TEACHERS MAKE A DIFFERENCE
EUROPEAN BENCHMARK IN TEACHER TRAINING

New European Settings for Teachers and Teaching

Erasmus+ Project

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Teachers Make a Difference: European Benchmark In Teacher Training

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INTRODUÇÃO

This eBook is part of the NESTT Project and corresponds to Intellectual Product 2 (IO2). Its preparation has received input from all project partners, mainly when the manuscript was presented and discussed at an international meeting in Bucharest in April 2019. ICE (Instituto das Comunidades Educativas, Portugal) was in charge of the publishing process.

In the scientific and academic field, the idea that "teachers make a difference" and "Teacher Education make a difference" is not new. For example, in the seventies of the last century it was tittle of several scientific publications, namely by Mood (1970) and Food, Biddle and Brophy (1975). This interest in how far teachers make or can make a difference has remained to this day and it will certainly continue to be highlighted in educational research (Hattie, 2003, 2004; Wilkinson & Hamilton, 2003; Brouwer & Korthagen, 2005; Korthagen, 2010; Tanisli, 2016).

Scientific and academic literature has devoted a great deal of attention to the issues of teaching and teacher education, though less to the issue of learning and even less to students' perspectives on their learning experiences. International organizations such as the European Union, the OECD, among others, have also been interested in this issue, although primarily concerned with learning outcomes. The environments in which teachers work, and the demands placed upon them by society are increasingly complex and teachers strive to equip learners with a wide range of skills that they will require to take their place in a world that is in constant evolution; this hastens the need for the development of more competence-centred approaches to teaching, together with greater emphasis on learning outcomes (European Commission, 2018).

Recent contributions from different areas, such as Childhood Studies, and more specifically, the Sociology of Childhood, have been emphasising a conception of children as social actors, competent and with voice. Childhood cultures, children' participation and citizenship, children' rights, among others issues, are significant

examples of a different theoretical and conceptual approach, both for teaching and learning, providing simultaneously a background for changing teacher education policies and practices. However, the way teachers teach continues probably to be the most frequently question formulated to reflect and take decisions concerning educational change. Improving teaching and teacher education practices is usually considered a key educational issue, both at the political and academic levels.

Considering that studies on teacher education have been given more prominence to teachers' perspectives, namely, on their beliefs, attitudes, practices, training needs, etc., the NESTT survey sought to approach the problem in a different angle, based on from students' perspectives on what they like to learn and how and where they think they learn more and better. It was intended to know and understand how do students face their learning and what trends and challenges do their prospects for innovation in teaching and teacher education.

The hypothesis explored in the NESTT project aimed at changing the mainstream perspective which tends to argue that changes in education and learning goes through teacher training, but without profoundly questioning what to change and how; to answer what and to whom, etc. That is why the NESTT project has tried to distance itself from this dominant perspective, based on what is often referred to as "meeting the needs of teachers", sometimes by listening to teachers but more often by imposing training programs on teachers without even considering their real work contexts. On the contrary, the NESTT project opted by emphasising students' perspectives on their learning, namely what they like to learn and where and how they learn more and better, not only at school under the formal curriculum, but also in non-formal and informal contexts and experiences.

This book presents findings from this research as well as a theoretical framework focused on the issues of teaching and learning and teacher education. It is

organized into five chapters and aims to contribute to the debate and reflection on these issues, taking into account their timeliness and relevance.

The first chapter presents an overview of the educational systems of the NESTT partners countries (Portugal, Poland, Romania and Belgium), focusing aspects such as the key features and stages of the education systems and the teaching working conditions and professional development.

Based on data from TALIS – the Teaching and Learning International Survey – the second chapter approach the issue of teacher professional development and its constraints and challenges. It includes specific aspects such as the age distribution of teachers; the way the more experienced teachers are allocated across the education system, in both more and less challenging schools; principals' work, leadership and professional development; teachers' participation in induction programs and professional development; teachers' working time; and teacher appraisal and feedback.

The third chapter reports some contributions from the NESTT project research in order to build a European benchmark in teacher training. It aims to contribute to rethink the issues of teaching and learning, and teacher education. In this sense, a survey focused on the students' perspectives on their learning is presented. Firstly, the methodological process is described, in terms of data collection, processing and analysis. An analytical framework is also presented for the analysis and discussion of the research findings.

The fourth chapter deals more specifically with the process of building a European benchmark in teacher training, highlighting three main dimensions: the political dimension, focused on the lifelong learning perspective and the competency-based approach; the organizational dimension, discussing the concept and challenges of schools as learning organizations; and the pedagogical dimension, problematizing the international agenda of "personalizing learning" and the competency-based approach.

The fifth and final chapter takes up the reflection on the European benchmark in teacher training not so much in theory but above all from an empirical perspective.

The book ends with a synthesis and reflection concerning the implications of this study for teacher education and with some recommendations for all interested on this important issue. The appendices section includes a recent document from the European Union which presents the "council recommendation of 22 may 2018 on key competences for lifelong learning", replacing the recommendation of the European Parliament and of the council of 18 december 2006 on key competences for lifelong learning.

1. THE NESTT PARTNERS COUNTRIES EDUCATION SYSTEMS: AN OVERVIEW

Source: Eurydice 2017-2018

This section presents an overview of the European education systems, focusing specifically on the NESTT participating countries: Belgium, Poland, Portugal and Romania. It is organised in three sections as follows:

- Key Features of the Education Systems;
- Stages of the School Systems;
- Teacher Training and Professional Systems.

1.1. KEY FEATURES OF THE EDUCATION SYSTEMS

1.1.1. Belgium

Belgium is a federal state divided in three communities and three regions. Each entity is responsible for various competences. the three Communities are responsible for education, with the exception of three competences, which remained a federal matter: i) the determination of the end and the beginning of compulsory school attendance; ii) the minimum requirements for the issuing of diplomas; and the regularisation of retirement for the employees in the educational system. Instruction in each community is provided in the language of the community in question.

In Belgium, education is organised in various networks. Education and training organised by the government is called *official education.* Education and training organised by a private person or organisation is known as *free education* (Government-aided private education). A small number of schools are not recognised by the government. These private schools do not receive funding from the government.

The school boards of an educational network may join an umbrella organization. This association represents the school boards in government consultations and offers services to their schools such as drafting the curricula and timetables.

In order to guarantee the constitutional right to education, compulsory education has been introduced for all children residing in Belgium. Education is compulsory from 6 until 18. A pupil must attend fulltime compulsory education until the age of 15. From 15 onwards students may engage in part-time schooling and opt for a structured learning path which combines part-time vocational education in an educational institution with part-time employment.

Compulsory education however does not equal the duty to attend school. The liberty of education is determined in the constitution of Belgium. The establishment of schools may not be subject to restrictive measures. Therefore, it is possible to establish schools that are not connected to official authorities. Nevertheless, schools that issue recognised diplomas and wish to receive subsidies from the Community have to comply with the legal regulations. The constitution also guarantees a freedom of school choice for the parents. Parents and children must have access to a school of their choice within reasonable distance of their residence.

Parents may choose home schooling and they have access to E-learning interactive online course modules to prepare their children for certification exams. The learner can register at any time of the year and choose the training project that interests him / her. He/she accesses his/her course modules at anytime and anywhere via an online training platform. The modules contain varied interactive content (texts, images, soundtracks, videos ...), self-directed exercises, homework and collaborative tools (chat, self-help forums ...). The pace of learning is flexible. About 1.5 % of the children at primary or secondary level enrol in one or more training modules.

The cost of registration is € 25 per year. This registration fee allows access to the E-learning teaching platform, exchanges between learners and individual tutoring provided by a teacher with the required qualifications. Under certain conditions, exemptions from the registration fee are possible.

Pupils, parents, teachers and school boards may address a pupil guidance centre for guidance, information or advice. The services of these centres are free and can be primarily situated within the following four domains: Learning and studying; School career; Preventive health care; and Socio-emotional development.

Flemish Speaking Community

In Flanders the Ministry of Education and Training is responsible for all stages of education and training starting from pre-primary education. Childcare is a competence of the Flemish Ministry of Wellbeing, Public Health and Family.

Home schooling in Flanders can be organised in two ways:

- Individual home teaching: parents can teach their children themselves or they appoint a private tutor.
- Collective home teaching: parents can send their children to a private school or organise home teaching for their children together with a number of other parents.

Home education is financed by the persons who exercise parental authority or who have legal or factual custody of the underage pupils. The person(s) responsible must submit a declaration of home education to the unit Supervision of Compulsory Education of the Agency for Educational Services.

When you choose for home education, you are obliged to let you child participate in the exams organised by the Examination Board of the Flemish Community at certain points in time (see also 2.4. Organisation of private education). In case a child is not registered in time or does not succeed in the exams of the

examination board after a maximum of two attempts (s)he must be enrolled in a recognised school.

In Flanders school governing boards hold the responsibility over one or more schools. They have a wide autonomy and can decide freely on their: teaching methods; philosophy of life; curricula; timetables; and staff appointments. The government sets conditions only for the recognition of a school and granting financing.

In Flanders there are three educational networks:

1. GO! Education is the official education organised by the Flemish Community. The constitution prescribes a duty of neutrality for GO! Education.
2. Government-aided public education comprises schools run by the municipal or provincial authorities.
3. Government-aided private education is organised by a private person or organisation. The network consists primarily of catholic schools. Next to denominational schools it includes schools not linked to a religion, e.g. alternative schools (on the basis of the ideas of Freinet, Montessori or Steiner) which apply specific teaching methods.

The school boards of an educational network may join an umbrella organization. This association represents the school boards in government consultations and offers services to their schools such as drafting the curricula and timetables.

Pupils, parents, teachers and school boards may address a pupil guidance centre for guidance, information or advice. The services of these centres are free and can be primarily situated within the following four domains: i) Learning and studying; ii) School career; iii) Preventive health care; and iv) Socio-emotional development.

Flemish pupil guidance centres are financed by the government in case the centre belongs to either GO! Education of the Flemish Community, grant-aided public

education or grant-aided private education. In Flanders there are 72 centres which belong to one of these three educational networks. A pupil guidance centre may work across networks and support schools which belong to different educational networks.

French Speaking Community

The French Community of Belgium has competence in particular for cultural affairs and the use of languages, as well as education, childhood, youth, and research. The Government of the French Community has four ministers directly concerned by childcare and education: a Minister for Education (responsible for education starting from the pre-primary stage), a Minister for Early Childhood (among others), a Minister for Higher Education, Media and Scientific Research and a Minister for Social Advancement Education, Youth, Women's Rights and Equal Opportunities. A fifth Minister is responsible for the budget, civil service and administrative simplification for the French Community. In the Government of the Walloon Region, a Minister is responsible for training (among other areas).

In the French Community, there are three educational networks:

1. Public education is the official education organised by the French Community. It is subject to respect the philosophical and religious views of all parents;
2. Government-aided public education run by the municipal or provincial authorities;
3. Government-aided private education is organised by a private person or organisation. The network consists primarily of catholic schools. Next to denominational schools it includes schools not linked to a religion, e.g. alternative schools (on the basis of the ideas of Freinet, Montessori or Steiner) which apply specific teaching methods.

German Speaking Community

In the German-speaking Community, the Ministry of Education is responsible for all stages of education starting from pre-primary education. Childcare is a competence of the German-speaking Ministry of Family, Health Care and Social affairs.

Most children attend kindergarten from the age of 3 years. Compulsory education, however, begins at the age of 6, with admission to primary school. School attendance is required until 15-16 full-time and up to 18-part time. The classical way is that each student goes through three years in kindergarten, six years in primary school and six years in secondary school.

As in the rest of Belgium, the education system of the German-speaking Community distinguishes three school networks.

1. Community network (GUW) is the official education system organized and funded by the German-speaking Community;
2. Officially subsidized network (OSUW) is organized by the municipalities and funded by the German-speaking Community. In the DG only the Municipal schools form the OSUW;
3. Free subsidized education is the school organized by private school and funded by the Community (catholic schools).

The Parliament of the German-speaking Community sets the legal framework for all three school networks.

In the last two networks which are only funded – but not organized - by the German-speaking Community, school administrators enjoy a high level of autonomy, especially with regard to teaching and assessment methods.

The diplomas issued by these both school-networks are recognized as well as the teaching of the Community, but on the condition that they follow the outline plans laid down by the Community.

1.1.2. Poland

Since the political transformation (the collapse of the communist regime) in 1989, the Polish education system has undergone profound changes in nearly all of its aspects including the structure, organization, management and the core curriculum. As a result, it has developed some specific features which can be described as follows:

- Combination of centralized governance (i.e. laws/ regulations for which the Minister of Education and the Minister of Science and Higher Education are responsible) and decentralization of school administration (for which local authorities are responsible);
- System of external examinations carried out at the end of education in particular types of schools. Pupils of lower secondary school (and new type single structure schools - 8-year primary schools) are obliged to take these examinations, but for graduates of upper secondary schools they are optional. However, all the students willing to continue their education at the tertiary level have to take their upper secondary leaving exam called *egzamin maturalny*. Both exams are high stake ones having strong influence on the choice of student's educational path;
- Specific definition of the status of teachers. The teaching profession is regulated by separate legislation (the Teacher's Charter) which defines rules of admission, duties, remuneration and dismissal of teachers and their career path;
- Domination of the public education sector over private. In school education the number of public schools and students attending them greatly outweighs the number of non-public schools and their pupils. In higher education system the majority of students is also enrolled in public HEIs.

Structural reform in 2017

Educational reform in Poland is being implemented since the beginning of 2017. Its main goal is to offer students a solid background of general education required for further personal development and the needs of contemporary labour market.

The key elements of the reform are as follows:

- change in the school structure: introduction of a long, 8-year primary school, 4-year general and 5-year technical upper-secondary school
- an obligation for 6 year olds to attend one year of pre-primary education in order to acquire basic skills before they start school at 7; (this education, as it is the case for the school education, is financed from the general subvention from the State budget)
- provision of textbooks free of charge
- strengthening secondary education – both general and vocational – through the extension of secondary programmes by one year (see point 1)
- introduction of 3-year sectoral vocational learning (to obtain a professional qualification) with a possibility to continue education for further 2 years at the second stage of sectoral vocational school in order to upgrade qualifications and to prepare for the matriculation exam
- promotion of dual vocational training in cooperation with the business sector
- extending the participation of employers in co-financing of vocational education through the establishment of the Fund for Vocational Education Development.

This reform will be implemented between 1 September 2017 and the school year 2022/23. On the 1 September 2017 pupils graduating from year 6 of the primary

school become pupils of grade 7. At the same time *gimnazja* (lower secondary schools) will be gradually phased out. In the school year 2018/19 *gimnazja* will cease to operate as the last cohort of pupils will graduate.

The new structure is the following:

- 8-year primary school
- 4-year general upper secondary school
- 5-year technical upper secondary school
- Stage I 3-year sectoral vocational school
- 3-year special school preparing for employment
- Stage II 2-year sectoral vocational school
- Post-secondary school.

The restructuring takes place on the basis of an act of 14 December 2016 "Law on School Education" and an act "Legislation introducing the Act – Law on School Education".

Stage I sectoral vocational school has been introduced since September 2017, and introduction of Stage II sectoral vocational school is scheduled for the school year 2020/21.

In the following text we refer to two different structures of the school education system (old and new which was initiated in September 2017).

Compulsory education

In the old structure full-time compulsory education lasts for 10 years and comprises the last year of pre-school education, 6 years of primary school education and 3 years of lower secondary school education. Starting 2017 a new structure of school education is being implemented in which full-time compulsory education will last for 9 years (the last year of pre-school education and 8 years of primary school education).

In the Polish educational system full-time compulsory education and part-time compulsory education are defined:

- Full-time compulsory education (obligation to attend primary and lower secondary school- old structure, and primary school – new structure) applies to pupils aged 7-16 years (7-15 in the new structure)
- Part-time compulsory education (obligation to be in education) concerns pupils aged 16-18 (15-18 in the new structure) and it may take place either in school settings (a student attends upper secondary school) or in non-school settings (e.g. a student follows vocational training offered by employers).

1.1.3. Portugal

The Ministry of Education (*Ministério da Educação* - ME) is responsible for general non-higher education in Portugal.

The vocationally-oriented pathways are the joint responsibility of the ME and the Ministry of Labour, Solidarity and Social Security (*Ministério do Trabalho, Solidariedade e Segurança Social* – MTSSS).

Higher education is the responsibility of the Ministry of Science, Technology and Higher Education(*Ministério da Ciência, Tecnologia e Ensino Superior* - MCTES), which is also responsible for defining and implementing policies affecting the science and technology system. Adult education and training is the joint responsibility of the ME and the MTSSS.

The duties of these three ministries are provided by services that are part of direct state administration, indirect state administration bodies, advisory bodies, and other organisations and entities within state-owned enterprises.

The school network is organized in school clusters which are made up of schools that offer all education levels from pre-school education to secondary education.

The Portuguese education system is very centralized in terms of organization and funding. However, pre-school and basic and secondary education schools have some autonomy, namely at pedagogical level, as well as with regard to timetables and non-teaching staff management.

Higher education institutions enjoy a high level of autonomy.

Compulsory education lasts for 12 years, starting at 6 and ending at 18 years of age or with the conclusion of upper secondary education (ISCED 3).

Public education is free and universal.

There is a single professional career for teachers of all non-higher education levels, which requires candidates to have a second cycle degree (ISCED 7 – Master's).

In the Autonomous Regions of the Azores and Madeira, the regional governments, via the respective Regional Secretariats for Education, are responsible for defining the national education policy in terms of a regional plan and managing human, material and financial resources. State-run schools are free of charge.

1.1.4. Romania

The Romanian education system is administered at:

- the national level by the Ministry of National Education (MEN)
- the central level, in cooperation with other ministries (e.g. Ministry of Public Finance for financing schools) and institutional structures subordinated to the Government, and at
- local level by the county school inspectorates, as subordinated local institutions.

Ministry of National Education organizes and leads the national education system, education, scientific research, technological development and innovation in partnership with both subordinate institutions and institutions under the coordination.

The Ministry of National Education ensures the relationship with the Parliament, Economic and Social Council and the representatives of the civil society in matters specific to its field of activity.

The general legal framework for the organization, administration and functioning of the education in Romania is established by:

- the Constitution (ch.2, ch. 32)
- the Law of National Education – organic law
- ordinary laws and Government ordinances.

The specific procedures and regulations are established by Government Decisions and orders of the Ministry of National Education.

The national educational system has:

- an open character, allowing the mobility of pupils, by transfer from a school unit to another school unit, from a class to another class, from a

field of study to another field of study and from a pathway to another pathway.

- a pluralistic character (public or private schools, in educational alternative system) and it provides schooling methods in the official state language (the Romanian language), in the native languages of the pupils belonging to the national minorities or in languages of international circulation.

The national educational system includes authorized or certified public, private and confessional education units. The education institutions are managed by the local authorities.

The state ensures equal rights of access to all levels and forms of pre-university and higher education, as well as to lifelong learning, without any form of discrimination, to Romanian citizens, as well as to the citizens of the other European Union member states, of the states belonging to the European Economic Area and of the Swiss Confederation.

In Romania only the diplomas acknowledged by the Romanian state, according to the legislation in force, are available.

The general mandatory education has 11 grades and includes the primary education, the lower secondary education and the first 2 years of the upper secondary education.

The public school education is free.

The forms of organization of the pre-university education are: frequency education and reduced frequency education. The mandatory education is frequency education.

1.2. STAGES OF THE SCHOOL SYSTEMS

1.2.1. Belgium

In Belgium, pre-secondary education comprises both pre-school education and primary education.

Pre-school education is accessible for children from 2,5 to 6. Although it is not obligatory, almost all children participate in pre-primary education. Pre-school education supports the versatile formation of children and stimulates their cognitive, motor and affective development.

Primary education is targeted at children from 6 to 12 years old and comprises six subsequent school years. A child usually starts primary education when it is six years old and thus obliged to engage in education.

When successfully completing primary education children are granted a certificate.

Secondary education is organised for youngsters from 12 to 18. Fulltime secondary education contains three stages and various types of education.

