologies and know the basic function and use of different devices, software, and networks. Individuals should take a critical approach to the validity, reliability and impact of information and data made available by digital means and be aware of the legal and ethical principles involved in engaging with digital technologies.

Individuals should be able to use digital technologies to support their active citizenship and social inclusion, collaboration with others, and creativity towards personal, social or commercial goals. Skills include the ability to use, access, filter, evaluate, create, program and share digital content. Individuals should be able to manage and protect information, content, data, and digital identities, as well as recognise and effectively engage with software, devices, artificial intelligence or robots.

Engagement with digital technologies and content requires a reflective and critical, yet curious, open-minded and forward-looking attitude to their evolution. It also requires an ethical, safe and responsible approach to the use of these tools.

### **Goals for pre-school education**

Digital competence in pre-school age is developed by bringing information and communication technology closer to each other, and its use in various activities, to enhance the child's overall development. That includes:

* + Use of various digital technologies and digital content for the purpose of play, learning, and communication
  + Differentiating virtual reality from reality and knowing the basic rules of behaviour on the Internet
  + Suggesting new ideas for designing some simple digital content

### **Outcomes for ISCED 1**

At the end of the ISCED 1 elementary school learning process (grades first through fifth), the student:

* + Search, store and use information and content in digital form;
  + Uses a digital communication tool in an appropriate context;
  + Creates and edits simple digital content using a variety of applications
  + Recognizes the dangers and ways of responding to cyber-bullying, ways of protecting personal information and privacy in the digital environment, as well as protecting devices, digital content, and the impact of digital technologies and their use on the environment;
  + Creative uses digital devices and solves simple technical problems on them

### **Outcomes for ISCED 2**

At the end of the ISCED level 2 learning process in primary school (grades sixth to ninth), the student:

* Searches for, stores and uses information and content in digital form
* Uses digital technologies to communicate in an appropriate context
* Creates and edits simple digital content using a variety of applications
* Recognizes the dangers and ways of responding to cyber-bullying cases (a way to protect personal data and privacy in the digital environment, as well as protect devices, digital content, and the impact of digital technologies and their use on the environment) - divided into personal and data protection
* Creative uses digital devices and solves simple technical problems using them

### **Outcomes for secondary education (ISCED 3)**

At the end of the ISCED 3 (secondary education) learning process, the student:

* + Adjusts search strategy to find the most relevant data, information and content in a digital environment, assessing the credibility and reliability of different sources
  + Manages data, information and digital content using digital technologies for personal, social and commercial purposes.
  + Communicates, shares content, collaborates by applying basic rules of conduct on the Internet, assessing the effects, risks, limitations and opportunities
  + Creates digital content following the concept of copyright.
  + Creates appropriate instructions for solving a specific problem or performing specific tasks
  + Protects device, personal data, digital, content, applying security and safety measures and respecting sustainable development principles
  + Solves problem situations using appropriate digital tools, assesses and enhances personal digital competencies

### **Outcomes for higher education**

At the end of the higher education learning process, the student:

* + Uses complex digital content and works with data to solve problems and create adequate technological responses
  + Applies specialized applications and software to its field and programming
  + Actively communicates using various digital and communication technologies, routinely applying net etiquette and digital identity rules
  + Respects ethical principles, copyrights and licenses in the digital environment (behave in accordance with the principles of academic integrity)
  + Respects the principles of personal data protection, health and wellbeing, and environmental protection in a digital environment

## **Personal, social and learning to learn competence**

Personal, social and learning to learn competence is the ability to reflect upon oneself, effectively manage time and information, work with others in a constructive way, remain resilient (to stress caused by constant life changes, pressures and risks) and manage one’s own learning and career. Personal competence includes the initiative to recognize the need for change and introduce change as well as to consider oneself, one's skills, attitudes and values.

Personal, social and learning to learn competence includes: the ability to cope with and learn from personal mistakes, responsibility and real self-assessment of what you do, the ability cope with uncertainty and complexity, learning to learn (developing cognitive skills), support one’s physical and emotional wellbeing, to maintain physical and mental health, and to be able to lead a health-conscious, future-oriented life, empathize and manage conflict in an inclusive and supportive context, discovering one's own strengths and weaknesses, affinities and interests and taking responsibility for personal and professional growth, professional careers and personal realization.