Each stage consists of two grades. In the third stage of vocational secondary education the successful completion of a third grade is necessary in order to obtain the certificate of upper secondary education. In the first stage of secondary education a common curriculum is offered. Pupils make a choice of study only at the start of the second stage.

From the second stage onwards four different types of education are offered.

Flemish Speaking Community

Pre-school and primary school education

Pre-secondary education comprises both pre-school education (children from 2,5 to 6 years of age) and primary education (children from 6 to 12 years old). Although pre-school education is not obligatory, almost all children participate in

pre-primary education. A child usually starts primary education when it is six years old and thus obliged to engage in education.

Secondary education

Secondary education (secundair onderwijs) is organised for youngsters from 12 to 18. Fulltime secondary education contains three stages and various types of education.

Each stage consists of two grades. In the third stage of vocational secondary education the successful completion of a third grade is necessary in order to obtain the certificate of secondary education. In the first stage of secondary education a common curriculum is offered. Pupils make a choice of study only at the start of the second stage.

From the second stage onwards four different types of education are offered. In Flanders a pupil chooses a course of study within one of the following types of education:

1. **General secondary education** (gse), which focuses on broad general education. It does not prepare pupils for a specific profession, but rather lays a firm foundation for higher education.
2. In **technical secondary education** (tse) attention goes in particular to general and technical-theoretical subjects. After tse a youngster may practice a profession or transfer to higher education. This type of education also contains practical training.
3. **Secondary education in the arts** combines a broad general education with an active practice of art. After secondary education in the arts a youngster may practice a profession or transfer to higher education.
4. **Vocational secondary education** (vse) is a practically-oriented type of education in which the youngster receives general education but where the focus primarily lies on learning a specific profession.

In Belgium, a certificate of upper secondary education grants unrestricted access to higher education.

In technical secondary education and secondary education in the arts labour market oriented programmes can be organised after the second grade of the third stage. Since 2009-2010 these programmes are grouped under the heading of **Secondary-after-Secondary** (*Secundair-na-secundair*, Se-n-Se). Se-n-Se programmes last one to three semesters and are organised by schools of secondary education. After successfully completing a Se-n-Se programme a pupil is granted a certificate.

Special needs education

Besides mainstream education there also exits special needs (pre-)primary and secondary education. Special needs education (*buitengewoon onderwijs*) is organized for children who need temporary or permanent specific support because of a physical or mental disability, serious behavioural or emotional problems or severe learning disabilities.

On 12 March 2014 the Flemish Parliament approved a parliamentary act on measures for pupils with specific needs (*M-decreet*) with the aim to make education more inclusive. The act contains measures which allow pupils with specific educational needs to participate fully, effectively and an equal terms in regular schools and classrooms.

System of alternating learning and working

When a pupil is 15 or 16 years old (s)he may enter a system of alternating learning and working. All youngsters in part-time education are obliged to take part in learning and working for at least 28 hours a week. Part-time learning and working is organized in: i) a centre for part-time education; ii) a centre for apprenticeships.

In a **Centre for Part-time Education** (*Centrum voor Deeltijds Onderwijs*) pupils take classes for 15 hours a week. These classes are supplemented with a working

experience which matches the programme. Pupils who are not yet ready to work in the regular economic circuit may fill the remaining 13 hours with a preparatory pathway or a bridging project with a recognized promoter or with a personal development pathway in a **Centre for Part-time Training** (*Centrum voor Deeltijdse Vorming*).

In Flanders apprenticeships are organised in a **SYNTRA training centre** (*SYNTRAopleidingscentrum*). SYNTRA is the Flemish Agency for Entrepreneurial Training. In the case of an apprenticeship pupils enter in a learning agreement which provides: i) four days of practical training in a small to medium-sized enterprise or with a self-employed person, and ii) one day of theoretical training a week in a SYNTRA training centre.

Higher education

Higher education contains programmes which result in the degree of bachelor, master and doctor.

Also higher vocational education is part of the level of higher education.

Higher vocational education

On 1 September 2009 higher vocational education (*Hoger Beroepsonderwijs* - HBO5) was introduced in the Flemish educational system. HBO5 programmes are professionally oriented programmes situated in between secondary education and professionally oriented bachelor programmes.

Bachelor

Bachelor programmes in Flanders may be both professionally oriented and academically oriented. **Professionally oriented** bachelor programmes are primarily aimed at practicing a profession and offer a direct access to the labour market. **Academically oriented** bachelor programmes focus on a broad academic education or an education in the arts. They aim at offering access to a master programme or to the labour market.

Both professionally and academically oriented bachelor programmes comprise at least 180 credits. In theory a student takes 60 credits a year, but variations are possible.

Master

Master programmes focus on advanced scientific or artistic knowledge or competences which are needed for the independent practice of science or arts, or for practicing a profession. They are rounded off by a master thesis.

A master programme comprises at least 180 credits. An institution of higher education can, in addition to a general master, also offer a research master, which comprises 120 credits.

Lifelong learning

Part-time education in the arts

Part-time education in the arts (*Deeltijds Kunstonderwijs* - DKO) is additional education and is targeted at both children, youngsters and adults. Participants may register on a voluntary base and pay enrolment fees. DKO aims at the artistic formation of children and adults and so contributes to their development of their personality.

Adult education

Adult education is unrelated to the initial educational career. Course participants may obtain a recognized diploma, qualification or certificate in adult education. Adults of at least 18 years old and youngsters which have completed compulsory education may enrol in adult education.

French Speaking Community

Pre-school and primary school education

Pre-secondary education comprises both pre-school education (children from 2,5 to 6 years of age) and primary education (children from 6 to 12 years old).

Although pre-school education is not obligatory, almost all children participate in pre-primary education. A child usually starts primary education when it is six years old and thus obliged to engage in education.

Secondary education (enseignement secondaire)

In the French Community, secondary education takes four different forms (general, technical, artistic and vocational) and consists of two streams (the transition stream and the qualification stream).

The transition stream prepares pupils for higher education whilst also offering opportunities to enter the labour market, whereas the qualification stream prepares pupils to enter the labour market while also enabling them to continue their studies in higher education. General education is a transition stream, whereas vocational education is a qualification stream. Technical education and artistic education can be organised in the transition stream or in the qualification stream.

Pupils choose a course of study within one of these types of education.

In Belgium, a certificate of upper secondary education grants unrestricted access to higher education.

Special needs education (enseignement spécialisé)

In Belgium, besides mainstream education there also exits special needs (pre)primary and secondary education. Special needs education is organized for children who need temporary or permanent specific support because of a physical or mental disability, serious behavioural or emotional problems or severe learning disabilities.

However, in July 2015, the Parliament of the French Community adopted by decree further steps with regard to guidance and support of integration for students from special need education into ordinary education. It is only if integration is not possible in ordinary education that the student is orientated to

special needs education. In total permanent integration for each student in primary education and in the first two degrees of ordinary secondary education, 4 periods for supported students will be granted, provided by special needs education staff. Based on the means made available, 450 additional support periods may be granted on a proposal of the General Council of specialised education, particularly in the specialised education institutions organizing an adapted pedagogy or particular projects.

System of alternating learning and working

In Belgium, when a pupil is 15 or 16 years old (s)he may enter a system of alternating learning and working. All youngsters in part-time education are obliged to take part in learning and working for at least 28 hours a week. Part-time learning and working is organised in: i) a centre for part-time education; ii) a centre for apprenticeships.

In the French Community, in a **Centre for Dual Vocational Education** (CEFA, Centre d'Enseignement et de Formation en Alternance), pupils take classes for 15 hours a week. These classes are supplemented with a working experience which matches the programme. Pupils can obtain the same certificates and qualifications as in ordinary full-time qualification-stream education, or lower levels of qualification via specific profiles.

In the French Community, apprenticeships are organised by IFAPME (the Walloon Institute of Dual Vocational Education and Training for Small and Medium-Sized Enterprises) and the SFPME (Small and Mid-Sized Companies Training Service in the Brussels-Capital Region). These two institutions organise dual vocational courses known as 'apprenticeship contracts' which satisfy the compulsory schooling requirement.

Higher education

In Belgium, higher education contains programmes which result in the degree of bachelor, master and doctor.

Also higher dual vocational education is part of the level of higher education.

In the French Community, higher dual vocational education is defined as "instruction in which the skills needed to obtain a degree from a higher education institution are partly acquired in the workplace and partly within this higher education institution.

In addition to masters in the dual system already in place, the Government of the French Community adopted on 30th June 2016 the decree which generalizes a dual teaching system at "Hautes Ecoles" and universities.

Bachelor (bachelier)

Bachelor programmes in Belgium may be both professionally oriented and academically oriented. Professionally oriented bachelor programmes are primarily aimed at practicing a profession and offer a direct access to the labour market. Academically oriented bachelor programmes focus on a broad academic education or an education in the arts. They aim at offering access to a master programme or to the labour market. In general, a bachelor programme lasts 3 years to complete (180 credits).

Master

In Belgium, master programmes focus on advanced scientific or artistic knowledge or competences which are needed for the independent practice of science or arts, or for practicing a profession. They are rounded off by a master thesis. Most master programmes last 2 years (120 credits).

Lifelong learning

Part-time education in the arts (enseignement artistique à horaire réduit)

In Belgium, part-time education in the arts is additional education and is targeted at both children, youngsters and adults. Participants may register on a voluntary base and pay enrolment fees. PEA aims at the artistic formation of children and adults and so contributes to their development of their personality.

Adult education

In Belgium, adult education is unrelated to the initial educational career. Course participants may obtain a recognized diploma, qualification or certificate in adult education.

In the French Community, adult education and training is mainly provided in two types of institutions: schools and training or education centres.

German Speaking Community

Pre-school and primary school education

In Belgium, pre-secondary education comprises both pre-school education and primary education.

- **Pre-school education**: Most children go to the "Kindergarten" from the age of three onwards, but compulsory school attendance starts only at the age of six with the entry into primary school. Pre-school education supports the versatile formation of children and stimulates their cognitive, motor and affective development.
- **Primary education**: is targeted at children from 6 to 12 years old and comprises six subsequent school years. A child usually starts primary education when it is six years old and thus obliged to engage in education.

When successfully completing primary education children are granted a certificate.

Secondary education

In Belgium, secondary education is organised for youngsters from 12 to 18. Until the age of 15-16 there is full time and until the age of 18 part time compulsory school attendance.

Fulltime secondary education contains three stages and various types of education.

Each stage consists of two grades. In the third stage of vocational secondary education the successful completion of a third grade is necessary in order to obtain the certificate of upper secondary education. In the first stage of secondary education a common curriculum is offered. Pupils make a choice of study only at the start of the second stage.

From the second stage onwards three different types of education are offered.

In the German-speaking Community a pupil chooses a course of study within one of the following types of education:

1. General secondary education (gse), which focuses on broad general education. It does not prepare pupils for a specific profession, but rather lays a firm foundation for higher education.
2. In technical secondary education (tse) attention goes in particular to general and technical-theoretical subjects. After tse a youngster may practice a profession or transfer to higher education. This type of education also contains practical training.
3. Vocational secondary education (vse) is a practically-oriented type of education in which the youngster receives general education but where the focus primarily lies on learning a specific profession.

In Belgium, a certificate of upper secondary education grants unrestricted access to higher education.

Special needs education

In Belgium, besides mainstream education there also exits special needs (pre)primary and secondary education. Special needs education is organized for children who need temporary or permanent specific support because of a physical

or mental disability, serious behavioural or emotional problems or severe learning disabilities.

System of alternating learning and working

In Belgium, when a pupil is 15 or 16 years old (s)he may enter a system of alternating learning and working. All youngsters in part-time education are obliged to take part in learning and working for at least 28 hours a week. Part-time learning and working is organized in: an institution for part-time education and a centre for apprenticeships.

Higher education and Higher vocational education

Only one programme exists in post-secondary non-tertiary education in the German-speaking Community: the supplemental vocational secondary school in medical and health care sciences.

There are only limited possibilities to attend tertiary education in the German-speaking Community. Students are trained to become: teachers in pre-primary or in primary school; nurses; accountants, banker or insurer.

All the organised programmes are bachelor-degrees.

To attend other courses of studies, students have to go to universities in the Belgian inland or abroad.

Lifelong learning

In Belgium, adult education is unrelated to the initial educational career.

The German-speaking Community offers various formations and further education for adults as well.

Course participants may obtain a recognized diploma, qualification or certificate in adult education.

Compulsory school attendance

Most children attend kindergarten from the age of 3 years. Compulsory education, however, begins at the age of 6, with admission to primary school. School attendance is required until 15-16 full-time and up to 18-part time. The classical way is that each student goes through three years in kindergarten, six years in primary school and six years in secondary school.

Educational networks

As in the rest of Belgium, the education system of the German-speaking Community distinguishes three school networks.

1. Community network (GUW) is the official education system organized and funded by the German-speaking Community.
2. Officially subsidized network (OSUW) is organized by the municipalities and funded by the German-speaking Community. In the DG only the Municipal schools form the OSUW.
3. Free subsidized education is the school organized by private school and funded by the Community (catholic schools).

The Parliament of the German-speaking Community sets the legal framework for all three school networks.

In the last two networks which are only funded – but not organized - by the German-speaking Community, school administrators enjoy a high level of autonomy, especially with regard to teaching and assessment methods.

The diplomas issued by these both school-networks are recognized as well as the teaching of the Community, but on the condition that they follow the outline plans laid down by the Community.

1.2.2. Poland

Pre-school education are developed in Institutions for children aged 0-3 years: crèche (żłobek), kids' club (klub dziecięcy).

Attending a crèche is not obligatory. Crèches are not a part of education system as they are supervised by the Ministry of Family, Labour and Social Policy.

Institutions for children aged 3-6 years include:

- pre-school (przedszkole)
- pre-school class in a primary school (oddział przedszkolny w szkole podstawowej)
- pre-school unit (zespół wychowania przedszkolnego)
- pre-school centre (punkt przedszkolny).

Pre-schools are optional for 3, 4 and 5-year- old children and obligatory for 6-year-olds. Every 3-, 4- and 5-year old has an entitlement to a place in a pre-primary setting.

As of the school year 2016/17 compulsory education in grade one of primary school starts at the age of 7. Parents of 6-year olds have a choice - they can enrol their children in the first grade of primary school or keep them in a pre-school institution.

Activities at crèches are based on their organisational regulations which define the institution's tasks. These include the provision of care and education in healthy and safe conditions which are necessary for children's development, disease prevention and health promotion, and nursing care. Summing up, tasks of crèches and kids' clubs include, in particular:

- providing care to children in conditions similar to those at home;

- providing proper nursing and educational care through the organisation of play activities with educational elements, while taking into consideration individual needs of children;
- organising educational and care activities which are adjusted to the age of children and the level of their physical and psychological development.

Care for children aged 3 and below is regulated by the Act of 4 February 2011 on Care for Children up to 3 years of age (amended in 2013, 2015, 2017 and 2018).

The Act lays down the rules for:

- organisation and functioning of care for children aged 3 and below;
- conditions for services provided;
- qualifications of persons providing care;
- rules for financing care; and
- arrangements for monitoring the conditions and quality of the care provided.

There is no core curriculum for crèches or kids' clubs, though the Act on Care for Children up to 3 years of age provides for educational activities to be conducted as part of childcare. It is only recommended that activities should serve care-and-education purposes and involve play with elements of education, while taking into consideration the level of physical and psychological development of children at a given age. Crèche staff work with parents on an ongoing basis, providing information about children's achievements, their problems and any worrying symptoms related to their health. Pursuant to the Act on Care for Children up to the age of 3, child minders work with children's parents, in particular, by providing consultations and advice to parents regarding work with children. Parents may participate in activities conducted at a kids' club.

In addition to care-related and educational activities, crèches and kids' clubs organise play activities which are suited to children's individual needs and the

level of their physical and psychological development. Also, crèches and kids' clubs provide meals to children which comply with the requirements for a given age group, based on the nutrition norms for the Polish population as set by the National Food and Nutrition Institute.

Concerning teaching methods and materials, the Act on Care for Children up to the age of 3 does not recommend any teaching methods or aids. Teaching aids are chosen by teachers/child minders, while taking into consideration children's age and development needs.

Primary education

Old structure

6-year primary school (*szkoła podstawowa*) was compulsory for all pupils who are usually aged 6/7-13.

It included two stages: i) grades 1-3 (early school education); and ii) grades 4-6 where teaching is done by subject.

A compulsory external exam at the end of grade 6 of primary education is cancelled due to the introduction of the new structure.

New structure (single structure education ISCED 1+ISCED 2)

8-year primary school (single structure education) is compulsory for all pupils who are usually aged 6/7-15.

It includes two stages: i) grades 1-3 (early school education); and grades 4-8 where teaching is done by subject.

At the end of grade 8 of primary school pupils will take a compulsory external exam and its results will influence admission to secondary schools.

Lower and upper secondary education

Old structure

Lower secondary school

3-year *gimnazjum* for students aged 13-16 is another stage of compulsory education. At the end of lower secondary school pupils take a compulsory external exam and its results influence admission to upper secondary schools.

Starting in 2017 the 3-year *gimnazjum* (lower secondary school) is being phased out. Pupils graduating from the 6th grade of primary school become pupils of grade 7 in a new 8-year primary school.

Upper secondary school

Although this stage of education is not compulsory (or in fact compulsory part time up to the age of 18) a vast majority of students continues education in upper secondary schools.

In the old structure there are three types of upper secondary school :

- 3-year general upper secondary school (*liceum ogólnokształcące*)
- 4-year technical upper secondary school (*technikum*)
- 3-year basic vocational school (*zasadnicza szkoła zawodowa*) (already replaced by stage I 3-year sectoral vocational school (*szkoła branżowa I stopnia*).

Pupils attend upper secondary schools at the age of 16-19 (16-20 years in case of the technical upper secondary school).

New structure

New structure is being introduced gradually starting in 2019/20 to be completed in 2023/24.

The level of lower secondary school (ISCED 2) will be included in a single structure called an 8-year primary school.

The new reformed structure of upper secondary education (ISCED 3) envisages the following types of schools:

- 4-year general secondary school (*liceum ogólnokształcące*)

- 5-year technical secondary school (*technikum*)
- stage I 3-year sectoral vocational school (*szkoła branżowa I stopnia*)
- stage II 2-year sectoral vocational school (*szkoła branżowa II stopnia*).

Examinations

Students of vocational schools - sectoral vocational schools and technical upper secondary schools - may take exams confirming vocational qualifications in a given occupation during the course of study or upon completion of school to receive a diploma confirming their vocational qualifications.

Graduates of general upper secondary schools and technical upper secondary schools may take the external upper secondary school leaving examination (*egzamin maturalny*) to obtain the *Matura*certificate, which gives access to higher education.

Post-secondary non-tertiary education

Post-secondary education is considered to be a part of secondary education. Post-secondary schools (*szkoła policealna*) are intended for graduates of general upper secondary schools who wish to obtain a diploma confirming vocational qualifications.

The schools offer courses lasting from 1 to 2.5 years. The students of post-secondary schools and students of sectoral vocational schools and technical upper secondary schools take vocational exams of the same type.

Post-secondary schools will continue their functioning within the new structure of school education.

Higher education

There are two types of Higher Education Institutions: i) university-type (*uczelnia akademicka*); and ii) non-university-type (*uczelnia zawodowa*).

They both offer first- and second-cycle programmes as well as long-cycle Master's degree programmes while only university-type HEIs can offer third-cycle programmes (doctoral studies) and are authorized to award doctoral degrees.

Studies are organized in the form of full-time (*studia stacjonarne*) or part-time (*studia niestacjonarne*) programmes.

First-cycle programmes lead to two types of degrees: i) *licencjat* (equivalent of Bachelor's degree) - 3-4 year programmes; andii) *inżynier* (equivalent of Bachelor's degree) - 3.5-4 year programmes.

Holders of the Bachelor's degree can enter second-cycle programmes, which take 1.5-2 years depending on the area of study.

Only several fields of study offer long-cycle Master's degree programmes that last for 4-6 years. First-cycle, second-cycle and long-cycle Master's programmes end with a diploma examination and students who have passed it are granted a relevant degree.

The Master's degree (*magister* or its equivalent) entitles its holder to practice a given profession and provides access to third-cycle studies. They are organised in HEIs or research and development institutions other than HEIs and last for 3-4 years.

Colleges of social work

These institutions operate in the framework of school education system (not the higher education system) offering education at tertiary level (short-cycle higher education).

Adult education

Adult education is open to adults who wish to complete school education on primary and secondary level or acquire new vocational qualifications and skills for professional or personal reasons.

It is organised, in school and non-school settings, by: continuing education institutions; practical training institutions; in-service training centres; and HEIs as non-degree postgraduate programmes. Training is offered also to the unemployed and to certain categories of people searching for a job.

1.2.3. Portugal

The Portuguese education system is divided in pre-school education (until the start of basic education), basic education (6 to 15 years old) and upper secondary education (15 to 18 years old).

Attending pre-school education is optional, recognizing the importance of families' role in children's education. However, it is universal for children from the year they celebrate their 4th birthday (Law no. 85/2009, 27th August, amended by Law no. 65/2015, 3rd July).

Pre-school education

Pre-school education covers children from 3 years up to the age of compulsory schooling. There is a public and a private network of pre-school education institutions, which are complementary. The public network is made up of education institutions under the Ministry of Education (ME) and the MTSSS (Minister for Labour, Solidarity and Social Security).

The private network is composed of for-profit and not-for-profit education institutions. The former are private and cooperative education institutions, while the latter are private institutions for social solidarity (I*nstituições Particulares de Solidariedade Social* - IPSS).

Pedagogical tutelage is the responsibility of the ME, which is responsible for ensuring the pedagogical quality of teaching in the pre-school education institution network.

The main pedagogical objectives of pre-school education are:

- To promote children's personal and social development;
- to foster children's integration into diverse social groups;
- to contribute to equal opportunities;
- to stimulate children's overall development;

- to promote expression and communication development;
- to enhance curiosity and critical thinking;
- to provide children with well-being and security;
- to identify maladjustments, disabilities or giftedness and to encourage families to participate in the educational process.

Basic education

Basic education lasts for nine years and is divided into three sequential cycles. Each cycle should complete and build up on the previous one, within a global perspective:

- The first cycle corresponds to the first four years of schooling (Grades 1 to 4);
- the second cycle corresponds to the next two years (these two cycles together make up primary education) (Grades 5 and 6);
- the third cycle lasts for three years and corresponds to lower secondary education (Grades 7 to 9).

The guiding principles of curriculum organisation and management aim to ensure a common general background education for all citizens, via the acquisition of fundamental knowledge and skills that allow further study.

In basic education besides general basic education pupils may attend specialized artistic courses in the areas of music and dance.

Basic education can also be concluded and certified through different paths adapted to the profile and specific characteristics of the students, such as:

- Education and Training Courses;
- Alternative Curricular Pathways;
- Integrated Education and Training Programme.

Education and Training Courses are an opportunity to conclude compulsory schooling via a flexible path adjusted to the interests of each individual, either to pursue studies or become qualified for the labour market.

The Alternative Curricular Pathways are an exceptional measure (created in 2006) to be used when students show no progress in terms of school results, even after the adoption of measures promoting success, whose goals are school re-orientation.

The Integrated Education and Training Programme encourages competencies for citizenship and social, community and solidarity activities, based on practical and differentiated work methodology, in order to promote education and vocational development.

Upper secondary education

Secondary education lasts for three years and corresponds to upper secondary education. It is organised into different forms according to different aims, either focusing on access to further studies or preparation for working life. The permeability between these two paths is guaranteed.

This level of education and training comprises different types of courses (Decree-law no. 139/2012, 5th June).

<table>
<tr><th>Education and Training Pathways</th><th>Grades</th><th>Age</th></tr>
<tr><td>Science-Humanities courses</td><td rowspan="3"></td><td rowspan="3"></td></tr>
<tr><td>Vocational Courses</td></tr>
<tr><td>Specialised Artistic Courses</td></tr>
<tr><td>Programme-Specific Courses (Science-Technology courses)</td><td>10-11-12</td><td>15-18</td></tr>
<tr><td>Education and Training Courses</td><td rowspan="3"></td><td rowspan="2"></td></tr>
<tr><td>Apprenticeship Courses</td></tr>
<tr><td>Recurrent Secondary Education</td><td>Adults</td></tr>
</table>

The different types of provision of upper secondary education have different goals and vocations:

- Science-humanities courses are geared towards further studies in higher education;
- Vocational courses are oriented to the professional qualification of the students in order to enter working life. These courses offer dual certification and provide access to post-secondary education or higher education.
- Specialised artistic courses are geared towards further studies (music) or oriented for both entry in working life and further studies (visual and audio-visual arts and dance).
- Programme-specific courses (science-technology courses) are dual certification courses with specific syllabus provided by some private schools. They offer basic scientific and cultural education, as well as technical training that teaches professional skills;
- Education and training courses are an opportunity to complete compulsory schooling through a flexible and tailored course that meets the interests of the students, either to pursue further studies or to obtain specific training to be qualified for working life;
- Apprenticeship courses allow students to obtain a school and professional certification, geared towards the labour market and pursuing studies in higher education;
- Upper secondary recurrent education is geared towards adults who have not benefited from education at the usual age or failed to complete their studies.

Higher education

Higher education is structured according to the Bologna principles to ensure solid scientific and cultural preparation, plus technical training that qualifies students for professional and cultural life, while developing their capability to innovate and apply critical analysis.

Portuguese higher education system is a binary system that includes the **university** and the **polytechnic** systems. Universities are geared towards offering solid scientific training, gathering the efforts and competences of teaching and research units, while polytechnics focus on vocational and advanced technical training for the world of work.

University studies are taught at universities, university institutes, and all other institutions within university education, and polytechnic studies are taught at polytechnic institutes, and other institutions within polytechnic education, and both are offered by public, private and cooperative institutions.

Despite this binary division, there are some polytechnic institutions that are part of universities

Adult education and training

Adult education and training provision varies and is geared towards specific aims and target groups:

- *Recognition, Validation and Certification of Skills* – Processes in the Qualifica Centres involving the recognition of academic and professional competences acquired by adults and that provide academic and/or professional certification;
- *Basic Competences Training Programme* – Designed for adults to acquire basic reading, writing, maths skills and information and communication technologies competencies (ICT);

- *Adult Education and Training Courses* – These courses aim to boost adult qualifications via dual certification;
- *Modular Training* – Permit the conclusion of basic or secondary education and the acquisition of academic and professional competences, in order to return to or progress in the labour market;
- *Specialised Technological Courses* –These courses are designed to respond to socio-economic needs for middle level staff and provide an alternative for improving young people's qualification and retraining of the working population;
- *Secondary Education Completion Paths* - Aimed at those who attended but did not courses whose syllabuses no longer exist or will soon disappear;
- *Recurrent education* – Designed for adults who have not completed their primary or secondary education at the usual age;
- *Portuguese for Speakers of Other Languages* – Designed to meet the legal requirement of knowledge of Portuguese language to acquire Portuguese nationality, permanent or long-term residence, as well as to promote proficiency in reading, writing and speaking.

Within the context of adult education and training, the Qualifica Programme was designed for adults whose objective is to improve adult education and training, improving the population's qualifications and individuals' employability.

The Qualifica Program is based on a qualification strategy that involves educational and training solutions, as well as a range of tools that promote adult qualification and an extensive network of providers.

As part of this programme, the Qualifica Passport was created as an electronic record of courses already done and guidance for new courses, based on training

completed and skills acquired, offering the chance to complete a qualification or obtain others and advance academically and professionally.

At the beginning of 2017, a National Credit System for Vocational Education and Training was also implemented, which allows credit points to be assigned to qualifications in the National Qualifications Catalogue (*Catálogo Nacional de Qualificações* - CNQ) and other certified training courses, provided that they are registered in the Information and Management System of the Education and Training Provision (*Sistema de Informação e Gestão da Oferta Educativa e Formativa* - SIGO) and comply with the quality assurance criteria in force. This system incorporates the principles of the European Credit System for Vocational Education and Training (ECVET), promoting mobility within Europe.

1.2.4. Romania

The national education system includes the following levels:

Early education (0 – 6 years)

Early education consisting of i) **the before preschool level (0 – 3 years); and ii) the preschool education (3 – 6 years)**, which includes: the small group, the middle group and the big group. In public institutions it is free.

Early childhood education - before preschool level can take place in nurseries, kindergartens and day-care centres, whether state-owned or private, according to the same educational content and the same national standards.

Preschool education takes place in kindergartens or schools (state or private), which have pre-school groups as a section, following the same curriculum and respecting the same national standards.

Early education is free in public institutions.

Primary education (ISCED 1)

Primary education includes: i) the preparatory grade; and ii) grades 1 – 4.

Secondary education

Secondary lower education or gymnasium (ISCED 2)

Secondary lower education or gymnasium includes grades 5 – 8. The access to the higher level is achieved by a national evaluation examination and distribution in upper secondary education units.

The secondary superior education (ISCED 3)

The secondary superior education can be:

- **high school education**, which **includes the high school grades 9-12/13**, with the following pathways: theoretical, aptitude-based (vocational) and technological;

- **a minimum 3-year professional education**. The graduates of the professional education promoting the certification examination of the professional qualification may attend the high school education courses.

The tertiary non-university education (ISCED 4)

The tertiary non-university education includes the post-secondary education.

The professional and technical education

The professional and technical education is composed of:

- professional education
- technical education
- post-secondary education.

The higher education (ISCED 5-8)

The higher education is organized in universities, study academies, institutes, higher studies schools, referred to as higher education institutions or universities, temporarily authorized or certified. The high school graduates with high school diploma can enrol in the higher education. The admission conditions are different from one institution to another.

The structure of the higher education reflects the principles of the Bologna process:

- Bachelor studies
- master studies
- PhD studies.

Adult education

Adult education includes training programmes at all qualification levels, organized in the public or private sector.

At public level, the Institute of Education Sciences provides training courses by which it promotes education reforms.

The Teaching-Staff Resource Centre offers professional development courses with regard to the system of professional and transversal skills necessary to the teacher and to the national and European policies and strategies in the education field.

1.3. TEACHING WORKING CONDITIONS AND PROFESSIONAL DEVELOPMENT

Source: Eurydice

https://eacea.ec.europa.eu/national-policies/eurydice/content/teachers-and-education-staff-55_en

The quality of teaching and learning is determined not just by the quality of teachers, but also by the environment in which teachers work (OECD, 2009). Together with the intrinsic benefits of teaching, working conditions, which are shaped by factors such as salary range, compensation, bonuses and rewards; working time, staff-student ratios, good school leadership, infrastructure and facilities, influence teachers' satisfaction with the workplace, their tasks and the nature of the job as well as teachers' ability to do their work well and engage with students.

Working conditions also play a crucial role for attracting teachers and for retaining effective teachers. In several countries, there are concerns about the impact of uncompetitive salaries, high workload, high rates of staff turnover, levels of stress and poor working environments, as they are factors which adversely affect the quality of teaching and learning (OECD, 2009)

1.3.1. Belgium

Flemish Speaking Community

Pre-service teacher training courses

Since 1/9/2007, two types of pre-service teacher training still exist:

- integrated teacher training at university colleges, which provides exclusive training for bachelors in education: pre-school, primary or secondary education

- the specific teacher training at a university college, university or adult education centre, which is undertaken in addition to or after initial subject knowledge training and/or professional experience.

Both types lead to a single professional title: the teacher's diploma.

These courses also provide teaching competence in part-time education in the arts and adult education.

There is no pre-service teacher training for academic staff at universities or teaching staff at university colleges.

Staff employment conditions

The employment conditions of teaching staff are governed by different staff regulations. For nursery and primary, secondary, adult and part-time education in the arts, there are different staff regulations for community education (GO!) on the one hand and subsidized education on the other. The differences between both regulations will be gradually eliminated where possible.

Since 1 January 2018, teaching staff in adult basic education have had their own staff regulations.

In higher education, the staff regulations for university colleges are different from those for universities. Here, too, however, the aim is to achieve integrated staff regulations.

Continuous professional development

Continuous professional development is left to the initiative of teachers and schools. However, schools are required to draw up an in-service training plan after which they can draw on limited financial support for the in-service training of teachers. Each year, the government also sets out priority topics for in-service training, in which in-service training projects can be followed free of charge.

Many in-service training initiatives are offered by the network-based educational guidance services, which receive an annual budget from the government.

After the pre-service teacher training courses, various advanced bachelor's programmes in education (including special educational needs education (SEN), special needs and remedial learning, school development) are available for further professional development and specialization of teaching staff.

French Speaking Community

Teachers and Education Staff

The professionalisation of the childcare sector is relatively recent, but initial training for childcare workers is now a requirement, and a continuing training programme has been introduced. Childminders now have their own professional status.

Separate employment statuses regulate the employment conditions and careers of teachers at pre-secondary, secondary and higher non-university level. These statuses depend on the network that employs the teacher, although much of their content is shared.

The initial training of teachers at the pre-secondary and lower secondary levels is organized as part of a first-cycle training in higher education, leading to a bachelor's degree (180 ECTS, level 6 of the European Qualifications Framework). Teachers at upper secondary school hold the upper secondary teaching diploma (a second cycle degree). This pedagogical training can be acquired as part of a teaching master's (120 ECTS, level 7 of the European Qualifications Framework) or a specific training (post master) corresponding to 30 ECTS. The initial training of higher education and adult education varies among other factors, depending on the type of institution where they are working.

All teachers at the ordinary or specialised pre-secondary and secondary levels must attend continuing training.

German Speaking Community

In many aspects teacher training in GC is still organised according to the regulations of the laws on teacher training coordinated by Royal Decree on April 30, 1957 and of some other Royal Decrees of the seventies and eighties. However, in the meantime these Royal Decrees have been adapted by the GC Government in the nineties in order to meet the special circumstances of the two (then still) existing teacher training institutions in GC.

The important decree dated June 27, 2005 Creating an Autonome Hochschule in GC, which – since 2005-2006 - takes the place of the two teacher training institutions and the nurse training institution, lays a new foundation for higher education in GC.

1.3.2. Poland

The national legislation distinguishes between:

1. **school education teachers**: teachers working in the school education system which comprises not only early childhood and school education, but also adult education provided in schools and other educational institutions for adults; and
2. **academic teachers**: teachers working in the higher education system.

School education teachers and academic teachers are subject to different regulations.

School Education Teachers

Initial education and training:

- is provided within the higher education sector: first-, second- and long-cycle programmes, and non-degree postgraduate programmes;

- is organised according to two models: a concurrent model and a consecutive one; the concurrent model is predominating;
- is provided as part of first-cycle (Bachelor's degree) programmes only for prospective nursery school and primary school teachers, and as part of second-cycle and long-cycle (Master's degree) programmes for prospective teachers at all school levels;
- comprises compulsory training for teaching a given subject, psychological and pedagogical training, and teaching methodology training.

Conditions of service discussed in this chapter cover:

- planning policy and monitoring of teachers
- entry to the profession and conditions of service
- induction programme
- professional status
- replacement measures
- supporting measures
- remuneration system
- working time and holidays
- professional promotion grades
- transfer, and termination of an employment relationship
- retirement and pension scheme.

In-service training / continuing professional development

Teachers are required to develop their professional competence in line with the needs of their schools. Participation in continuing professional development (CPD) is necessary for professional promotion, and the assessment of professional

achievements covers the extent to which the teacher concerned has implemented an agreed professional development plan.

Academic Teachers

Categories of academic staff / academic teachers: research-and-teaching staff; research staff; and teaching staff.

Initial education and training:

- National legislation does not specify initial training requirements or paths for academic teachers. The employment of prospective academic teachers is determined by qualification requirements which are laid down in the legislation for individual positions within each category of academic staff.
- Academic teachers are not required to complete pedagogical training or hold a pedagogical / teaching qualification.

Conditions of service cover: recruitment procedures; professional status; remuneration system; working time; holidays; professional promotion opportunities; and retirement and pensions.

In-service training / continuing professional development

Academic teachers are required to develop their professional competence on a continuous basis.

1.3.3. Portugal

Source: Eurydice

https://eacea.ec.europa.eu/national-policies/eurydice/content/continuing-professional-development-teachers-working-early-childhood-and-school-education-57_en

Organisational aspects

Continuing education and specialised training for teachers are two ways that help to develop the teacher's continuing professional development.

Continuing education is ensured as a right and a duty and has the aim of up-grading and up-dating the teacher's professional knowledge and competences, his/her professional mobility and career advancement.

Specialised training is defined as additional training that allows teachers to gain qualifications in other educational functions that are needed if the schools are to work efficiently and the education system is to be developed.

Continuing professional training

There are different kinds of activity based on continuing professional training: training courses, training workshops, study circles, short courses or, at the request of the Scientific-Pedagogical Council of Continuing Professional Training, internships and projects.

Continuing professional training is organised by different sorts of sponsors:

- Higher education institutions;
- Training centres run by school associations. There are 91 School Association Training Centres (*Centros de Formação de Associação de Escolas* – CFAE);
- Municipal and inter-municipal run initiatives organised by schools and kindergartens that get together for the purpose;

- Not-for-profit professional or scientific association training centres;
- Ministry of Education central services, training in areas considered relevant for developing the educational system and other sponsors whose intervention is deemed useful in this domain.

The accreditation of training bodies, trainers and training courses is the responsibility of the Scientific-Pedagogical Council of Continuing Professional Training. Short-term courses are recognised and certified by the training bodies. For the purposes of career development and progress, teachers must attend 25 hours at the 5th echelon and 50 at the remaining echelons of continuing training or specialised training courses.

The School Association Training Centres (CFAE) draw up an annual or multiannual training plan, taking into account the priorities indicated by the associated schools. The continuing training courses that are part of the Centres' training plans are submitted to accreditation by the Scientific-Pedagogical Council of Continuing Professional Training.

The CFAE may establish collaboration protocols with public, private and cooperative bodies, in order to provide training in priority areas.

A few nationwide continuing training programmes have also been designed in agreement with national training priorities. In this domain, the National Programmes of Continuing Professional Training are particularly relevant where teaching Mathematics, Portuguese and experimental Science Education are concerned. Such Programmes were set up between 2005 and 2007 in order to respond to ongoing systemic problems. More recently, in the sphere of the Technological Education Plan (*Plano Tecnológico de Educação* - PTE) also on a nationwide basis, the Training Programme PTE 2010 was launched by means of the CFAE regional training plans.

In the first year of its implementation, 2217 classes were created; they were organised by the recruitment group and covered about one third of all teachers.

A total of 44,386 teachers have successfully completed a 15-hour training programme. From 2011 onwards, due to a lack of funding, the national PTE training programme was suspended. However, as part of their action plans, the training bodies involved have continued to provide these courses.

Training for school leadership is a key area where launching training initiatives has followed the Ministry of Education strategic line of action. Under the Ministry's directive and by means of the Directorate General for School Administration (*Direção-Geral da Administração Escolar* - DGAE) which has drawn up and formed different partnerships, training programmes have been designed to target mainly top-level school leadership. It is hoped that their impact is reflected throughout the whole of the school leadership and will bring about an improvement in the students' quality of learning. Accordingly, a partnership with Microsoft was established in 2010 in order to install the "Innovating Leaders" Training Programme that covered 350 directors from schools/school clusters and thousands of users. The aim of the programme is to conceive and apply improvement plans favouring the educational communities falling within the programme.

Between 2016 and 2017, the DGAE focussed on training directors of training centres, as well as staff working in the training and monitoring sections.

This plan aimed to empower these educational agents to meet the challenges of the new continuing training framework, as published by Decree-Law No. 22/2014, 11th February, in relation to the implementation of a new training paradigm to improve the quality of teacher performance and focussed on the training needs identified by schools.

Established in 2012, the teacher performance assessment system introduced changes to previous models, such as the simplification of procedures, longer assessment cycles and the introduction of an external aspect focussed on classroom observation. As a result of legislation, and in order to strengthen and

consolidate the specific skills of the teachers involved in classroom observation, between 2013 and 2016, the DGAE implemented training programmes for the external evaluators of the scientific and pedagogical aspects of teacher performance. This nationwide training, provided by the CFAE, covered around 5,000 external teachers' evaluators in its four editions.