For successful interpersonal relations and social participation, it is essential to understand the codes of conduct and rules of communication generally accepted in different societies and environments. Personal, social and learning to learn competence requires also knowledge of the components of a healthy mind, body and lifestyle. It involves knowing one’s preferred learning strategies, knowing one’s competence development needs and various ways to develop competences and search for the education, training and career opportunities and guidance or support available.

Skills include the ability to identify one’s capacities, focus, deal with complexity, critically reflect and make decisions. This includes the ability to learn and work both collaboratively and autonomously and to organise and persevere with one’s learning, evaluate and share it, seek support when appropriate and effectively manage one’s career and social interactions. Individuals should be resilient and able to cope with uncertainty and stress. They should be able to communicate constructively in different environments, collaborate in teams and negotiate. This includes showing tolerance, expressing and understanding different viewpoints, as well as the ability to create confidence and feel empathy.

The competence is based on a positive attitude toward one’s personal, social and physical well-being and learning throughout one’s life. It is based on an attitude of collaboration, assertiveness and integrity. This includes respecting diversity of others and their needs and being prepared both to overcome prejudices and to compromise. Individuals should be able to identify and set goals, motivate themselves, and develop resilience and confidence to pursue and succeed at learning throughout their lives. A problem-solving attitude supports both the learning process and the individual’s ability to handle obstacles and change. It includes the desire to apply prior learning and life experiences and the curiosity to look for opportunities to learn and develop in a variety of life contexts.

### **Goals for pre-school education**

Personal, social and learning to learn competence in preschool age is developed through:

* + Developing individual potentials and affinities in learning and other activities with appropriate support
  + Responsible behaviour and respect for diversity
  + Self-confident expression and reasoning of one's own opinion
  + Engage in decision making related to kindergarten life
  + Planning and organizing your own supported activities

### **Outcomes for ISCED 1**

At the end of the ISCED 1 elementary school learning process (grades first to fifth), the student:

* + Manages its learning process, gradually assuming responsibility, for learning outcomes, with the support of teachers and with the use of appropriate digital technologies
  + Differentiates facts from statements that are not based on evidence
  + Expresses curiosity, desire and perseverance in learning
  + It presents its own ideas, while respecting the ideas of others
  + Successfully collaborates in a variety of situations, seeking and offering assistance
  + Motivates to participate in discussion, cooperative activities and games
  + Acts in accordance with the principles of fairness and equal opportunity

### **Outcomes for ISCED 2**

At the end of the ISCED 2 learning process in primary school (grades sixth to ninth), the student:

* + Manages its learning process, either independently or with occasional teacher support, using appropriate digital technologies
  + Expresses interest in different areas of knowledge and skills and is aware that in this way he develops their own abilities and personality
  + Constructively communicates and collaborates with others in a variety of situations, offering and seeking help when needed
  + Assesses their abilities, traits, goals and considers them in the function of further learning, life, possible career
  + Responsible for maintaining one's physical and mental health, the health of others and the environment
  + Solves problems and challenges in different situations, by engaging with one's potential, persistence and working effectively
  + Expresses a positive value system that guides their decisions and behaviour in a consistent manner

### **Outcomes for secondary education (ISCED 3)**

At the end of the ISCED 3 (secondary education) learning process, the student:

* + Independently selects and uses relevant sources of information (e.g. independently and quickly finds and evaluates new information from different sources, transforms it into new knowledge and ideas, creative approaches to successful problem solving with critical thinking and evaluation of solutions) in order to solve learning problems and life
  + Manages the learning process independently and proactively (e.g. uses different learning strategies, implements them independently in the achievement of goals, independently determines learning goals and chooses access to learning, acts creatively in different areas of learning, self-evaluates learning efficiency and progress in learning, regulates its learning changing plan or approach to learning as needed)
  + Takes responsibility for their learning and results (e.g. researching and showing interest in different fields, self-assessing their achievements, promoting the importance and meaningfulness of learning by personal example and being aware of the need for lifelong learning)
  + Communicates, collaborates and learns with others (e.g. successfully resolves communication and conflict issues in different situations and is willing to seek and offer assistance when needed)
  + Chooses one's own career path independently and responsibly
  + Lives healthy and promoting a healthy life by personal example (e.g. diet, sleep, personal hygiene, physical activity, positive thinking, constructive conflict resolution)
  + Successfully presents itself (subsequently the appropriate expression for this learning outcome will be selected)