For many years, the Pestalozzi Programme (Council of Europe's training programme for education professionals that promotes respect and the defence of human rights, democracy and the rule of law in educational practices) provided continuing training for education professionals, so that they could act as multipliers, disseminating the experience and results of this training in their professional environment. The Pestalozzi Programme was cancelled in this format by the Council of Europe in late 2017, however, the resources accumulated over the years (materials, tools, other publications, etc.) remain available to education professionals in the Member States.

Recently, with the new legislation (Decree-Law no. 22/2014, 11th February) the new legal regime of the training of teachers was established. In-service training becomes geared towards improving the quality of teacher performance focusing the training system on priorities identified by the school and teachers' continuing professional development.

At each School Association Training Centre, there is a focus on creating groups of internal trainers that boost the level of qualifications of existing education professional in schools and allow quality training to be given in the areas identified as priorities by the schools themselves. The quality of training is guaranteed via a variety of regulation mechanisms, via monitoring by the DGAE and external evaluation, which is the responsibility of the Inspectorate-General of Education (*Inspeção Geral da Educação* - IGE). This new model of continuing professional education involves short training courses (recognised and certified by training bodies) that last a minimum of three hours and a

maximum of six hours. This training is important for career development, alongside accredited training and specialized training, with a maximum of five hours at 5th echelon and 10 hours at the remaining echelons.

This new legislation applies to all teachers working in state schools, in Portuguese schools abroad and private and cooperative schools teaching of the CFAE. This model ensures free compulsory continuing professional training and involves short training courses (between 3 and 6 hours) recognised and certified by training bodies with a maximum of five hours at 5th echelon and 10 hours at the remaining echelons.

This new legal framework applies to all teachers working in state schools, in Portuguese schools abroad and private and cooperative schools registered in the CFAE. This model ensures free compulsory continuing professional training for teachers.

Specialised training

All teachers who are duly qualified and integrated into the teaching career and who have at least five years teaching experience at the time the course is held, may take a specialised course.

The rules for specialised training mention the following areas: special education; school administration and educational administration; social-cultural activities; educational guidance; curriculum development and organisation; teaching-practice supervision and training the trainers; training management and development; and, communication in education and information management. At a later date, a specialised training area was put forward that had to do with education inspection aimed at inspectors working for the IGE.

Specialised training courses are provided by higher education institutions and last 250 hours. The curricula include a general training section on education science that should not take up more than 20% of the total instruction time, a section on the specialised domain that makes up no less than 60% of the course and a

section based on a project on the specialised domain. This training should also be submitted to accreditation by the Scientific-Pedagogical Council of Continuing Professional Training.

Incentives for participation in continuing professional development (CPD)

Teachers do not have to pay for training if the Government education services have launched the initiative. Time off school to attend CPD is deemed work time and as such, is remunerated. Leave of absence in order to take a course may be obtained for not more than 5 consecutive or 8 random working days per year.

Leave of absence for CPD launched or organised by central services (i.e. the Ministry of Education's central and/or regional Departments, the school/school cluster in which the teacher works), is preferentially given when training takes place during the non-teaching service hours of the teacher. If it has been proved impossible to time training activities so that they harmonise with the teacher's non-teaching part of the timetable, the teacher is given leave of absence during his/her teaching timetable. Whatever the case, training may only be given the go-ahead after the school/school clusters have ensured that there will not be a break in the lessons the teacher normally gives. If the training course is upon the teacher's own initiative, it will have to be done when there is no teaching, during the school holidays.

After a written request has been handed in by the teacher interested in taking CPD, it falls to the director of the school cluster/non-clustered school to grant the teacher leave of absence.

1.3.4. Romania

Source: Eurydice

https://eacea.ec.europa.eu/national-policies/eurydice/content/teachers-and-education-staff-63_en

For each teaching position the legislation establishes the initial training requirements in the form of appointment conditions. These refer to the education level and the professional training that have to be completed and passed by the prospective teachers. Only persons compelling with these requirements are considered qualified for the considered position. However, under special circumstances, teaching positions in Pre-university education can be occupied for a limited period of time with unqualified personnel. In most cases this works as a postponement of the qualification and is applied only when and where qualified teachers are in short supply (e.g. for certain subjects – like ICT or foreign languages, or in certain areas, etc.). This was a situation rather frequently encountered until the late 1990's. The unqualified personnel teaching in Pre-university education has reduced significantly in the recent years through alternative initial training routes, recruitment measures and central control over the teachers' selection, recruitment and appointment procedures.

Teaching positions (also referred to as didactic functions) in Pre-university education are established within the legislation by education level, and are as follows:

- In pre-primary education: educator; institutor.
- In primary education: învăţător; institutor.
- In secondary education: teacher, psycho-pedagogue-teacher, social pedagogue-teacher, maistru-instructor.
- In special education and in complex evaluation services (for evaluation and selection of the children with special educational needs): educator,

învăţător, învăţător itinerant, institutor, teacher, itinerant teacher, special education teacher, psycho-pedagogue-teacher, school psychologist-teacher, logopaedic-teacher, social pedagogue-teacher, maistru-instructor, învăţător-educator, and profesor-educator.

These are completed with the following teaching positions set for the Pre-university education complementary units:

- In placement centers: educator, institutor-educator, învăţător-educator, profesor-educator, logopaedic-teacher, psycho-pedagogue-teacher, social pedagogue-teacher.
- In centres and units for psycho-pedagogical assistance: psycho-pedagogue-teacher, psychologist-teacher, sociologist-teacher, social pedagogue-teacher.
- In logopaedic inter-school centres and logopaedic school units: logopaedic-teacher qualified in special psycho-pedagogy, psychology or pedagogy.
- In Teaching Staff Centre (in-service teacher training centre): methodologist-teacher, associate-teacher.
- In sports clubs: teacher, sports-trainer.
- In extra-school activities units: educator, învăţător, institutor, teacher, maistru-instructor, sports-trainer.

Auxiliary teaching positions (also referred to as auxiliary didactic functions) in Pre-university education are established within the legislation and are as follows:

- librarian
- ICT assistant
- laboratory assistant
- technician

- school-pedagogue
- animator-instructor
- instructor for extra-school education
- social assistant
- music assistant.

The Ministry of National Education can establish other auxiliary teaching positions, according to the dynamics of the education system in cooperation with the Ministry of Labour, Social Solidarity and Family. Based on this provision of the law, school secretary and school-mediator (school-community relationship mediator for certain target-groups) have been added to the existing auxiliary teaching positions.

For **higher education** the legislation establishes the following teaching positions:

- preparator universitar
- asistent universitar
- lector universitar/Şef de lucrări
- conferenţiar universitar
- profesor universitar
- profesor universitar consultant.

The initial teacher training for all teaching positions in Romania is based on a concurrent model – meaning that the education and training in the specialisation of studies is combined with the professional training within the same educational sequence. However, for certain teaching position a supplementary professional training is required that may be considered as part of the initial training but is actually finalised after the graduation of the required education level (e.g. specific training for teaching positions in special education,

graduation of doctoral studies for conferenţiar universitar and profesor universitar positions, etc.).

For **Pre-university education**, the initial training provided within formal education is completed with an insertion period of at least 2 years. During the insertion period debutant(e) teachers are employed based on labour contracts identical with the ones for the fully-flagged teachers, containing the same responsibilities, rights and obligations (including teaching norm, salary, etc.). The insertion period comprises an important supportive and supervising dimension as well as a final formal evaluation – the **on-the-job confirmation exam**. Only after passing the on-the-job confirmation exam teachers entry their professional life as fully-flagged teachers. Persons that do not pass the exam in the conditions set by the law cannot work anymore as qualified teachers.

Selection, recruitment and appointment of teachers in public and private education have to be based on competitions.

For public Pre-university education selection, recruitment and appointment of the teachers is accomplished through competitive examination, whilst in private Pre-university education and higher education is accomplished through open recruitment.

Basic work conditions for the teachers are established within the legislation. These refer to the teachers' responsibilities, rights and obligations, appointment conditions, dismissal and retirement conditions, evaluation and in-service training, criteria for establishing norms and salaries, types of and criteria for awarding incentives, distinctions and prizes and for applying sanctions.

Following the on-the-job-confirmation, further professional development of the teachers in Pre-university education is a 2-stage process. Each stage is accomplished through specific evaluations and leads to certification of a higher professional-degree. The professional-degrees that can be obtained by teachers working in Pre-university education are, in this order: the **didactic grade II** and

the **didactic grade I**. Professional-degrees are rewarded with higher salaries for the same teaching position, level of the initial training and seniority, and entitle the holder to compete for management or guiding and control positions.

Regarding higher education, each successive teaching position is assimilated to a higher professional-degree, the highest being profesor universitar.

In-service teacher training is a right of the teachers in Pre-university education. Educational institutions have to ensure all the necessary conditions for the teachers to participate to in-service training programmes. At the same time, the legislation states that teachers in Pre-university education participate to in-service training programmes at least once every 5 years or whenever so recommended by the administration council of the school or by the County School Inspectorate.

Teachers in higher education are not compelled to undertake in-service training programmes. The law establishes only the types of in-service training programmes available.

All management and guiding and control positions in Pre-university education are appointed based on competitive examination opened only to the teachers. In order to be admitted in the competitive examination teachers have to comply with specific criteria set by the law and the Ministry of National Education (professional degree, seniority, overall performance, etc.). Specific salary-incentives are established according to the position held and are added to the salary corresponding to the level of the initial training, the professional-degree and seniority.

All the management structures and positions of higher education institutions are elected through secret suffrage for a 4-year period, according to the provisions of the law and of the University Charter.

2. TEACHER PROFESSIONAL DEVELOPMENT: CONSTRAINTS AND CHALLENGES

Source: The Teaching and Learning International Survey (TALIS 2013) (OECD, 2014)

2.1. THE ALLOCATION OF MORE EXPERIENCED TEACHERS ACROSS THE EDUCATION SYSTEM, IN BOTH MORE AND LESS CHALLENGING SCHOOLS

TALIS 2008 showed large variations in the age distribution of teachers between countries and these variations remain present in all countries, with very few differences between 2008 and 2013. An exception to this general trend can be seen in Bulgaria, Korea and Portugal, where the proportion of teachers aged 50 years or older is at least ten percentage points higher in 2013 than in 2008.

Some countries do not have an equitable allocation of more experienced teachers across the education system, in both more and less challenging schools. Some countries have had a great deal of success in attracting teachers to schools with challenging circumstances. For example, PISA 2012 data show Portugal, Poland and Finland as the top three OECD countries in terms of allocating a higher proportion of qualified teachers to socioeconomically disadvantaged schools than to advantaged schools.

Concerning the demanding circumstances of some schools, the TALIS data look also at the student and teacher behaviours contributing to school climate separately. Of all factors included in school climate, weekly absenteeism and late arrival to school by students are by far the most commonly occurring across TALIS countries. Fifty-two percent of teachers work in schools where principals report that students arrive late on a weekly basis, and 39% of teachers work in schools where absenteeism of students occurs every week across countries. Absenteeism of students is also reported as significantly higher than the TALIS average. In particular, in Finland, Sweden and Alberta (Canada), more than 60% of teachers work in schools where school principals report that this behaviour in students

occurs on a weekly basis. Keeping order in the classroom, generally the biggest concern for new teachers, occupies an average of 13% of all teachers' time across countries. The occurrence of the more serious infractions of cheating, vandalism and theft, and intimidation or verbal abuse among students varies widely across TALIS countries. Reports between countries vary from 8% in Poland to 20% in Brazil. Whereas approximately one-third of teachers in Croatia, Estonia and Latvia work in schools where principals report that cheating occurs at their school, in the Netherlands this number is 58% and in Poland it is 40%. However, collaboration between principals and teachers to solve classroom discipline problems varies significantly across countries. Malaysia and Romania are on one end of the spectrum, where more than 90% of principals report high-frequency collaboration with teachers to solve discipline problems.

There are countries in which experienced teachers are more likely to be working in more challenging schools than in less challenging schools. This is the case for Brazil (for schools with high proportions of students from socioeconomically disadvantaged homes) and for Denmark (for schools with higher proportions of students with special needs and with a first language different from the language of instruction). However, in other countries, a larger proportion of more experienced teachers teach in less challenging schools compared to more challenging ones. In Flanders (Belgium) this is the case with respect to schools with larger proportions of students from socioeconomically disadvantaged backgrounds; in Poland this is true with respect to schools with higher proportions of students with special needs; and in Abu Dhabi (United Arab Emirates) this is the case with respect to schools with higher proportions of students whose first language is different from the language of instruction.

2.2. PRINCIPALS' WORK, JOB SATISFACTION, LEADERSHIP AND PROFESSIONAL DEVELOPMENT

TALIS 2013 shows that across countries, close to nine in ten or more principals are satisfied with their jobs overall and generally feel positive about their school working environment. Moreover, when questioned about the profession of principal overall, more than 80% of principals in all countries feel confident in their choice of career and do not regret becoming a principal. Although more than eight principals in ten report that the advantages of the position clearly outweigh the disadvantages, in Bulgaria, Italy, Japan, Romania, Serbia and the Slovak Republic, only between 60% and 70% of school leaders report this. Similarly, although nearly nine principals in ten report that they would still choose to become a principal if they could decide today, only between 60% and 70% of school leaders feel this way in Japan and Serbia.

For most countries, the relationship between job satisfaction and principal characteristics, including gender, age and years of experience as a principal and as a teacher were not related to principals' job satisfaction. A few exceptions include Italy, Poland, the Slovak Republic, Abu Dhabi (United Arab Emirates) and Alberta (Canada), where female principals are more likely to have higher levels of job satisfaction.

School principals bring a variety of prior experiences to their roles as principals, including working in other school management roles, prior work as teachers and experience in other jobs. On average, lower secondary school principals have spent 6 years in other management roles, with a range from 2 years (Bulgaria and Poland) to 12 years (England [United Kingdom]). The TALIS data confirm that experience as a principal is typically built upon a foundation of teaching experience.

Typical preparation of principals includes participation in a teacher training or education programme. TALIS results show that more than one in five (22%)

principals report that they had never participated in instructional training, and 31% report that they had, but only after becoming a principal. There would be many benefits for the principals and for the school as a whole if they participated in training programmes focused on instructional leadership or leadership for learning. For the majority of principals, participation occurs prior to assuming responsibilities of the position. A substantial proportion of individuals undertake some formal preparation as teachers after they assume the principal's position (8%) or cumulatively before and after assuming that position (18%). However, 32% of the principals in the Czech Republic and 45% of the principals in Portugal indicate that they have never participated in a teacher training programme or course.

More than 80% of principals in Chile, Estonia, Japan, Korea, the Netherlands and Singapore report having had strong leadership preparation as part of their formal education. The smallest proportions of principals reporting strong leadership preparation are found in Croatia (32%), Denmark (43%), Poland (41%), Portugal (40%) and Serbia (36%), including a number that indicated no formal administrative or principal training preparation as part of their formal education.

On average, 24% of principals report undertaking such preparation prior to assuming the position, 31% after being appointed to the position and 23% that they began such preparation prior to taking up the position but continued the preparation after becoming a principal. However, more than half of the principals in Poland and Serbia indicate they have never had such preparation. On average, only 8% of principals in primary schools have never undertaken teacher education in any form. But the average is distorted by Denmark and Poland, where 13% and 23% of primary principals, respectively, have never undertaken any kind of teacher education. Two-thirds of the principals in Poland have never had formal education that included instructional leadership training or courses.

Principals' preparation and professional development are key elements of school leadership. Principals can play an important part in ensuring that teachers take responsibility for improving their teaching skills. Nonetheless, a very important issue is related to how do school leaders support their teachers.

Table x: How do school leaders support their teachers?

School principals are the link between teachers, students and their parents or guardians, the education system and the wider community. Many also see principals as contributing to student achievement through their impact on how the school is organised, on the climate in the school and, especially, on teachers and teaching. School leaders can set the tone for teachers by encouraging teachers to co-operate with each other to develop new teaching practices and take responsibility for improving their teaching skills, and by ensuring that teachers feel responsible for their students' learning outcomes. These practices are part of what is known as instructional leadership or leadership for learning, which are considered by many educators to be the most important of all principals' tasks. By encouraging teachers to learn from one another, principals help teachers to keep their teaching methods up-to-date and may also help to develop more collaboration among teachers in their schools.	TALIS finds that an average of 64% of principals report that they frequently take action to support co-operation among teachers to develop new teaching practices. In Chile, Malaysia, Romania, Serbia, the Slovak Republic and Abu Dhabi (United Arab Emirates), between 80% and 98% of principals report that they frequently support co-operation among their teachers to develop new practices, while in Denmark, Estonia, Japan, the Netherlands and Flanders (Belgium), more than 50% of principals report that they never, rarely or only sometimes do this. When principals exhibit greater instructional leadership, they are also more likely to develop a professional development plan for their school (this relationship was observed in 13 countries), sit in on classes and observe them as part of a formal teacher appraisal system (20 countries), and report there is a high level of mutual respect among colleagues at the school (19 countries). These principals also tend to spend more time on curriculum and teaching-related tasks.

The average proportion of principals who say they frequently observe instruction in the classroom is more evenly divided. On average, nearly half (49%) of school

leaders say they make observations frequently. This is more commonly reported among principals in Bulgaria (89%), Malaysia (88%), Romania (82%) and Abu Dhabi (United Arab Emirates) (88%) and substantially less commonly reported among principals in Estonia (7%), Finland (11%), France (8%), Iceland (15%) and Portugal (5%).

By encouraging teachers to learn from one another, principals help teachers remain current in their practice and may also help to develop more collaborative practices between teachers in their schools. Principals were asked about taking action to support co-operation among teachers to develop new teaching practices. On average 64% of principals report taking such action frequently (ranging from 34% in Japan to 98% in Malaysia). In Chile, Malaysia, Romania, Serbia, the Slovak Republic and Abu Dhabi (United Arab Emirates), principals report the highest incidence (between 80% and 98%) of frequently supporting co-operation among their teachers around the development of new teaching practices.

On average a majority of principals (69%) say that they take action in order teachers take responsibility for improving their teaching skills. This action frequently (ranging from 39% in Japan to 95% in Malaysia). Bulgaria (88%), Chile (88%), Malaysia (95%), Romania (85%), Serbia (82%), Singapore (84%) and Abu Dhabi (United Arab Emirates) (93%) are among the high-incidence countries where principals frequently act in this regard.

Many principals also remind teachers about the importance of taking responsibility for what their students learn. On average, 76% of principals (ranging from 33% in Japan to 100% in Malaysia) say they frequently take action to ensure that teachers feel responsible for their students' learning outcomes. In Bulgaria, Chile, Malaysia, Poland, Romania, Singapore and Abu Dhabi (United Arab Emirates), more than 90% of principals report taking such action frequently. In

contrast, more than half of principals in Denmark, Finland, Japan and Norway report doing so infrequently.

Collaboration between principals from different schools is one way that principals can learn from and support one another. On average, 62% of principals indicate that they collaborate with principals in other schools frequently. Large proportions of the principals in Finland (82%), Malaysia (89%), the Netherlands (86%), Romania (87%) and Serbia (96%) say they collaborate with principals from other schools frequently. On average, nearly half of the principals (47%) report a shared responsibility for deciding on budget allocation within the school. In some countries, however, fewer than one in four principals report this (Chile, Korea, Mexico, Romania and Abu Dhabi [United Arab Emirates]).

The proportion of principals who stated that there were no relevant opportunities available for professional development is quite high in some countries, such as Chile (44%), Italy (52%), Mexico (37%), Poland (37%), Portugal (54%), Serbia (41%) and Spain (53%). While principals in many countries indicated that there were no incentives for participation in professional development activities, large proportions of school leaders in Bulgaria (54%), Chile (59%), Italy (73%), Mexico (48%), Portugal (71%), Serbia (55%), Spain (79%) and Abu Dhabi (United Arab Emirates) (51%) indicated that there were no incentives for participation in professional development activities. The perception that employer support for professional development is lacking is evident among a number of countries, with the largest proportions of school leaders reporting this lack of support in Italy (58%), Mexico (47%), Portugal (82%) and Serbia (40%). The perception that employer support for professional development is lacking is evident among a number of countries, with the largest proportions of school leaders reporting this lack of support in Italy (58%), Mexico (47%), Portugal (82%) and Serbia (40%). In Chile, Croatia, Japan, Poland, Portugal, Romania, Serbia and Abu Dhabi (United Arab Emirates), 40% or more of the school leaders perceived that the expense of professional development was a barrier to their participation.