### **Outcomes for higher education**

At the end of the higher education learning process, the student:

* + Uses learning methods and styles that underpin one's own lifelong learning (formal, non-formal, informal), including the use of appropriate e-tools
  + Design and create, independently or in a team, an idea/product that can create new value for the individual and the community,
  + Communicates effectively and responsibly in a variety of contexts, including the intercultural context and media environment
  + Applies knowledge and skills to preserve one's physical and mental health, including caring for the well-being of others and the community
  + Demonstrates, in one's own decisions and behaviour, highly ethical and moral personal and professional integrity

## **Civic competence**

Citizenship competence is the ability to act as responsible citizens and to fully participate in civic and social life, based on understanding of social, economic, legal and political concepts and structures, as well as global developments and sustainability.

Citizenship competence is based on knowledge of basic concepts and phenomena relating to individuals, groups, work organisations, society, economy and culture. This involves an understanding of the European common values, as expressed in Article 2 of the Treaty on European Union and the Charter of Fundamental Rights of the European Union. It includes knowledge of contemporary events, as well as a critical understanding of the main developments in national, European and world history. In addition, it includes an awareness of the aims, values and policies of social and political movements, as well as of sustainable systems, in particular climate and demographic change at the global level and their underlying causes. Knowledge of European integration as well as an awareness of diversity and cultural identities in Europe and the world is essential. This includes an understanding of the multi-cultural and socioeconomic dimensions of European societies, and how national cultural identity contributes to the European identity.

Skills for citizenship competence relate to the ability to engage effectively with others in common or public interest, including the sustainable development of society. This involves critical thinking and integrated problem-solving skills, as well as skills to develop arguments and constructive participation in community activities, as well as in decision-making at all levels, from local and national to the European and international level. This also involves the ability to access, have a critical understanding of, and interact with both traditional and new forms of media and understand the role and functions of media in democratic societies.

Respect for human rights as a basis for democracy lays the foundations for a responsible and constructive attitude. Constructive participation involves willingness to participate in democratic decision-making at all levels and civic activities. It includes support for social and cultural diversity, gender equality and social cohesion, sustainable lifestyles, promotion of culture of peace and non-violence, a readiness to respect the privacy of others, and to take responsibility for the environment. Interest in political and socioeconomic developments, humanities and intercultural communication is needed to be prepared both to overcome prejudices and to compromise where necessary and to ensure social justice and fairness.

### **Goals for pre-school education**

Civic competence in preschool age is developed through:

* + Developing responsibility within the community (e.g. in one's family, peer group, etc.)
  + Gaining confidence for free expresses ideas, suggestions and initiatives
  + Developing the ability to control one's emotions and empathy
  + Discerning and respecting diversity (recognizing similarities and differences compared to peers in a group, without discrimination)
  + Developing and adopting healthy lifestyles
  + Developing environmental awareness

### **Outcomes for ISCED 1**

At the end of the ISCED 1 elementary school learning process (grades first to fifth), the student:

* + Assumes their roles, rights and responsibilities in relation to their respective groups
  + Behave in accordance with child and human rights, and explain how they affect the quality of life of man and society
  + Explains the role of institutions, institutions, and public facilities important to the community
  + Applies simple water/soil protection measures
  + Applies regular hygiene and healthy lifestyles
  + Actively participates in socially beneficial activities such as volunteer/charity activities
  + Recognizes forms of violence and various types of discrimination and ways of protecting them
  + Expresses their free/confident opinion and argues it

### **Outcomes for ISCED 2**

At the end of the ISCED level 2 learning process in primary school (grades sixth to ninth), the student:

* + Understands the principles of democracy, the importance and role of different social institutions in directing social processes at local and global level
  + Critically assesses the validity of different sources of information when forming opinions, opinions, decisions and demonstrates responsibility for developing democratic and civic values.
  + Differentiates roles and rules of responsible behaviour in family, school and community, provides examples of good collaboration and benefits of such behaviour for peer group and community, and knows ways to resolve conflicts peacefully
  + Recognizes the most important changes that have taken place in the age of globalization
  + Responsible for the environment and the exploitation of natural resources
  + Investigates and compares basic characteristics of one's and other cultures, emphasizing the importance of respecting cultural diversity as part of one's personal and social identity
  + Investigates children's and human rights and the situations in which they are endangered

### **Outcomes for secondary education (ISCED 3)**

At the end of the ISCED 3 (secondary education) learning process, the student:

* + Applies human rights principles and acts in accordance with democratic values in the family, school, community and society as a whole
  + Knows the historical development of civic movements and their impact on democratic processes in society
  + Identifies and analyses the responsibility and role of different social actors in creating a responsible, solidarity, tolerant concept of society
  + It argues for the idea of European integration, explores and compares the traditional and new model of citizenship
  + Explores the characteristics of responsible attitude towards environmental problems of contemporary society and initiates improvement/environmental protection in the community
  + Initiates and/or participates in defining student rights and responsibilities in the school and building a democratic school culture
  + Assess the impact of stereotypes and prejudices on people's lives, take an active role in conflict resolution

### **Outcomes for higher education**

At the end of the higher education learning process, the student:

* + Analyses current social phenomena (poverty, migration, class division, civic activism and democracy) in the context of contemporary social movements
  + Participates in collective activities on issues of importance to the community, nationally or globally (e.g. through campaigns, civic demonstrations and other forms of activism)
  + Analytically compares different cultural patterns and respects the principles of multiculturalism and tolerance
  + Critically responds to discriminatory or antisocial behaviour in interpersonal and social processes
  + Assesses the ideas of European integration and critically analyses Montenegro's accession to the European Union
  + Applies and promotes healthy lifestyles and is responsible for quality of life and resources
  + Critically assess the relationship between available resources and the economic development of society globally and locally
  + Identifies and analyses the role of the media in creating social reality

## **Entrepreneurial competence**

Entrepreneurship competence refers to the capacity to act upon opportunities and ideas, and to transform them into values for others. It is founded upon creativity, critical thinking and problem solving, taking initiative and perseverance and the ability to work collaboratively in order to plan and manage projects that are of cultural, social or financial value.

Entrepreneurship competence requires knowing that there are different contexts and opportunities for turning ideas into action in personal, social and professional activities, and an understanding of how these arise. Individuals should know and understand approaches to planning and management of projects, which include both processes and resources. They should have an understanding of economics and the social and economic opportunities and challenges facing an employer, organisation or society. They should also be aware of ethical principles and challenges of sustainable development and have self-awareness of their own strengths and weaknesses.

Entrepreneurial skills are founded on creativity which includes imagination, strategic thinking and problem-solving, and critical and constructive reflection within evolving creative processes and innovation. They include the ability to work both as an individual and collaboratively in teams, to mobilize resources (people and things) and to sustain activity. This includes the ability to make financial decisions relating to cost and value. The ability to effectively communicate and negotiate with others, and to cope with uncertainty, ambiguity and risk as part of making informed decisions is essential.

An entrepreneurial attitude is characterised by a sense of initiative and agency, pro-activity, being forward-looking, courage and perseverance in achieving objectives. It includes a desire to motivate others and value their ideas, empathy and taking care of people and the world, and accepting responsibility taking ethical approaches throughout the process.