For many of the activities examined, principals across different education levels do not differ greatly. In many of these cases, this may indicate that these activities are considered important whether a principal works in a primary, a lower secondary or an upper secondary school. This is the case for activities such as supporting co-operation among teachers to develop new teaching practices or ensuring that teachers feel responsible for their students' learning.

There are, however, activities that primary school principals in some countries are less likely than their lower secondary colleagues to identify as being an important part of their work. This is the case in Norway, where primary school principals are much less likely to report that they collaborate with teachers to solve classroom disciplinary problems (48%) than their colleagues in lower secondary schools (78%). Primary school leaders in Poland, on the other hand, are more likely to say that they collaborate with principals in other schools (79%) as compared with principals in lower secondary schools (61%). Besides that, In Denmark, Finland, Iceland, Norway and Poland, principals in upper secondary schools are much less likely to report that they collaborate with teachers to solve classroom discipline problems than those in lower secondary schools.

2.3. TEACHERS PARTICIPATION IN INDUCTION PROGRAMMES AND PROFESSIONAL DEVELOPMENT

The role of education and teaching is expanding in today's societies. Therefore, teachers today need to be able to constantly reflect on and evaluate their work and to innovate and adapt accordingly. These skills will give them the flexibility to modify classroom practices to respond to students' needs. The range and complexity of competencies required for teaching in actual societies is so great that any one individual is unlikely to have them all, nor to have developed them all to the same high degree. [...] Teachers' continuous professional development is, thus, highly relevant both for improving educational performance and

effectiveness and for enhancing teachers' commitment" (European Commission, 2012b: 8-9)

A large majority (more than 80%) of teachers report taking part in general or administrative introduction activities. This is different from the situation in Norway, Portugal, Spain and Sweden, where less than a quarter of teachers say they participated in general or administrative inductions.

Across TALIS countries, one-quarter of teachers on average work in schools where principals report that no mentoring programme is available. Yet for the other three-quarters of teachers, a huge heterogeneity exists in the access to mentoring programmes across countries (that is, whether such access is offered only to teachers new to the school, only to those new to teaching or to all new teachers). In general, there are important differences in availability rates across countries. Some countries have a large percentage of teachers with no access to such programmes (Chile, Finland, Mexico, Portugal and Spain), whereas others (Australia, Croatia, England [United Kingdom], the Netherlands, Serbia and Singapore) offer these programmes to almost all teachers. With respect to informal induction activities, the largest participation rates are in Bulgaria, Korea, Malaysia, Poland, Romania and Singapore (around 60% in each country).

More than half of teachers on average received scheduled time to take part in development activities. However, the percentage varies substantially across countries, from well over three-quarters in Australia (79%), Estonia (82%) and Malaysia (88%), to less than 20% in Portugal (15%) and Romania (18%).

On average across participating countries, less than 6% of teachers undertook professional development activities without receiving any type of support. Nevertheless, in some countries this proportion is well above average, as is the case in Portugal (29%) and Romania (21%). This fact might reflect a high commitment of teachers in these countries to improving their effectiveness and performance, which leads them to undertake professional development activities

without any kind of support. TALIS data suggest that the problem of not receiving enough incentives for participating in professional development is a substantial issue for teachers in Italy (83%), Portugal (85%) and Spain (80%). This is important because teachers' participation rates in professional development are below average in Spain and at average in Portugal.

Not having access to a relevant supply of professional development activities is also a barrier to participate in. Although on average fewer teachers (by 12 percentage points) report this as a barrier compared with work schedule conflicts, this issue is important in Chile (64%), Italy (67%), Portugal (68%) and Spain (61%).

On average, about two-thirds of teachers who participated in professional development during the 12 months prior to the survey reported that they did not have to pay personally for the professional development activities they participated in. However, some countries have a higher proportion of teachers (compared with the overall average of 9%) who claimed that they had to pay all the costs – Brazil (20%), Chile (17%), Portugal (33%) and Romania (28%).

The type of professional development activity most often mentioned in TALIS 2013 was attending courses or workshops, with 71% of teachers on average reporting that they participated in this activity during the survey period. (Table x)

Table x: Types of professional development activities and participation rates

Types of professional development activities	Participation rates
Courses and workshops	Participation rates in general are quite common, except for the cases of Italy (51%), Romania (52%) and particularly the Slovak Republic (39%).
Education conferences and seminars	More than two-thirds of teachers report participating in this activity in Croatia and Alberta (Canada) (79% and 74%, respectively). However, participation was 25% or less in the Czech Republic (22%), France (20%), the Slovak

	Republic (25%), Spain (24%) and Flanders (Belgium) (23%).
Observation visits to other schools	Participation rates are less than 20% on average. However, more than half of the teachers in Iceland, Japan and Latvia report undertaking observation visits to other schools. This contrasts with reported participation rates in Denmark (6%) and the Slovak Republic (4%).
Observation visits to business premises	Fewer teachers report participation in observation visits to businesses (13% on average). The country in which the most teachers report participation is Portugal (39%).
In-service training courses in private, public and NGO	Brazil has the highest participation rate, 38%, in contrast to countries such as France or Italy, where participation is around 3%.
Qualification programmes	Bulgaria has the greatest participation rate (almost one-half), but this area was much less a feature of teachers' professional development in Croatia, France and Japan (6% in all three countries).
Participation in a network	Nearly two-thirds of teachers report engaging in this activity in Croatia and Alberta (Canada) (63% in both), but it was much less common in the Czech Republic (17%), France (18%) and Portugal (19%).
Individual or collaborative research	Almost one-half of teachers (49%) participated in this activity in Mexico, Abu Dhabi (United Arab Emirates) and Alberta (Canada). This contrasts with Finland, where only 8% of teachers report engaging in this kind of professional development.
Mentoring and peer observation as part of a formal school arrangement	More than half of teachers in Singapore (65%), Abu Dhabi (United Arab Emirates) (61%), England (United Kingdom) (57%) and Korea (53%) report having participated in this activity. The country with the lowest reported participation was Finland, where only 5% of teachers

After courses and workshops, the most frequently reported activities on average are attending education conferences or seminars (44%) and participation in a teacher network (37%). The least common types of professional development

activities were observation visits to businesses or other organisations (13%) and in-service training courses at these same organisations (14%). The following activities are organised from the more structured to more informal and self-directed learning and is possible so see that some patterns emerge across countries:

2.4. TEACHERS' WORKING TIME: HOW CAN TEACHERS SAVE TIME AND USE IT MORE EFFECTIVELY

Ideally, teachers should spend most of their working time with students. According TALIS, teachers report that they spend most of their working hours (an average of 19 hours per week) teaching. In most participating countries, half of the teachers report that they spend 80% or more of their lesson time on teaching and learning. But as every teacher knows, there's more involved in a workweek than actual teaching. Teachers report that they spend an average of 7 hours per week planning or preparing lessons, an average of 5 hours per week marking students' work (10 hours in Portugal and 9 hours in Singapore), and an average of 2 hours per week each on school management, working with parents, and extracurricular activities.

While teachers report spending about 80% of their time on teaching and learning, on average, approximately one in four teachers in more than half of the participating countries report losing at least 30% of their time to classroom disruptions and administrative tasks. In spite of those disruptions, roughly two-thirds of teachers report a positive classroom climate, and these teachers are more likely to use active teaching practices, such as small group work, project work and ICT.

Considering the importance of time in teacher work, it is important to know how can teachers save time and use it more effectively:

- Expand their knowledge of pedagogy in the subjects they teach; that may free them to explore the use of active, student-centred teaching practices, such as having students work in small groups or having them work on projects that take longer than a week to complete.
- Engage in some kind of professional development activity – whether attending workshops and conferences, observing other teachers, individual or collaborative research, or mentoring – as TALIS results show

that teachers who do engage in these types of activities are more likely to use student-centred teaching practices.

- ❖ Participate in mentoring systems to enhance co-operation among colleagues, build trust and promote a positive school climate. However, co-operation is not only a way of sharing and comparing teaching practices, it can also lead to the development of more effective responses to student misbehaviour and disruptions in class.
- ❖ Report to the school leader on daily or weekly inefficiencies, such as administrative tasks that might be performed by support staff or automated, so that more time can be devoted to teaching.

According the "2020 Vision - Report of the Teaching and Learning in 2020 Review Group", "many schools have developed ways of building time for focused professional development into their timetables, and of creating links with other schools to enhance the experience. They have done this by reconfiguring their week, for example, by timetabling an early finish for pupils once a week to provide time for professional development and teachers' collaborative lesson preparation agreeing common times for staff development across primary, secondary and special schools in an area which might be used for curriculum development and training, such as: i) joint activity focused on improving transition and transfer; ii) exploring a common theme, such as assessment for learning; and iii) focused work, bringing together subject specialists from more than one school".

For a more effective use of time by teachers, school principals can/should give teachers the opportunity to participate in professional development activities, both those related to improving their practice and those that focus on using class time effectively. These activities can – and should – include collaboration and mentoring activities within the school itself. They build trust, encourage co-operation and promote a positive school climate.

According TALLIS, nearly nine in ten (88%) teachers report that they had participated in at least one professional development activity during the 12 months prior to the survey. Some 71% report that they had participated in at least one course or workshop, 44% report that they had attended an education conference or seminar, and 37% report that they had participated in a teacher network.

Large proportions (more than 60%) of teachers report that they had participated in professional development activities that focused on their knowledge and understanding of their subject or that focused on their pedagogical skills in teaching their subject.

Some 22% of teachers report that they would like more professional development activities related to teaching students with special needs, yet only 32% of teachers report that they had participated in such activities.

The second and third most often cited areas for further learning are related to teaching with information and communication technologies (ICT) (19% of teachers so report) and to using new technologies in the workplace (18% of teachers).

What kind of factors can explain this discrepancy between the availability of professional development activities and teachers' participation in them?

TALIS finds that teachers most often refer to conflicts with their work schedule (51% of teachers) and a lack of incentives (48%) as barriers to participating in professional development activities. At least three out of four teachers in Japan (86%), Korea (83%) and Portugal (75%) cite conflicts with their work schedule, while large proportions of teachers in Italy (83%), Portugal (85%) and Spain (80%) report a lack of incentives for participating. Some 44% of teachers, on average, consider professional development activities to be too expensive.

Besides, the professional development that teachers report receiving in TALIS does not always meet their needs. The most commonly reported as a barrier to

participation in professional development activities a conflict with work schedules. This is reported by three quarters or more of the teachers in Japan (86%), Korea (83%) and Portugal (75%).

2.5. TEACHER APPRAISAL AND FEEDBACK

Feedback to teachers plays a positive role in recognising the work of teachers and in improving the enjoyment of their jobs. On average across TALIS countries, 61% of teachers report moderate or large change in public recognition after the feedback they receive in their schools. Between countries, this ranges from at least three quarters of teachers in Bulgaria, Japan, Malaysia and Romania, to less than half of teachers in Australia, Iceland, Portugal, Singapore, Alberta (Canada) and England (United Kingdom).

Nearly three-quarters of teachers, on average across TALIS countries, report a moderate or large increase in their confidence as a teacher after receiving feedback on their work. This outcome was common across all TALIS countries, with only Australia, Iceland, the Netherlands, Portugal, Spain and England (United Kingdom) having less than 60% of teachers report such an increase in confidence following feedback on their work.

As a result of teacher appraisal and feedback, slightly more teachers (63% on average across TALIS countries) report an increase in job satisfaction and job motivation (65% on average across TALIS countries). This is particularly pronounced in Bulgaria, Chile, Italy, Japan, Malaysia, Mexico and Romania, where more than three-quarters of teachers report an increase in job satisfaction and motivation.

The perception that appraisal and feedback influences teaching practices also positively relates to job satisfaction in nearly all TALIS countries. For 11 countries this constitutes a strong relationship: Bulgaria, the Czech Republic, Italy, Malaysia, Mexico, Norway, Poland, Romania, Singapore, Abu Dhabi (United Arab Emirates)

and England (United Kingdom). In contrast, when teachers perceive their appraisal and feedback to be only an administrative exercise, there is an associated decrease in teachers' self-efficacy in 14 countries. In Israel, Portugal, the Slovak Republic and England (United Kingdom), this reduction is particularly pronounced. Moreover, such a perception of appraisal and feedback is linked to a decrease in job satisfaction in all TALIS countries.

In Finland, Iceland, Italy, Sweden and Spain, more than 30% of teachers report that they did not receive feedback on their teaching in their school. In contrast, at least 20% of teachers in Japan, Latvia and Romania report receiving feedback from at least four sources.

On average across TALIS countries, nearly 80% of teachers report that they receive feedback following some sort of classroom observation. In 12 countries (Bulgaria, the Czech Republic, Korea, Latvia, Malaysia, Poland, Romania, Singapore, the Slovak Republic, Abu Dhabi [United Arab Emirates] and England [United Kingdom]), at least 90% of teachers receive feedback following a classroom observation. Given the evidence showing positive links between observation and feedback and improvements in teaching and learning, this should be a positive indicator of teacher development and school improvement. Also, In Brazil, Bulgaria, Korea, Latvia, Malaysia, Mexico, Poland, Romania, Singapore and Abu Dhabi (United Arab Emirates), at least eight in ten teachers report that they received feedback on their teaching following analysis of their students' test scores.

Just over half of teachers, on average across TALIS countries, report that the feedback they received was based on an assessment of their content knowledge (55% of teachers on average across TALIS countries). This is particularly common in Latvia, Malaysia, Romania and Abu Dhabi (United Arab Emirates), where more than 80% of teachers report that assessments of their content knowledge are used as a basis for feedback on how to improve their teaching.

Across TALIS countries, on average 53% of teachers report surveys or discussions with parents as a source of feedback in their school. Again, there is wide variation among countries that largely reflects patterns of the use of student surveys for teacher feedback. More than three-quarters of teachers in Latvia, Malaysia, Romania and Abu Dhabi (United Arab Emirates) report that surveys of and discussions with parents are used as a basis for the feedback they receive on their teaching in their school. Similar patterns are evident with feedback following teachers' self-assessment.

On average across TALIS countries, 13% of teachers report receiving no feedback on their teaching, and between 10%-13% of teachers report receiving feedback from either one (10% of teachers), two (12% of teachers), three (13% of teachers), four (12% of teachers) or five (11% of teachers) different sources. At least half of teachers in Korea, Latvia, Malaysia, Romania and Abu Dhabi (United Arab Emirates) report receiving feedback on their teaching from six sources. Romania is also one of the countries where more than three-quarters of teachers report an increase in job satisfaction and motivation (65% on average across TALIS countries).

The perception that appraisal and feedback influences teaching practices also positively relates to job satisfaction in nearly all TALIS countries. For 11 countries this constitutes a strong relationship: Bulgaria, the Czech Republic, Italy, Malaysia, Mexico, Norway, Poland, Romania, Singapore, Abu Dhabi (United Arab Emirates) and England (United Kingdom). In contrast, when teachers perceive their appraisal and feedback to be only an administrative exercise, there is an associated decrease in teachers' self-efficacy in 14 countries. In Israel, Portugal, the Slovak Republic and England (United Kingdom), this reduction is particularly pronounced. Moreover, such a perception of appraisal and feedback is linked to a decrease in job satisfaction in all TALIS countries.

Some **88%** of teachers, on average, report that they receive feedback in their school. But in Denmark, Finland, Iceland, Italy, Spain and Sweden between **22%** and **45%** of teachers report that they have never received feedback in their current school. More than one in two teachers (**54%**, on average) report receiving feedback from their school principal; slightly fewer (49%) report that they receive feedback from members of the school management team.	Meanwhile, fewer than one in two teachers (**42%**) reports that he or she receives feedback from other teachers, and only **29%** of teachers report that they receive feedback from individuals or bodies external to their schools. Nearly **80%** of teachers, on average, report that they receive feedback following some sort of classroom observation; but fewer than one in two teachers in Finland, Iceland, Italy and Spain reports receiving feedback following a classroom observation. In these countries, comparatively small proportions of teachers report that they receive any feedback in their school.

TALIS results find that while teacher feedback is related to changes in job responsibilities for most teachers, and career advancement for just over one in three teachers, on average, fewer teachers report that it is linked to their salary. On average, only one in four teachers reports that the feedback that he or she receives has had a moderate or large positive impact on his or her salary. Besides that, slightly more than one in two teachers report that teacher appraisal and feedback is largely undertaken to fulfil administrative requirements.

However, teacher appraisal and feedback is crucial in which concerns to teaching and professional development. Appraising teachers and providing them with feedback about their practices recognises and celebrates great teaching even as it challenges teachers to confront and address their weaknesses. Constructive and fair teacher appraisal and feedback have been shown to have a positive effect on teachers' job satisfaction and on their feelings of self-efficacy. Receiving feedback concerning their work is also essential for improving individual teachers' performance in class; but these practices are only effective if they are tied to real and meaningful consequences. Regarding this important issue, school leaders can/should:

- ❖ Foster a climate in which peer appraisal, in addition to direct feedback from the school leader or school management team, can take place.
- ❖ Promote collaborative exchanges among teachers, since they offer good opportunities for teachers to learn about their own practice and find support for professional development.
- ❖ Help teachers identify their individual professional development needs and incorporate these into the school's priorities.

Teachers are receiving appraisal and feedback, in many instances from a variety of sources and using several methods. But an equally important discussion concerns the outcomes of teacher appraisal and feedback. In other words, where does all of this lead?

On average for countries that participated in both TALLIS cycles (2008 and 2013), there is very little difference in the percentage of teachers reporting a strong focus on most of the other areas in the feedback they receive. The only clear exception is the emphasis on student performance in the feedback teachers report receiving.

Research shows that feedback to teachers can have a number of positive impacts, ranging from a personal impact on teachers to an impact on their career, their development and their teaching. Each of these areas highlights the benefits of feedback in school education (Hattie, 2009).

2.6. SOME IMPLICATIONS OF TALLIS FINDINGS FOR POLICIES AND PRACTICES RELATED TO TEACHERS' PROFESSIONAL DEVELOPMENT

The following topics summarise some implications of TALLIS findings (OECD, 2014) for policies and practices related to professional development at all stages of a teacher's career.

1. Encourage schools to offer formal induction programmes for new teachers and urge teachers to attend

In many countries, teachers who report participating in a formal induction programme in the past are more likely to have a higher level of participation in professional development, to the extent that they participate in three more professional development activities than teachers who did not attend formal induction programmes. Participation in an induction programme during a teacher's first employment is positively related not only to the later decision to help other teachers by acting as a mentor but also to more intensively undertake professional development activities.

2. Support teachers' participation in mentoring programmes at all levels of their careers

Mentoring provides teachers with a way to build relationships with colleagues and to collaborate to improve their teaching practice. Clear evidence shows that teachers with mentoring support have higher student achievement gains; however, TALIS 2013 shows that, on average for all countries, one-quarter of teachers work in schools where principals report that there is no mentoring programme, with some countries showing larger percentages of no access. School leaders should provide teachers with time and arrange for successful pairings of teachers who have common subject areas

3. Ensure availability of and participation in professional development for all teachers

The level and intensity of teachers' participation in professional development activities are influenced by, among other factors, the types of support that teachers receive to undertake them. In some countries this kind of support is not available to teachers. schools to develop and use mentoring programmes or other within-school or between-school development opportunities for teachers. Creating a professional development plan that is tied to a teacher's individual needs for development might also help teachers pinpoint the best offerings for them. Encouraging participation in professional development activities that boost

collaboration among teachers might not only provide teachers with new skills, but could also help build relationships between teachers in or outside the school.

4. Remove barriers to teachers' participation in professional development

The main reasons that teachers report for not participating in professional development activities are a conflict with their work schedule and the absence of any incentives for participating in such activities. In many countries, a significant number of teachers also report that they simply do not have access to professional development offerings relevant to their needs. Any one of these barriers could explain lower participation rates of professional development in specific countries. If teachers do not have the time or flexibility in their work schedule or if there are no offerings available, it will be very difficult for them to participate. Teachers' time is valuable, especially when it takes them away from their most important role, teaching their students. Teachers may need extra encouragement to understand and identify professional development activities that can provide the most benefit to their work.

3. THE NESTT SURVEY: LISTENING STUDENTS ABOUT THEIR FORMAL AND NON-FORMAL LEARNING EXPERIENCES

This section presents partial research results of the NESTT Project (New European Settings for Teachers and Teaching), funded by the Erasmus+ Program - Strategic Partnerships for Innovation. Data were collected in the school year of 2016/2017 using a questionnaire survey in Polish, Portuguese and Romanian schools, involving students aged between 10 and 16 years. The NESTT Project focused on different types of learning experiences – formal, non-formal and informal – as they are defined by the Council of Europe[1].

Formal learning is promoted by the Educational systems that are organised for that purpose. They follow a syllabus and is intentional in the sense that learning is the goal of all the activities learners engage in. Learning outcomes are measured by tests and other forms of assessment. For example, adult migrants engage in formal learning when they take a course in the language of their host community. If the course is based on an analysis of their needs, it will follow a syllabus that specifies the communicative repertoire to be achieved by successful learners. The nature and scope of that repertoire should be reflected in whatever forms of assessment accompany the course.

Non-formal learning takes place outside formal learning environments but within some kind of organisational framework. It arises from the learner's conscious decision to master a particular activity, skill or area of knowledge and is thus the result of intentional effort. But it need not follow a formal syllabus or be governed by external accreditation and assessment. Non-formal learning typically takes place in community settings: swimming classes for small children, sports clubs of various kinds for all ages, reading groups, debating societies, amateur choirs and

[1] Source: Council of Europe, https://www.coe.int/en/web/lang-migrants/formal-non-formal-and-informal-learning

orchestras, and so on. Some non-formal learning arrangements become increasingly formal as learners become more proficient; one thinks, for example, of graded exams in music and other performing arts. Adult migrants engage in non-formal language learning when they participate in organised activities that combine the learning and use of their target language with the acquisition of a particular skill or complex of knowledge.

Informal learning takes place outside schools and colleges and arises from the learner's involvement in activities that are not undertaken with a learning purpose in mind. Informal learning is involuntary and an inescapable part of daily life; for that reason, it is sometimes called experiential learning. Learning that is formal or non-formal is partly intentional and partly incidental: when we consciously pursue any learning target we cannot help learning things that are not part of that target. Informal learning, however, is exclusively incidental.

The NESTT survey was carried out around three main questions – What do you like to learn? How do you learn more and better? and Where do you learn more and better? – aiming at analysing children's perspectives both on school and out-of-school learning. Knowing the children's perspectives was considered a potentially fruitful strategy either to give voice to these social actors, who are often not sufficiently listened on these and other issues that concern them, or to provide information on how schools and teachers teach as well as to extract some implications for teacher education policies and practices.

The research did not aim to establish statistical correlations between variables such as country, school and students' age. Also, it was not intended to systematically compare the results of different contexts (countries, schools, students' age), but to identify and interpret the main trends revealed by the student responses. Nevertheless, some comparisons were make when the results showed evident differences.

3.1. STUDENTS' PERSPECTIVES ON THEIR LEARNING: A SURVEY

Considering that studies on teacher education have given more prominence to teachers' perspectives, namely, on their beliefs, attitudes, practices, training needs, etc., the NESTT survey sought to approach the problem from a different perspective, based on from students' perspectives on what they like to learn and how and where they think they learn more and better. It was intended to know and understand how do students face their learning and what trends and challenges do their prospects for innovation in teaching and teacher education.

3.1.1. Data collection

The main instrument for data collection was the questionnaire survey, answered in the 2016/17 school year by 546 students, aged 10 to 16 years, in Portuguese, Polish and Romanian schools. The questionnaire was designed to collect data concerning the students' perspectives on their learning experiences in diverse contexts and situations.

For the questionnaire design was important the accomplishment of a previous field work, including informal conversations with teachers and students, 12 one-on-one interviews and 4 focus-groups, were conducted at a preliminary exploratory phase in different schools (the two Portuguese schools mentioned above and the schools selected by the two partner associations in Poland and Romania). It was intended that the results of the questionnaire inform the realization of a documentary (Output No. 1 - NESTT Documentary) and contribute to the preparation of MOOC - "Yes, I Can!", for continuing teacher education under Output No 2 "Teachers Make a Difference: European Benchmark in Teacher Training".

The questionnaire was elaborated using the Google Forms and was answered online, free and anonymously, in their schools, at the agreed times with the teachers. The students who would answer were the ones who had volunteered for

this. That is, since it was not a sample study, a representative sample of the researched universe was not constituted. The aim of the research was to identify and interpret the main trends in student responses globally and not to generalize and compare results across countries and between schools. Only if there were marked differences in student responses in different contexts, countries and schools, would one seek to analyse and the factors that could explain them.

The instrument was first drafted in Portuguese, then translated into English and later to Polish and Romanian by the respective project partners (see the appendixes). It was structured in three blocks of questions, each of them aggregating a set of items related to the following main questions:

- What do you like to learn?
- Where do you like to learn more and better?
- How do you like to learn more and better?

The instrument consisted essentially of closed questions, although it included four open-ended questions. Concerning the closed questions, the three blocks included, respectively, 33 items, 19 and 32 items (Table 3).

A large and diverse number of items were included in the questionnaire a with the purpose of covering aspects related not only to school / curriculum learning, but also to the contexts of non-formal learning experiences. Items such cooking, fieldwork, visiting museums, going camping, etc., were included in the questionnaire although we were aware that many students would not have enough information to comment on them. Still, we have included them, mainly because we wanted to know the students' perspectives on their learning in school and out. For example, regarding the question “What students like to learn”, the fact that we entered some items that correspond to school subjects that are not part of the curriculum for these ages and that these items were marked with the option “Don’t know” by many students (in some cases with percentages in the

40%), reinforced our perception of the reliability of the answers to que questionnaire.

Table 3: The questionnaire items

WHAT *I like to learn…*	**WHERE** *I learn more and better…*	**HOW** *I learn more and better…*
About animals	At home	Acting/theatre plays
About games (video, computer, …)	At my friends' house	Doing coursebook exercises/worksheets
About Nature	At the cafe	Doing evaluation tests
About the world	School labs	Doing experiments
Art	School library	Doing fieldwork
Chemistry	Computers' room	Doing homework
Cinema	Local church	Doing school visits outside
Cooking	Public library	Doing sports
Crafts	Clubs at school	Doing voluntary work
Dance	Local associations	Drawing/painting
Drawing	Public gardens/parks	Going camping
Economy	Public playgrounds	Going dancing
Electronics	Studying centres	Going out with friends
Foreign Languages	The classroom	Going to concerts
Gardening	In the Nature	Going to the cinema
Geography	School bar	Going to the theatre
History	School playground	Helping my parents
ICT	Scouts association	Listening to music
Maths	Streets of my hometown	Playing videogames
Mother tongue		Presenting my work in class
Multimedia		Reading books (stories, novels, cartoons, …
Music		Travelling
Painting		Using social media (FB, Twitter, Instagram,…)
Philosophy		Visiting museums
Photography		Watching documentaries on TV
Physical Education and Sports		Watching TV (soaps, films, …)
Physics		Working as a whole class
Psychology		Working in groups
Radio		Working in pairs
Religion		Working in projects
Science		Working individually
Theatre		Working with realia
Video		

Concerning the four open questions it was found that in three of them the information essentially repeated the ideas expressed in the closed question items.

However, in relation to the answers given to one of these questions (OQ11 – Open Question 11) - "If you were a teacher, what would you do for your students to learn more and better?" - it was found that they added relevant and complementary information to the quantitative data, so it will be analysed later.

Prior to the widespread application of the questionnaire, a pre-test was conducted at the Francisco Sanches School in two classes: one of 5th grade (10 years old) in Portuguese class time, and one 9th grade (15 years old) in English class time. Subsequently, some questions were excluded and / or reformulated, either because the answers showed that it was necessary, sometimes because the students had the opportunity to verbally verbalize their difficulties, opinions, suggestions, etc. After this validation procedure, which was carried out by the partner institution ICE - Institute of Educational Communities, the final version was prepared in Portuguese and English. The Polish and Romanian partner institutions have also made some adjustments taking into account the particularities of their contexts.

The questionnaire was applied in the school year of 2016/2017, in various schools in the three countries (Portugal, Poland and Romania), by their project partners, after obtaining the authorization and the collaboration of the school principal, the teachers and the students. In Portugal, it was applied in the two project partner schools (Francisco Sanches School and Maximinos School) and in Poland and Romania in schools located near the headquarters of the respective partner associations (Stowarzyszenie Nowa Kulture i Edukacja, in Poland; e Asociatia Edulifelong, in Romania).

As the type of survey was not a sample study, the distribution of respondents is quite different in terms of age and also in schools and countries. In all three countries, 546 pupils aged 10 to 16 years old answered the questionnaire, namely 346 from Portuguese schools (176 from Maximinos School and 170 from

Francisco Sanches School), 100 from Polish schools and 100 from Romanian schools (Table 4).

Table 4 - Age distribution of respondents

Age	n	%
10 years	15	02,75
11 years	49	08,97
12 years	75	13,74
13 years	69	12,64
14 years	144	26,37
15 years	118	21,61
16 years	76	13,92
TOTAL	546	100%

Regarding the age range covered, there are significant differences between schools and, mainly, between the 3 countries (see figures 6, 7 and 8).

Figure 6: Percentage of respondents by age (Portugal)

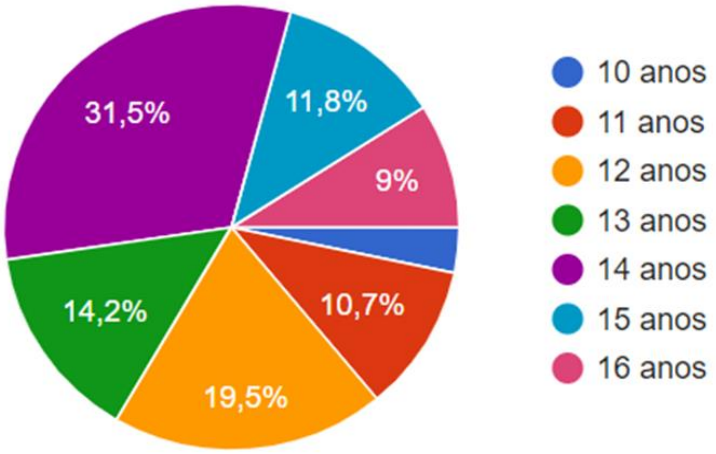


Figure 7: Percentage of respondents by age (Poland)

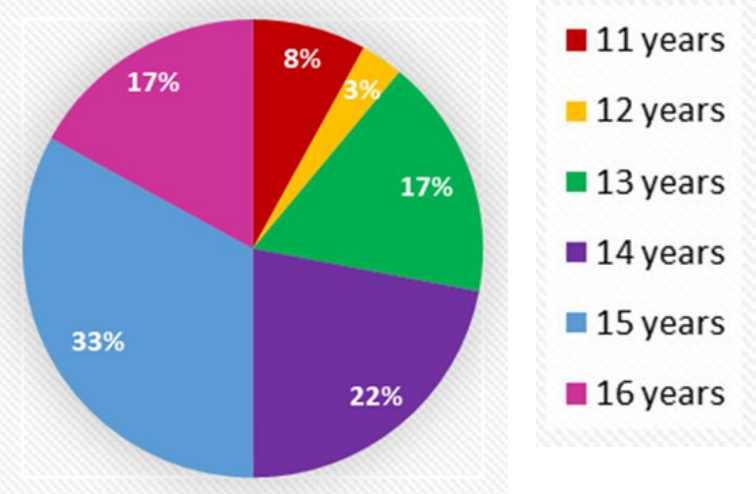
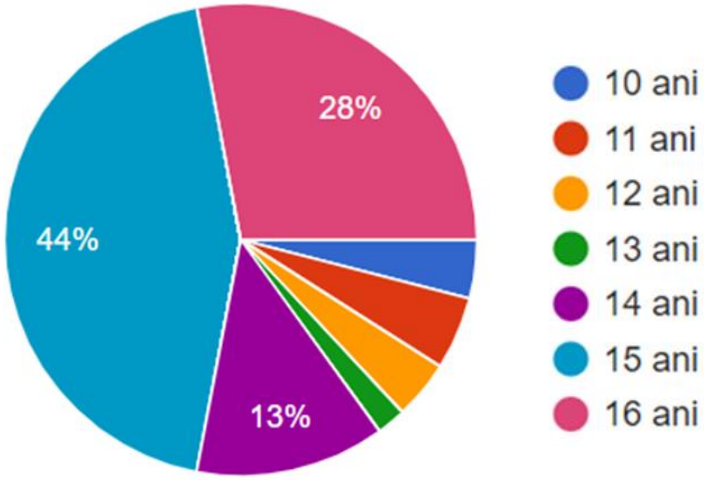


Figure 3: Percentage of respondents by age (Roma



In total, the questionnaire was answered only by 64 students (12%) aged 10 and 11 years, while at 14 and 15 years answered 262 (48%). The remaining 40% correspond to respondents with 12 and 13 years old. In the case of Francisco Sanches School (Portugal) and Romania, the age of respondents is in the range of 10 to 16 years, while in the case of Poland and the School of Maximinos (Portugal) is in the range of 11 to 16 years

In turn, by briefly comparing the results obtained in the three countries, it can be seen that the percentages of older students (15 and 16 years old) who have responded in Portugal and Romania are markedly different: 20% and 72%, respectively. In Portugal, out of 346 students, a clear majority (65.2%) are between 12 and 14 years old, with the lowest percentages corresponding to the extreme points of the age group: 10 years (3.3%) and 16 years (9.0%). In Poland and Romania, the number of younger respondents (10-12 years) is quite small. Specifically, in Poland only 13% are 11 and 12 years old and 50% are 15 and 16 years old. If we widen the range, the most significant age range among Polish respondents is between 13 and 16 years (89%). In Romania the differences are even greater. Ages 14 to 16 years responded 85% while in the range 10 - 13 years only 15% responded.

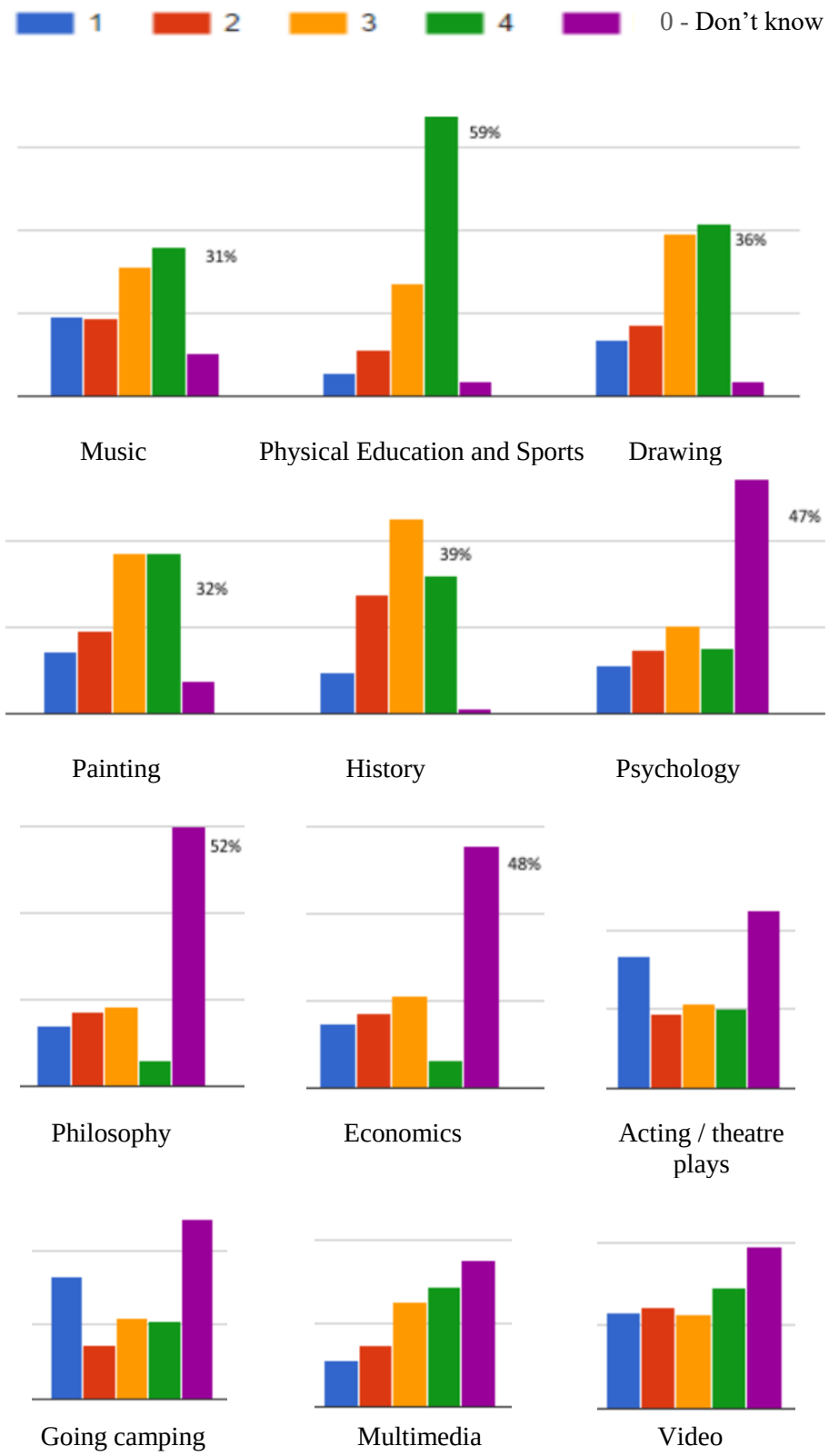
3.1.2. Data processing

A set of graphs were produced, by country, and in the case of Portugal also by school, which give a detailed overview of the results including breakdown by age (see the appendixes). Therefore, it was not intended to make a detailed analysis of each context, as at the end of this section the overall results will be presented in tables that aim to help identify similarities and differences, and especially some general trends of the results. For each item of the questionnaire, a bar graph with 5 columns was prepared, with different colours. The first four columns - blue, red, orange and green - represent the degree of importance respondents gave to each item, considering four ordered points (1 to 4), from the least important to the most important. The fifth column (purple) corresponds to the percentage of respondents who ticked the "Don't know" option. Thus, the scale for the analysis and interpretation of data is as follows:

0: Don't know; 1: Not important; 2: Slightly Important; 3: Important; and 4: Very Important.

Due to the high number of bar graphs only six are presented here (figure 9), aiming at exemplifying how the data processing was initially operated.

Figure 9: An example of data processing



On the one hand, these graphs show that the items marked by the respondents as the most important, referring to what they like to learn most, were Physical Education and Sports, with 59% of answers, followed by History (39%), Drawing (36%), Painting (32%) and Music (31%). On the other hand, some of them show that the option "Don't know" had the highest percentage in items such as Philosophy (52%); Economics (48%) and Psychology (47%). Items such as "Acting / theatre plays", "Multimedia", "Video", "going camping", among others that can be found in the appendices, also had high percentages.

In addition to other factors such as the different countries and cultures; the different schools and teaching practices; etc., students' age seems to have contributed most to the high percentages of "Don't Know" responses. In fact, the items in which the differences are most evident correspond, mainly, to subjects that are not part of the curriculum plans at these ages, such as Philosophy, Psychology and Economics, in which the percentages of don't know responses were very high. However, it is mainly the younger students who tick the "I don't know" option regarding items that they may have not information to pronounce themselves or they consider that those items are not part of their representations of what is learning and what is not.