### **Goals for pre-school education**

Entrepreneurial competence in preschool age is developed through:

* + Empowering initiative, creativity and innovation
  + Planning own activities
  + Testing and rethinking own ideas and those of others
  + Acquiring skills for independent and team work

### **Outcomes for ISCED 1**

At the end of the ISCED 1 elementary school learning process (grades first to fifth), the student:

* + Takes responsibility for the implementation of departmental activities that contribute to positive changes in the learning and life of the group
  + Creates a simple project proposal/action plan using
  + Multiple sources of information and exploring the problem it identified
  + It spares time and other resources, including money, in carrying out planned activities
  + Plans simple spending by assessing the pros and cons of basic financial services (payment cards, e-shopping)
  + Demonstrates resilience in dealing with problems/obstacles
  + Successful teamwork and show empathy

### **Outcomes for ISCED 2**

At the end of the ISCED level 2 learning process in primary school (grades sixth to ninth), the student:

* + Acquires basic knowledge in the world of work and professions
  + Participates in team project implementation while taking risks and adapting to unforeseen circumstances (e.g. presents and argues their team idea, drafts a simple project plan for its realization, presents a project plan and participates in project realization)
  + Responsibly regarding planned tasks and deadlines
  + Research the resources and forms of their savings, and evaluate the benefits of the savings
  + Assesses its strengths and weaknesses, compiles a simple personal biography and personal development plan, presents itself and its ideas
  + Plans for continuing education based on self-assessment and depending on one's own goals and career options
  + Resolves group conflicts in a constructive way

### **Outcomes for secondary education (ISCED 3)**

At the end of the ISCED 3 (secondary education) learning process, the student:

* + Notes examples of successful technology transfers with an assessment of their ethics (e.g. analyses the process of globalization and its impact on individuals and society, presents examples of successful technology transfers and ideas, and evaluates whether they are ethical).
  + Develops a project proposal and a simple business plan and explores investment and financing opportunities using e-tools
  + Uses its potential, complements and presents a map of personal development and portfolios and takes the initiative to achieve its goal (e.g. obtaining a scholarship, employment, securing funding to realize the idea)
  + Investigates and critically evaluates the various economic indicators of social development.
  + Evaluates the quality of products and services and uses consumer rights
  + Expresses its vision of the future and its place in it and shows flexibility and readiness for work mobility
  + Explains professional ethics on various examples from the business environment, identifies and condemns the grey economy and corrupt behaviour and develops a simple code of ethics
  + Effectively manages time and fully complies with and adheres to deadlines

### **Outcomes for higher education**

At the end of the higher education learning process, the student:

* + Analyses the influence of personal and social factors on the realization of an entrepreneurial idea (one's own and others' ideas)
  + Plans and implements projects that improve the quality of life in the community (in the areas of culture, economy, security, etc.)
  + Effectively manages resources (human, technical, material) and adheres to the principles of energy efficiency and occupational safety
  + Anticipates risks in the business and strategically plans how to eliminate them, should the planned activities not go in the expected direction turns them into new value
  + Improves their entrepreneurial skills and educates their team members (including the use of modern technologies)
  + Adheres to the principles of professional ethics and participates in activities to counteract negative phenomena in the business environment (grey economy, corruption, mobbing, etc.)
  + Crisis ready, with continuous learning, learning from personal mistakes and working in a networked network with sharing knowledge and experience as a base to solve problems

## **Cultural awareness and expression competence**

Competence in cultural awareness and expression involves having an understanding of and respect for how ideas and meaning are creatively expressed and communicated in different cultures and through a range of arts and other cultural forms. It involves being engaged in understanding, developing and expressing one’s own ideas and sense of place or role in society in a variety of ways and contexts.

This competence requires knowledge of local, national, regional, European and global cultures and expressions, including their languages, heritage and traditions, and cultural products, and an understanding of how these expressions can influence each other as well as the ideas of the individual. It includes understanding the different ways of communicating ideas between creator, participant and audience within written, printed and digital texts, theatre, film, dance, games, art and design, music, rituals, and architecture, as well as hybrid forms. It requires an understanding of one’s own developing identity and cultural heritage within a world of cultural diversity and how arts and other cultural forms can be a way to both view and shape the world.

Skills include the ability to express and interpret figurative and abstract ideas, experiences and emotions with empathy, and the ability to do so in a range of arts and other cultural forms. Skills also include the ability to identify and realise opportunities for personal, social or commercial value through the arts and other cultural forms and the ability to engage in creative processes, both as an individual and collectively.

It is important to have an open attitude towards, and respect for, diversity of cultural expression together with an ethical and responsible approach to intellectual and cultural ownership. A positive attitude also includes a curiosity about the world, an openness to imagine new possibilities, and a willingness to participate in cultural experiences.

### **Outcomes for pre-school education**

The competence of cultural awareness and expression in preschool age is developed through:

* + Developing freedom of expression within the game, communication, learning
  + Encouragement to participate in various group forms of creative expression (e.g. exhibitions, events, performances, theatrical performances, etc.)
  + Encouraging participation in various forms of expression of national and international culture and tradition
  + Developing positive feelings for other cultures (e.g. music, folklore, fairy tales, nutrition, theatre for children)
  + Stimulating participation/visits to cultural events

### **Outcomes for ISCED 1**

At the end of the ISCED 1 elementary school learning process (grades first to fifth), the student:

* Expresses their thoughts and experiences in an imaginative and spontaneous way while learning and encountering different cultural forms
* Creates different art forms on their own initiative and on a given topic
* Describes and compares, notices similarities and differences between one's own and other cultures
* Explain the ethical function of culture for the development of the individual and society

### **Outcomes for ISCED 2**

At the end of the ISCED level 2 learning process in primary school (grades sixth to ninth), the student:

* + Transfers their ideas and feelings through the creative process
  + Uses different media when interpreting or presenting a given topic (e.g. digital media, visual, written, sculptural modelling)
  + Describes and appreciates their own and other cultures' heritage
  + Participates in organized collective creative processes in school and in the community
  + Explains the impact of cultural institutions and their importance to the community
  + Evaluates various ways of artistic expression on examples from life and learning

### **Outcomes for secondary education (ISCED 3)**

At the end of the ISCED 3 (secondary education) learning process, the student:

* Transposes own ideas and feelings into a creative work (e.g. composes original story, song, composition, poster, picture, dance choreography, etc.)
* Investigates and interprets scientific developments
* Interprets or adapts works of art (adaptation of theatre plays, literary works, etc.)
* Explores patterns of theirs and other cultures and their impact on contemporary man
* Uses different media to present their original ideas as well as forms of creative expression (digital, visual, written, media, art forms)
* Participates in various cultural events whether as a creator or a visitor
* Respects and respects the principle of responsibility for intellectual and cultural property

### **Outcomes for higher education**

At the end of the higher education learning process, the student:

* + Analyses work in the area of culture in the context in which they were produced (social, historical, economic, religious)
  + Creates and participates in activities that promote creative exchange (e.g. interactive exhibitions, literary evenings, etc.)
  + Uses available resources to share ideas and solutions with others (e.g. create a website, poster, artwork)
  + Argues the importance of culture at the individual and general social level
  + Uses new, original ideas for interpreting different cultural forms
  + Analyses the impact of the development of cultural awareness on lifelong learning and social integration

# Integration of key competences in teaching and learning

The outcomes of key competences need to be integrated into teaching and learning at all levels. All policy makers should take action to achieve integration. At the level of the education system, support should be provided to educational institutions and teachers through the further development of this framework programme (curricula, methodological instructions, manuals, teaching materials), and the organization of teacher training (initial education and continuous professional development) and school administrations. At the level of educational institutions, activities need to be planned through regular annual and operational planning to achieve the outcomes of key competences for pupils and students.

Key competences need to be further promoted among the educational community as well as with education partners - parents, the local community and society. As key competences are aimed at increasing the quality of education, the achievement of relevant skills and functional knowledge, wider support from the professional and general public will contribute to faster integration into teaching and learning.

In order to make the outcomes of key competences part of the teaching process, consistently and on a regular basis in all educational institutions, the framework needs to be developed through guidance to teachers on possible activities, methods, forms of work and approaches to learning. This can be done by developing **a manual or other document (guidelines, manual, etc.) for each of the competences**, taking into account the specificities of each of the key competences **or for each of the educational levels**, taking into account the specificities of the learning process according to the age of the child, student or student.