As already said the percentages of older students (15 and 16 years old) who have responded to the questionnaire, in Portugal and Romania, for example, are markedly different: 20% and 72%, respectively. In Portugal, the majority of the respondents (65.2%) are between 12 and 14 years old and only 9% are16 years old. Differently, in Poland and Romania the number of younger respondents is quite small. In Poland 50% are 15 and 16 years old and in Romania the differences are even greater: 85% are 14 to 16 years old while only 15% are from 10 to 13 years old. Age differences had significant repercussions on "Don't know" responses, as percentages are higher in the contexts where students are younger.

Summing up, there are items where "Don't know" may be due to lack of information to comment on, but there are others where "Don't know" may mean that neither schools nor families provide experiences of learning, such as video, multimedia or even going camping. The presentation of these graphs intended to exemplify and emphasize the need to analyse and interpret the meaning of the Don't know responses, what will be done later.

3.1.4. The analytical framework

This section presents an analytical framework comprehending and defining four categories of analysis, followed by the presentation and analysis of both specific and global results of the questionnaire. Different colours were used to make it easier to see and understand the categories of analysis and the criteria used for their elaboration (Table 6).

Table 6: Analytical framework

Subject-centred curriculum approach • National curriculum • Curricular subjects • Classes, Timetables • Classroom-focused activities	**Both possible** (in school and out)	**Out-of-school**
School-based curriculum development • Diverse spaces and activities • Outdoor activities to enrich curriculum experiences • Homework, studying centres		

The first column, with two shades of blue, corresponds to the set of activities performed at or directly related to the school. At the middle, the orange one comprehends to several items which can be understood as part of both school and non-formal education learning experiences. The green column represents the items which refers to out-of-school activities. The four categories of analysis are the following:

First category of analysis: dark blue corresponds to a subject-centred curriculum approach which includes listening to lectures, studying textbooks and studying for examination. This is the first category of analysis, represented by the upper rectangle (dark blue) and, therefore, corresponds to the more academic curricular component, composed by disciplinary areas and subjects that integrate the national curriculum, by activities carried out essentially in the classroom and at predetermined school times, configuring what is commonly referred to as "classes" and "schedules".

Second category of analysis: in the same column, on the left, the light blue rectangle represents the second category of analysis. It also concerns the school and the curriculum, but seeks to highlight the various spaces in schools and the activities that can be carried out there (for example, the computer room, the library, the bar, the outdoor playgrounds, etc.). This category also includes activities carried out outside the school, but with a didactic intent to teach and learn curriculum content and enrichment activities that can take place both at school and outside of it. By extension, it also covers study / tutoring centres and "homework", which are also seen as reinforcing the learning of curriculum content, especially in core subjects such as Mother Language, Mathematics and Science.

Third category of analysis: the second column (orange) incorporates the set of learning experiences that can be developed both at school, whether or not integrated into the curriculum, or out of school, that is, not determined by teachers, curriculum, textbooks, school hours, etc. although recognizing that this is an effort of categorization and interpretation made by researchers based on the interpretations made by the students themselves. In fact, it is an interpretation made by the investigators of the interpretations made by the students, that is, the meaning they attribute to the information and questions raised by the questionnaire. In other words, this category of analysis covers the set of learning experiences that can take place at school, out of the school and beyond school,

such as learning gardening, cooking, camping, social networking, Internet research, photography, radio, music, multimedia, etc.

Fourth category of analysis: the third column (green) seeks to highlight the set of non-formal learning experiences that occur outside of school. It corresponds to what has been designated in the literature as non-formal education, non-formal learning, etc. Understanding that the various activities can be the result of the initiative of children, young people, family and friends, but also from local institutions and associations, organized youth groups, etc. Activities can take place at various times (late afternoon and evening, weekend, school holidays, etc.) and spaces, including nature, the streets and parks of the city; the public library, the house itself and the house of friends, among others.

3.2. ANALYSIS AND DISCUSSION OF THE RESULTS

The purpose of this section is to analyse and discuss the results and reflect on how they can help to answer the research questions. It includes summarizing the results, discussing whether results are expected or unexpected, comparing these results to previous work, interpreting and explaining the results and reflecting about some trends they disclose. Three axes of analysis were defined: What, Where and How.

This analysis does not focus on each country, but in the three countries together, with a total of 546 respondents. Items in which "don't know" option was marked by more than 25% of the respondents were specifically analysed due to its relevance. Concerning the question What do students like to learn?, 9 items were marked with Don't know option, with percentages from 46% to 26%, namely, in descending order, Philosophy, Economics and Psychology; Crafts, Electronics, Radio, Multimedia, Theatre, and Gardening. Regarding the question Where do students learn more and better?, don't know responses registered percentages from 38% to 29% in 3 items, in descending order: Scouts, local associations, and

clubs at school). About the question How do students learn more and better?, Don't know option was marked by more than 25% of respondents, varied from 37% to 27%, in descending order: going camping; acting/theatre plays; volunteering; field trips; and playing video games).

3.2.1. First of all: what do mean Don't know responses

Considering that in some items of the questionnaire the "Don't know" responses had the highest relative percentage we began by reflecting about this specific results trying to understand their meaning (Table 7). In this table, the percentages concern to the results of the three countries together.

. **Table 7: Don't know items with percentages greater than 25%**

What	%	Where	%	How	%
Philosophy	46	Scouts	38	Going camping	37
Economics	45	Local Associations	33	Acting/theatre plays	35
Psychology	42	Clubs at school	31	Volunteering	33
Crafts	36			Field trips	30
Electronics	33			Playing video games	27
Radio	30				
Multimedia	27				
Theatre	27				
Gardening	26				

This table shows that the highest percentages of "don't know" answers relate mainly to school subjects that are not part of the curriculum at these ages, namely Philosophy, Economy (48%), Psychology (47%), among others. However, the learning item in the Scouts association, for example, is not a school subject, but has obtained an equally very high percentage (49%) of don't know answers, which means that this high percentage cannot be explained solely on the basis of lack of information regarding the school subjects, but also in relation to other learning

experiences. In this case, the high percentage may mean that in their surroundings there is no scout's association or it possibly exists but they don't know about; however, there are other items where the high percentage of the "don't know" option requires further analysis and reflection. For instance, the high percentages observed in items such as learning by: going camping, doing fieldwork, playing videogames, as well as learning about crafts, electronics, radio, multimedia, theatre, and gardening may mean that neither the school, neither the students' parents, nor other local entities use it to provide learning experiences to students related to this issues.

We can learn a lot from an analysis of the Don't know responses, by trying to understand their meaning. The three items where the differences are most evident (more than 40%) correspond to subjects that are not part of the curriculum plans at these ages, namely Philosophy, Economics and Psychology (dark blue). Largely, it was the younger students who ticked Don't know, especially in items that correspond to this school subjects.

In the following sections these aspects will be discussed in more detail, not only about what students like to learn, but also where and how they consider they learn more and better.

3.2.2. What do students like to learn?

The following table presents data concerning the first axe of analysis – What – and the two columns intend to highlight the items that were considered most important and least important by the respondents (Table 25).

Bearing in mind the different colours used in the analytical framework, this table shows a clear predominance of dark blue and orange and particularly the second colour in the right column.

Table 25: What do students like to learn? (mean= 2,5)

Most important	>2,5	Least important	≤2,5
Physical education and sports	3,2	About nature	2,5
About the world	3,1	Painting	2,5
Foreign languages	2,9	Maths	2,4
About animals	2,8	Music	2,3
Sciences	2,8	Cinema	2,3
History	2,8	Geography	2,3
Drawing	2,7	Physics	2,3
Mother Tongue	2,7	Cooking	2,2
About games (video, computer)	2,7	Photography	2,2
ICT	2,6	Religion	2,2
		Art	2,2
		Video	2,1
		Chemistry	2,1
		Dance	1,9
Mean = 2,5			

Items tagged dark blue correspond to the ones which are directly related to the school subject-centred curriculum approach which includes, generally, listening to lectures, studying textbooks and studying for examination. They correspond to the more academic curricular component, composed by disciplinary areas and subjects that integrate the national curriculum. The activities are carried out essentially in the classroom and at predetermined times, configuring what is commonly referred to "subjects", "classes" and "schedules".

The only item that falls into the second category (light blue) is ICT, being the least valued among those considered most important. Our expectation on this item was that it would be considered more important than it really was, given the interest children and young people show today in digital technology. Our interpretative hypothesis is that this lower appreciation is due to the fact that

currently ICT is part of the curriculum, as a school subject or a curriculum enrichment activity.

The orange column illustrates the third category of analysis which incorporates the set of learning experiences that can be developed both at school, whether or not integrated into the curriculum, or out of school. In other words, this category covers a wide range of learning experiences that are not determined by the school, teachers, curriculum, textbooks, schedules, among other factors. They can be taken place at school, after school or out of school; at home and in various public spaces (neighbourhoods, municipal gardens, green and recreation spaces, cultural events, exhibitions, museums, etc.).

Learning about Nature, painting, cooking, video, photography, art, cinema, dance, etc. are some examples of what students see as less important in terms of learning, which is quite surprising. Interestingly, the subjects that rank among the most important are those required in the curriculum, such as Physical Education and Sports; Foreign languages; Sciences; History and Mother tongue. In facto all are part of the curriculum plan of the students who have answered the questionnaire. However, it is important to underline that the most valued item of the questionnaire was Physical Education and Sports, in contrast to other subjects whose importance was considered much smaller, namely, Maths, Geography, Physics and Chemistry. Also noteworthy is the high importance attached to learning about the world and about animals, and to the contrary the fact that "dance" appears at the end of the "least important" column.

3.2.3. Where do students like to learn?

In the following table (table 26), which systematizes the results regarding the question "Where do students like to learn?" the predominance of green and light blue is very noticeable. Being items that fall into the fourth category of analysis - out of school - we find that there is a certain devaluation of public spaces, as well as public institutions and services: learning at the café, in public gardens or parks,

in the streets of their hometowns, in public playgrounds and in the local Church. Also noteworthy is the fact that the item that points to learning in their friends' house is among the least important.

Table 26: Where do students like to learn? (mean= 2.0)

Most important	>2,0	Least important	≤2,0
At the classroom	2,7	In studying centres	2,0
In the nature	2,6	At the café	1,9
At home	2,5	In public gardens or parks	1,8
In the school library	2,4	In the school playground	1,8
In a computers room	2,3	In the streets of my hometown	1,6
At school labs	2,2	At my friend´s house	1,8
In a public library	2,1	In the school bar	1,5
		In a local church	1,4
		In public playgrounds	1,4
Mean = 2,0			

Despite the great diversity of items related to contexts, spaces and places of learning, the most valued item was "the classroom". On the one hand, the importance attached to this item seems to reveal a representation of school and learning that the classroom is still the core space - perhaps from both the physical and symbolic view - of the school as an organization and teaching practices. On the other hand, an analysis and interpretation of these results that merely pointed to a traditional view of the school would be contradicted by the importance attached to items such as learning "in the nature" and "at home", as well as learning "in a public library" although with less prominence.

Regarding the second category of analysis (light blue), we observed the presence of six items in the table, three of them considered most important, namely: in the school library; in a computers room; and at school labs; and three other items

considered least important, namely: learning in studying centres, in the school bar, and in the school playground.

What stands out most is the low importance attached to the school playground as a source of learning, as it is considered as one of the favourite spaces of students. The explanation may lie in the fact that students associate this space with play, play and conviviality rather than learning, according to their perspectives on what is and is not learning. It is notorious that spaces and times of greater freedom, informality and friendliness are not seen by the respondents as sources of learning and learning experiences.

Looking at the predominance of green colour in the right-hand column, where items related to the fourth category of analysis (out of school) are inserted, we find a certain devaluation of public spaces, including institutions, services and other public places as sources of learning, namely learning: in public gardens or parks, in the streets of their hometowns, in public playgrounds and in the local Church.

3.2.4. How do students learn?

The following table (table 27) summarises the results concerning the third axe of analysis: how do students learn more and better?

We relied again on the visual highlight provided by the different colours. Firstly, it can be seen that this last table includes several items belonging to the four categories of analysis, although the fourth (green) and the first (dark blue) predominate.

The first category of analysis concerns the activities carried out at school, and more restrictively to the classroom space and time. This category corresponds to the most academic curriculum dimension composed by disciplinary areas and subjects that integrate the national curriculum, as well as to activities essentially performed in the classroom and that are predetermined by the standard

schedules. In other words, this category attempts to emphasize a still very common perception of education that considers learning only the result of a subject-centred curriculum, traditionally consisting of lectures and confined to the enclosed space of the classroom.

Table 27: Overall results: How do students learn? (mean = 2,2)

Most important	> 2,2	Least important	≤ 2,2
working in projects	2,9	working with realia	2,2
searching online	2,9	visiting museums	2,2
working in pairs	2,7	going to concerts	2,2
working as a whole class	2,7	watching TV (soaps, films, ...)	2,1
doing experiments	2,7	going out with friends	2,1
working in groups	2,6	drawing/painting	2,0
doing homework	2,6	reading books	2,0
listening to music	2,5	working individually	1,8
doing evaluation tests	2,5	helping parents at home	1,8
presenting my work in class	2,5	travelling	1,8
watching documentaries on television	2,4	Study visits, field trips...	1,8
Social media (using Facebook, Instagram, etc	2,3	going to the cinema	1,8
doing coursebook exercises / worksheets	2,3	doing sports	1,8
		going dancing	1,7
		going to the theatre	1,6
Mean = 2,2			

The results presented in this table allow us to understand that the meaning respondents give to learning in the classroom does not correspond to the above mentioned traditional and restricted view of education. For example, "working individually" is part of the set of items considered less important and "working as a whole class" although valued, is less than working in projects; searching online; and working in pairs. In addition to these, there are items such as "doing

experiments" and "working in groups", along with the aforementioned "working as a whole class". However, the items considered most important include "doing evaluation tests" and "doing course book exercises / worksheets", with values similar to the item "presenting my work in class".

Responses to items that report to assessment activities and methodologies are not surprising, given the pressure that students, schools, teachers and families are currently facing, in a great extent as a consequence of PISA / OECD and other international programs which use a set of instruments aiming at measuring and comparing students' academic results.

As above mentioned, the second category of analysis highlights the various spaces existing in schools and the activities that can be performed there, as well as the activities which can be carried out outside the school, although with a didactic intent to teach and learn curriculum content and enrichment activities. Surprisingly respondents attach significant importance to "doing homework" and, on the contrary, they assign least importance to "study visits, field trips, etc.

As for the third category of analysis (orange), which incorporates the set of learning experiences that can be developed both at school, integrated or not in the curriculum, or outside of school – in other words, those that are not determined by teachers, curriculum, books. didactics, schedules, etc. – is clearly visible to those who responded to selected items such as searching online, listening to music, and using social media (Facebook, Instagram, Twitter, etc.), and the slightest importance given, for instance, to drawing and painting and reading books.

The fourth category of analysis – out-of-school –, conforms to what is usually defined as non-formal learning, comprises a set of places and activities which can be developed and experienced at different spaces and time. Looking at the table, it is noted that it includes, with the exception of "watching documentaries on television" which, despite being out of school is not outdoor activity, a wide range

of out-of-school and outdoor activities, which usually to be liked by students of these ages, are considered by respondents as less important, namely: visiting museums, going to concerts, going out with friends, traveling, going to the cinema, doing sports, going dancing, and going to the theatre.

Among other aspects, the discussion we can make of these results is that students are answering a question related to their learning, namely: "how do I learn more and better?" We are convinced that the results would have been significantly different if the question had been posed otherwise, such as "what do you like to do the most?". Formulated in these terms, this question would not specifically address school and learning which tends to be viewed narrowly in terms of the classes and the contents taught and learned in the classroom.

3.2.5. "If I were a teacher": what do students say?

This section analysis some data resulting from one of the open-ended question of the questionnaire: "If you were a teacher what would you do for students to learn more and better?" Putting themselves in the role of teachers, students suggest practices, attitudes, relationships, and pedagogical practices that are in some ways similar to those they know, but in others are significantly different.

Respondents reveal a critical sense regarding some characteristics of the teaching / learning processes that they experience in their schools, namely, lectures, predominance of individual work, excess of homework, exam pressure, among others. On a purposive basis, they refer, for example, that they would give "classes outside four walls", for example, in the city, especially in historical centres, more experimental classes, more manual activities, etc. In terms of personal characteristics of teachers, they say they would be honest, calm, patient, students' friend, interested in listening and talking with students, etc.

Tables 20, 21, 22 and 23 organise the students' answers to this open question based on four categories of analysis, as follows:

- ❖ Student-teacher relationships: creating supportive and friendly learning environments;
- ❖ Teaching strategies: engaging students in meaningful learning;
- ❖ Organising learning: promoting active and cooperative learning; and
- ❖ Opening the classroom door: bridging in-school and out-of-school learning

3.2.5.1. Student-teacher relationships: creating supportive and friendly learning environments

What students in the three countries say is very similar regarding their explicit or implicit criticism of school and teaching practices (Table 20).

Table 20: Student-teacher relationships: creating supportive and friendly learning environments

PORTUGAL	POLAND	ROMANIA
It would support and help the students; would take good care of them; would be their friend; give them more freedom, more space; would have more patience; I would try to put myself in the student's shoes and understand their doubts; would not press them; would show interest in them; would make them feel good about me; I would talk to them to trust me and talk to me if they needed help; would try to provide well-being and comfort; establish with them a relationship of trust and closeness; play with them; I would let students listen to music during practice classes.	I would motivate and support m students; I would have a good relationship with them; I would be calm, honest; would not criticize the students; I would try not to stress the students; I would like them to admire me; would create a relationship based on mutual respect, because it makes children learn better; I would be a friend to them; I wouldn't constantly stress students with their marks	I would not treat students like robots; I would be fair; would be their friend; would listen to students; would talk to them in a decent tone; would let them express their feelings and listen to them; would communicate more with students; would try to understand the students; would make classes fun; would use humour, jokes, etc.

Their critical eye is the result not only of their lived experience, but also of a widespread social representation of what a school is. For example, when they say they would be friendlier with students, use more technology, make classes more fun, do more research, have more patience, give them more freedom, and so on, they are clearly pointing to activities they would like to do or do more often.

All the topics given as examples, as well as others in the tables, question, more implicitly than explicitly, the reality they know and, specifically, the practices of many teachers. Obviously not all of them, because one of the students even referred to the history teacher to say that he would teach like him/her (Table 20). All examples related to student-teacher relationship reveal a concern in creating supportive and friendly learning environments.

3.2.5.2. Teaching strategies: engaging students in meaningful learning

Despite the convergence in the answers to this open question, the differences are visible if compared to the answers the had given to closed questions. Certainly, the fact that they can write in an open manner what they think and feel will have contributed to this. In fact, it is quite different to position themselves on a scale in relation to a large set of items to which they had to express a certain degree of importance, then freely write what they would do if they were teachers, that is, when challenged to put themselves in the role of the teacher.

Table 21: Teaching strategies: engaging students in meaningful learning

PORTUGAL	POLAND	ROMANIA
I would explain calmly, slowly, in detail, in an easy way for students to understand; I would give them work that they could keep up with; would relate the contents to everyday things; would show objects and things, as the History teacher does; I would talk to them	I would show students graphics, photographs, images; would organize workshops, debates, discussions,	I would explain and help the students; would try to make everyone understand what I was teaching, even if it meant repeating several times or starting from scratch; I would teach through short lessons and

and tell curiosities about various subjects to relax the group; would motivate students and give classes with more breaks instead of 90 minutes; I would give them little homework to give them free time; I wouldn't do homework if the students couldn't do it on their own; I would give tests according to what I had explained in class.	interesting meetings; I would use less theory and more practical classes, I would give less homework and more experience; I would give them project work as homework.	in long lessons I would use diagrams, images, drawings, photographs, models, documentaries, presentations and projects; I would use real life examples to teach; would do very little homework, just enough to learn the subject; I would do homework to be done in groups.

Perhaps the main differences lie precisely in the fact that they answered the closed questions in the role of pupils and in the face of a concrete reality they experienced, while in the open question, made conditionally - If you were a teacher... - could not only put themselves in the role of teacher but also reflect and imagine what they would do.