**This framework programme should also be used in the design of each pre-school educational programme, curriculum in general education (primary and secondary), vocational education programme and higher education study programme.** These programmes should ensure that, in addition to subject or modular (professional) outcomes, all key competences are achieved.

Achieving the outcomes of key competences does not contradict the achievement of the outcomes of the subject programmes, on the contrary - paired with or combined with the outcomes and objectives of the subject programmes, they indicate a possible commitment to the content, learning context and possible evaluation. The outcomes of key competences do not relate to new teaching content; the focus is on teaching methodology.

For the choice of forms and methods of teaching, the teacher's autonomy is not of a declarative nature. She emphasizes the need to adapt access to teaching in order to achieve the intended learning goals, objectives and learning outcomes without departing from the educational programme. The key is the teacher's willingness to focus on group processes and interactions in working with students, to base learning on research, student experience, experiments and projects, and to organize learning in teams. Competence as a dynamic organization of knowledge, skills and attitudes applicable in different life and work contexts determines learning related to life reality and applicability. Learning to memorize and reproduce without relating to situational experience is not an incentive to develop competencies and does not inspire students to truly engage with the content they are learning.

**A learner-centred approach** and an active role of students are the backbone of lifelong competency development. The basic feature of a learning-cantered approach implicates the student as the subject of their own learning process, not the object of instruction. This means that the teacher organizes and realizes the teaching according to the student's measure, and not vice versa, when the students follow the teacher's work, regardless of whether they understand it. This approach is referred to in the literature as constructivist one, because learning is understood as an independent, self-building of students' knowledge (construction) as the teacher creates situations and environment that encourage learning.

Key competences are not only developed in the classroom, cabinet and educational setting. It is about learning processes as well as applying what has been learned in a wide range of authentic contexts - at school, at home and in the wider community. Educational institutions need to establish a system and culture in which lecturers, teachers and other educators recognize how learning takes place in all these contexts and create powerful educational connections with family, reference groups and the community. The educational practices of Montenegro show the existence of **extracurricular activities, projects, partnerships** between schools and community representatives, the economy, opening schools for guest lecturers, events, competitions, civil society organizations and more. These valuable social activities can be more closely linked to learning content as an application context or as a potential for lifelong learning.

Lifelong learning needs to encompass a range of **educational environments** that are supportive of learning - formal, informal and non-formal. It is desirable to provide a common understanding of the competences and transitions between these different environments, at different levels of education, and cooperation between them. This applies both to educational institutions, to the practices and roles of teaching staff, and to social partners, labour market participants and civil society organizations working to direct and support the development of key competences from an early age and throughout life.

Developing core competencies requires **a school culture** in which competencies are important, valued and integrated into the work of an educational institution. Importance can be recognized through the goals of teaching and learning, through the explicit and implicit values ​​of the school, the tradition and activities of the institution. Practices to date show that the development of key competences was part of the **school's annual and development plans, the work of subject-teams, the annual teacher plans, and the regular preparation of classes**. The experience of countries in the region and Europe has shown that the cooperation of school teachers in **joint planning** of the development of key competences and the **supportive guidance of school principals** are essential for the development of key competences. In addition to the collaboration of teachers in interdisciplinary networking, cross-sectoral collaboration between educational institutions and external actors from the business world, the arts, sports and the youth community, universities or scientific institutions can be key to the successful development of competencies.

The development of key competences through interdisciplinary learning in Montenegro's educational practices began in 2007 with the Sustainable Development Programme. Past practice in **cross-curricular areas/topics** involves the coordinated and simultaneous work of teachers across two or more disciplines when dealing with specific subject areas or topics. This framework programme consolidates good practices and specific areas that already exist and adds new ones in order to connect vertically and establish continuity between educational levels. By reviewing the results of research on teachers' past experiences in this field in Montenegro, cross-curricular integration of learning declines with age and subject separation. Gymnasium education programmes have not yet undergone reform changes to focus on learning outcomes such as vocational and primary schools, and there is potential in future revisions to include the outcomes of key competences.

## **Support to teachers**

The Montenegrin Framework Programme for Key Competences, as a framework document, can only be directly applied in teaching by extremely experienced teachers. For this reason, it is necessary to create inter-documents and teaching materials, but it is also necessary to organize teacher training. In the educational process, teachers are the only people who educate and who have access to learners (pupils, students). Therefore, the role of teachers is thus extremely important for the integration of key competences. Teacher training is an important part of supporting the integration of key competences in teaching and learning. This entails incorporating competency-oriented approaches, training and learning into the initial teacher education and continuing professional development of teachers and other educators.

**Key competences should become part of initial teacher training** at all faculties providing such education. The Teacher Education Strategy of Montenegro (2017-2024) envisages the innovation of methodical and didactic subjects and a measure to determine the minimum representation of key competences in the curricula for teacher education, which has already been systematically recognized.

**With a view to continuous professional development of teachers,** training related to the integration of key competences in teaching and learning needs to be developed and accredited. The provision of support also includes the need for teachers to engage in informal learning opportunities for professional development. Teachers can innovate their knowledge of supportive learning environments and collaborate with the community through staff exchanges, mutual learning, counselling and participation in local and global ideas and experience sharing networks. Support is also reflected in facilitating and sharing innovative practices, participation in research and the use of new technologies, including digital, for competency-based teaching and learning approaches.

## **Analysis of approaches for evaluation and assessment of key competences**

Assessment and evaluation of key competences are linked to the roles of teachers in managing teaching activities and monitoring students' progress and their overall performance. Teachers are challenged to critically evaluate and select tools and resources to easily plan, develop and manage inspirational activities that will foster students' curiosity, creativity and productivity. This domain integrates the creation, innovation and engaging learning experiences that incorporate digital tools and resources and evaluation through a variety of assessment forms.

Descriptions of key competencies formulated through outcomes could be complemented by appropriate diagnostic formative assessment and evaluation tools at appropriate levels. Digital technologies could contribute to recording different dimensions of student progress, including related activities of external actors, i.e. social partners, and approaches to assessing key competences in non-formal and informal learning environments.

The approaches to assessing and evaluating key competences are the biggest challenge this Framework Programme proposes. They require the identification of new potential for monitoring and evaluating the achievement of outcomes of key competences. In order to achieve consistent practice, it is necessary to develop **methodological guidance and guidance on assessment criteria and how they relate to the outcomes of key competences through formative assessment**, and the formative assessment methods related to key competences should become part of teacher training.

## **Monitoring and evaluation**

It is necessary to establish a system for monitoring the integration of key competences into teaching and learning through the existing quality assurance system, following institutional competencies and existing methodologies. The protocol for monitoring the integration of key competences into teaching and learning can serve as a useful tool for this purpose. It would be good to submit annual reports on the progress of integration by educational levels to the National Council for Education.

Looking long-term, In the period of five to 7 years after the start of implementation, an evaluation should be carried out to determine the impact of the Framework Programme on the system. In addition to determining the impact on the system, the evaluation should also identify recommendations relevant to the revision and upgrade of the Framework.

1. Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning (2006/962 / EC). In June 2016, the European Commission launched a Review Recommendation with the aim of revising it and further supporting and improving the development of key competences across Europe. Based on the findings of the Audit, the revised framework was adopted by a new Recommendation of the EU Parliament and Council of 22 May 2018 (2018 / C 189/01), available at:

   <https://eur-lex.europa.eu/legal-content/HR/TXT/?uri=uriserv:OJ.C_.2018.189.01.0001.01.HRV&toc=OJ:C:2018:189:FULL> [↑](#footnote-ref-1)
2. The source of educational reforms is contained in the "Book of Changes in the Education System of the Republic of Montenegro", Ministry of Education and Science, Podgorica, 2001. [↑](#footnote-ref-2)
3. The UNESCO Global Sustainability Education Action Program reaffirms that education for sustainable development is an integral element of quality education and crucial to all other sustainable development goals. [↑](#footnote-ref-3)
4. Considering that pre-school and upbringing programmes in Montenegro do not contain outcomes but educational goals, given the child's age, the ability to measure learning outcomes and assessment, and this framework programme, for the same reasons, operates with the goals for the preschool age, not with outcomes. [↑](#footnote-ref-4)