3.2.5.3. Organising learning: promoting active and cooperative learning

The fact that in the order of the questionnaire items the open question arises after the closed questions may have led them to express themselves in opposition to the answers they had given to the previous ones. Indeed, all of the following items were below average in terms of the importance given to them by the respondents: using social media (Facebook, Instagram, Twitter, etc.), going to the cinema, going to the theatre, playing videogames, drawing and painting, visiting museums, doing fieldwork, among others (concerning the question How do you learn more and better?); learning in public playgrounds, in the school playground, at the school labs, in a public library, in the streets of my hometown, etc. (all of them referring to the question Where do you learn more and better?); and music, cinema, cooking. photography, art, video and dance, for instance, regarding the question "What do you like to learn".

Table 22: Organising learning: promoting active and cooperative learning

PORTUGAL	POLAND	ROMANIA
I would organize group work, experimental and more practical classes; would do more activities and manual work; would do more research work, online research; I would replace books with computers; would captivate students using more technologies; would make games; would do theatre every month; would make classes lighter; would show more educational videos; would not leave students standing in the classroom so long; the classes would be interactive.	It would make classes more fun and interesting; we would watch movies; tell stories; use multimedia; make educational games, presentations, experiments; I would organize competitions and award prizes to students.	I would teach by projects; would organize group and team work; would involve them in various activities and projects; they would do experiments; would use innovative methods with tablets and iPhones; I would use half the class time just to investigate; would give life to classes bringing movies, texts, games, to capture their attention. I would have them perform a play every month.

In short, when challenged to put on the role of teacher and say what they would do for students to learn more and better, they express they would utilize resources and strategies and carried out activities that they had considered least important in their answers to the closed questions.

3.2.5.4. Opening the classroom door: bridging in-school and out-of-school learning

What most differentiates student responses to closed-ended questions and open-ended questions under analysis has to do with the first category of analysis, referring to the student-teacher relationships (Table x).

Table x: Opening the classroom door: bridging in-school and out-of-school learning

PORTUGAL	POLAND	ROMANIA
I would take students to historical sites – castles, museums; would organise field trips; visits to places on the subject that I teach; I would give lessons in the city, mainly in the Historical Centre; I would go to places where students feel more comfortable and like to learn.	I would teach in contact with Nature; I would organise visits to museums, art galleries, theatres, cultural centres, etc.	We would do outdoor activities; would make field trips to cultural centres; would do outdoor experiments and activities; would teach in nature.

The students' responses show a great concern about this question, saying, for example: "I would not treat students as robots; let the students express their feelings; would listen to the students; would support and help the students, treat them well; would be friendlier with the students, give them more freedom, more space; would have more patience; would try to put myself in the student's skin and understand his doubts; would make them feel good about me; would talk to them to trust me and talk to me if they needed help; would try to provide them with well-being and comfort; would establish with them a relationship of trust; I would take good care of students; would be calm, honest; would not criticize the students; would use humour; would try to understand the students; would not pressure students; would show interest in them.

4. THREE THEORETICAL DIMENSIONS TO BUILD A EUROPEAN BENCHMARK IN TEACHER TRAINING

4.1. THE POLITICAL DIMENSION: THE LIFELONG LEARNING PERSPECTIVE AND THE COMPETENCY-BASED APPROACH

4.1.1. A controversial concept: what is a competence?

A competence can be described as 'a complex combination of knowledge, skills, understanding, values, attitudes and desire which lead to effective, embodied human action in the world, in a particular domain' (Crick, 2008). *Competence* is therefore distinguished from *skill*, which is defined as the ability to perform complex acts with ease, precision and adaptability. The concept of competence, in teaching, thus encompasses the following features:

- it involves tacit and explicit knowledge, cognitive and practical skills, as well as dispositions (motivation, beliefs, value orientations and emotions) (Rychen & Salganik, 2003);
- it enables teachers to meet complex demands, by mobilising psycho-social resources in context, deploying them in a coherent way;
- it empowers the teacher to act professionally and appropriately in a situation (Koster & Dengerink, 2008);
- it helps ensure teachers' undertaking of tasks *effectively* (achieving the desired outcome) and *efficiently* (optimizing resources and efforts);
- it can be demonstrated to a certain level of achievement along a continuum (González & Wagenaar, 2005).

It is also useful to distinguish between *teaching* competences and *teacher* competences (OECD, 2009). *Teaching* competences are focused on the role of the teacher in the classroom, directly linked with the 'craft' of teaching - with professional knowledge and skills mobilised for action (Hagger & McIntyre, 2006). *Teacher* competences imply a wider, systemic view of teacher professionalism, on

multiple levels – the individual, the school, the local community, professional networks.

Although dispositions are fundamental for both competence sets, they play a decisive role for teacher competences, embracing attitudes to constant professional development, innovation and collaboration. Descriptions of the two sets of competences overlap and interweave, as they often do in theory and practice, since they are concerned with the professional lives and experiences of teachers.

In his book Ten New Skills for Teaching, Perrenoud (1999) relates what is essential to know to teach well in a society where knowledge is increasingly accessible:

1 - Organize and direct learning situations;

2 - Managing the progression of learning;

3 - Develop and evolve the devices of differentiation;

4 - Engage students in their learning and in their work;

5 - Working in teams;

6 - Participating in school administration;

7 - Inform and involve parents;

8 - Using new technologies;

9 - Facing the duties and the ethical dilemmas of the profession;

10 - Manage the training him/herself.

There is an increasing recognition of the benefits of teachers themselves generating new knowledge about teaching, in schools seen as communities of practice and inquiry (Cochran-Smith & Lytle, 1993, 2009; Hagger & McIntyre, 2006). Reflective, interpersonal skills for learning in professional communities are important, together with research skills. Teachers need to have critical, evidence-based attitudes to their own practices, grounded in input from different sources

- students' outcomes, theory and professional dialogue – in order to engage in innovation (Lave & Wenger, 1991; McLaughlin & Talbert, 2001; Wenger, 1998).
An understanding of teacher competences as 'dynamic combinations of cognitive and meta-cognitive skills' (González & Wagenaar, 2005) implies that there are four fundamental aspects: learning to *think, know, feel and act as teachers* Feiman-Nemser, 2008): *Learning to think as teachers; Learning to know as teachers; Learning to feel as teachers; and Learning to act as teachers.*

The multidimensional, uncertain nature of teaching involves a wide range of activities, settings and actors. There is often a gap between beliefs and intentions and actual actions (Kennedy, 1999). Teachers need to deploy extensive repertoires of skills, strategies and action patterns eclectically, with the ability to judge and act in situation. Quality teaching requires adaptive skills, and a systematic assessment of professional knowledge and actions - against a range of criteria coming from theories, research, professional experience and evidence - for improvement and innovation (Hagger & McIntyre, 2006).

Schratz & Wieser (2002) argues that the breaking down of teacher competences – which are essentially dynamic and holistic - into separate areas and components only serves the analytical purpose of understanding the implications and assumptions that underlies them. Indeed, cross-cultural views of teaching and learning seem to highlight the need for a systemic, context-bound perspective of teachers' competence development and expertise.

4.1.2. Key competences for lifelong learning: the European Union Council Recommendation of 22 may 2018

As European Union Ministers of Education noted in November 2007, "High-quality teaching is a prerequisite for high-quality education and training, which are in turn powerful determinants of Europe's long-term competitiveness and capacity to create more jobs and growth in line with the Lisbon goals." (2007/C 300/07 of 15.11.07). In 2008, they noted: "school education is an important means

of … passing on the values, skills, knowledge and attitudes required for democracy, citizenship, intercultural dialogue and personal development, and plays an essential role in the acquisition of the key competences needed for successful integration into economic life. Schools therefore have a duty to provide their pupils with an education which will enable them to adapt to an increasingly globalised, competitive, diversified and complex environment, in which creativity, the ability to innovate, a sense of initiative, entrepreneurship and a commitment to continue learning are just as important as the specific knowledge of a given subject." (2008/C319/08 of 21.11.08

In their responses to the European Commission's Communications "Improving the Quality of Teacher Education" and "Improving Competences for the 21st Century: An Agenda for European Co-operation on Schools", EU Ministers of Education have committed themselves to a far-reaching agenda for developing policies on teacher education. In the light of this, Member States have agreed to work together on the following areas of teacher education policy:

- A continuum of teacher education: ensuring that provision for teachers' initial education, early career support and further professional development is co-ordinated, coherent, adequately resourced and quality assured.
- Professional values: encouraging all teachers to be reflective practitioners, to be autonomous learners in their own career-long professional development, to engage in research, to develop new knowledge and be innovative.
- An attractive profession: making the teaching profession a more attractive career choice and ensuring that teacher recruitment, placement, retention and mobility policies maximise the quality of school education.
- Qualifications for teaching: ensuring that teachers hold a qualification from a higher education institution which strikes a suitable balance

between research-based studies and teaching practice, possess specialist knowledge of their subjects, and the pedagogical skills required.

- Supporting teachers: ensuring that teachers have access to effective early career support (induction) programmes at the start of their career, and adequate mentoring support throughout their careers. Encouraging and supporting teachers throughout their careers to review their learning needs and to acquire new knowledge, skills and competence through formal, informal and non-formal learning, including exchanges and placements abroad; supporting teacher mobility.
- High-quality teacher education and continuing professional development: i) improving the supply, quality and take-up of teachers' continuous professional development programmes; ii) ensuring that teacher education institutions provide coherent, high-quality and relevant teacher education programmes which respond effectively to the evolving needs of schools, teachers and society at large; and iii) promoting, during initial teacher education, early career support and continuous professional development, the acquisition of the competences that teachers need, such as teaching transversal competences, teaching heterogeneous classes, and collaborating with colleagues and parents.
- School leadership: ensuring that teachers with leadership functions, in addition to possessing teaching skills and experience, have access to quality training in school management and leadership.

Teaching is a complex endeavour, involving classroom management, lesson preparation and organisation of teaching and learning activities, creating and maintaining a certain climate, and evaluation and feedback. There is a relative consensus on what constitutes good teaching. Brophy (2001) distinguishes 12 principles of effective teaching:

1. Supportive classroom climate: students learn best within cohesive and caring learning communities. The role of the teacher as model and socialiser is emphasised.

2. Opportunity to learn: students learn more when most of the available time is allocated to curriculum-related activities and the classroom management system emphasises maintaining students' engagement in those activities.

3. Curricular alignment: All components of the curriculum are aligned to create a cohesive programme for accomplishing instructional purposes and goals.

4. Establishing learning orientations: teachers can prepare students for learning by providing an initial structure to clarify intended outcomes and cue desired learning strategies (e.g. providing advance organisers and cuing the kind of responses that are expected).

5. Coherent content: to facilitate meaningful learning and retention, content is explained clearly and developed with an emphasis on its structure and connections. When making presentations, providing explanations, or giving demonstrations, effective teachers project enthusiasm for the content and organise and sequence it so as to maximise its clarity and "learner friendliness".

6. Thoughtful discourse: questions are planned to engage students in sustained discourse structured around powerful ideas.

7. Practice and application activities: students need sufficient opportunities to practice and apply what they are learning and to receive improvement-oriented feedback.

8. Scaffolding students' task engagement: the teacher provides whatever assistance students need to enable them to engage in learning activities

productively. Structuring and support can be lessened as the students' expertise develops.

9. Strategy teaching: the teacher models and instructs students in learning and self-regulation strategies. Meta-cognitive awareness and self-regulation are sought in contexts like problem solving and general learning and study skills. An example is a teacher who thinks out loud while modelling use of the strategy. Students are stimulated to monitor and reflect on their learning.

10. Co-operative learning: students often benefit from working in pairs or small groups to build understanding or help one another master skills.

11. Goal-oriented assessment: The teacher uses a variety of formal and informal assessment methods to monitor progress towards learning goals. Comprehensive assessment also examines students' reasoning and problem-solving processes.

12. Achievement expectations: the teacher establishes and follows through on appropriate expectations for learning outcomes.

In a meta-analysis, Scheerens (2008) summarised instructional variables according to six broad dimensions:

- a curricular dimension, containing opportunity to learn, strategies to learn about the deep structure of domain-specific knowledge, and textbooks;
- a teacher-orchestrated classroom management and climate creation dimension, including time, achievement orientation, high expectations, disciplinary climate, activating measures such as variation in representation formats, media, forms of practice, variation in applications (theoretical and authentic) grouping forms and differentiation/adaptive teaching;
- a teaching strategy dimension: structured, direct teaching, mastery of learning orientation, drill and practice;

- a teaching strategy dimension: constructivist oriented teaching strategy, teaching meta-cognitive strategies, cognitive activation, frequent open learning tasks, discovery learning, fading from more structured to more open assignments;
- a climate dimension, support and positive interactions;
- a dimension representing evaluation and feedback.

Fostering the development of competences is one of the aims of the vision towards a European Education Area that would be able 'to harness the full potential of education and culture as drivers for jobs, social fairness, active citizenship as well as means to experience European identity in all its diversity'. (European Commission, 2018). Europe's education and training systems need to give people the forward-looking knowledge, skills and competences they need to innovate and prosper. They also have an important role to play in creating a European identity, building on common values and cultures. Education should help empower young people to articulate and engage, participate and shape the future of a Europe characterised by democracy, solidarity and inclusion.

The Future of Education and Skills 2030 by OECD talks about learner agency in the following way: "Future-ready students need to exercise agency, in their own education and throughout life. Agency implies a sense of responsibility to participate in the world and, in so doing, to influence people, events and circumstances for the better. Agency requires the ability to frame a guiding purpose and identify actions to achieve a goal." (OECD, 2018, p.4) The challenge for teachers to teach transversal themes, or receive training on teaching them, is that they are best learned through "doing" rather than learning the theoretical knowledge about the topic. This might also be one reason for which organising teacher professional development in areas such as transversal themes (e.g. problem solving, learning-to-learn) and approaches to developing cross-occupational competencies for future life, lack behind (40% teachers say to have need for professional development in these areas, OECD, 2014).

The Recommendation of the Council of the European Union of 22 May 2018 on key competences for lifelong learning replaced the Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning. The Recommendation presented the following background and aims:

- Everyone has the right to quality and inclusive education, training and life-long learning in order to maintain and acquire skills that enable them to participate fully in society and manage successfully transitions in the labour market.
- Everyone has the right to timely and tailor-made assistance to improve employment or self-employment prospects. This includes the right to receive support for job search, training and re-qualification.

These principles are defined in the European 'Pillar of Social Rights': In a rapidly changing and highly interconnected world, each person will need a wide range of skills and competences and to develop them continually throughout life. The key competences as defined in this Reference Framework aim to lay the foundation for achieving more equal and more democratic societies. They respond to the need for inclusive and sustainable growth, social cohesion and further development of the democratic culture.

The main aims of the Reference Framework are to:

- identify and define the key competences necessary for employability, personal fulfilment and health, active and responsible citizenship and social inclusion;
- provide a European reference tool for policy makers, education and training providers, educational staff, guidance practitioners, employers, public employment services and learners themselves;
- support efforts at European, national, regional and local level to foster competence development in a lifelong learning perspective.

The Reference Framework sets out eight key competences:

- Literacy competence,
- Multilingual competence,
- Mathematical competence and competence in science, technology and engineering,
- Digital competence,
- Personal, social and learning to learn competence,
- Citizenship competence,
- Entrepreneurship competence,
- Cultural awareness and expression competence.

The Recommendation defines competences as a combination of knowledge, skills and attitudes, where:

- knowledge is composed of the facts and figures, concepts, ideas and theories which are already established and support the understanding of a certain area or subject;
- skills are defined as the ability and capacity to carry out processes and use the existing knowledge to achieve results;
- attitudes describe the disposition and mind-sets to act or react to ideas, persons or situations.

Key competences are those which all individuals need for personal fulfilment and development, employability, social inclusion, sustainable lifestyle, successful life in peaceful societies, health-conscious life management and active citizenship. They are developed in a lifelong learning perspective, from early childhood throughout adult life, and through formal, non-formal and informal learning in all contexts, including family, school, workplace, neighbourhood and other communities.

The key competences are all considered equally important; each of them contributes to a successful life in society. Competences can be applied in many

different contexts and in a variety of combinations. They overlap and interlock; aspects essential to one domain will support competence in another. Skills such as critical thinking, problem solving, team work, communication and negotiation skills, analytical skills, creativity, and intercultural skills are embedded throughout the key competences.

4.1.3. The "personalised learning" agenda

Generally speaking, personalising learning and teaching means taking a highly structured and responsive approach to each child's and young person's learning, in order that all are able to progress, achieve and participate. It means strengthening the link between learning and teaching by engaging pupils – and their parents – as partners in learning (2020 Vision – Report of the Teaching and Learning in 2020 Review Group)

This working group question why personalisation is so important now. The answer is that "personalisation is a matter of moral purpose and social justice: pupils from the most disadvantaged groups are the least likely to achieve well and participate in higher levels of education or training. Personalisation also reflects wider changes in society, which are likely to continue at an increasing rate. Together, these present the education system with its most acute challenges. They mean that expectations of what all children and young people could and should achieve must be raised, along with schools' capacity to ensure that outcomes for pupils match those expectations".

One of the most recent publications of the OECD (2019), with the title "21st century learning: research, innovation and policy directions from recent OECD analyses" (OECD, 2019), focus on the most surprising elements which have been emerging from the recent report on "Understanding the Brain" concerns the more general, practical issue of how the science of learning should be applied in education. Beyond informing general policy and practice, the eventual application of the results of neuroscience to *individual learners* may be highly beneficial in

order to find out such matters as whether a student really does comprehend certain material, or about their levels of motivation or anxiety. Used properly, this individual focus may add fundamentally powerful diagnostic tools to the process of formative assessment and personalised learning, as discussed above. At the same time, studies of the brain show that individual characteristics are far from fixed – there is constant interaction between genetic function and experience and plasticity, such that the notion of an individual's talents/capacity – as if this were fixed and open to scientific scrutiny - should be treated with considerable caution.

The purpose of the CERI project on "Learning Sciences and Brain Research" was to encourage collaboration between learning sciences and brain research on the one hand, and researchers and policy makers on the other hand. It has produced two important publications (see: OECD 2002 and 2007), as well as resulted in intensive collaboration, networking and dialogue.

The OECD/CERI publication, "Personalising Education" (OECD, 2006), Sanna Jarvela summarises some of the findings of research into the nature of learning and aims for education, which *Personalised learning* addresses:

- Collaborative efforts and networked forms of expertise are increasingly needed in the future knowledge society.
- Students need to be able to develop their personal learning needs and individual expertise in the areas which they either feel incompetent or they want to increase their existing expertise.
- Curiosity and creativity are increasingly essential.
- Learning is developed through explicit learning strategies, learning to learn skills, technological capacities for individual and social learning activities, and through learning communities with collaborative learning models.
- Learning needs to be sensitive to contextual conditions, different values and cultural features.

One important component is the assessment for learning. This may be viewed as an essential element of more personalised approaches to education. It refers to assessment of student progress that is an ongoing part of everyday teaching, rather than a special event.

Like other approaches which place learning at the centre – such as mastery learning or intensive tutoring – they have been associated with significant gains in achievement. As well as promising to raise standards, such approaches address equity head on. They do so through the individualisation of teaching and learning strategies and through the continual identification of and responses to students who are experiencing difficulties. Moreover, these approaches are explicitly about developing cultures of learning in schools and classrooms. Yet, they receive far less prominence than conventional forms of assessment such as achievement tests and examinations which are much more in the "one-size-fits-all" mode. All this helps to explain the interest of formative assessment to CERI (OECD 2005a). Formative assessment is designed to provide teachers and students with critical information about learning needs, help students to assess their progress towards learning goals, and guide teachers to vary their teaching according to needs and goals.

What do CERI projects tell us on the nature of learning and how can this knowledge base help policy-makers to shape their direction of educated change? The key findings of these projects give useful directions for new learning environments in today's schools:

Personalised learning

Learning sciences research suggests that more effective learning will occur if each learner receives a customized learning experience. Different learners enter the classroom with different cognitive structures and as we know from neuroscience, individual characteristics are far from fixed. Therefore, students learn best when they are placed in a learning environment that is sensitive to their pre-existing

structures and that is flexible enough to adapt teaching strategies to individual needs. Formative assessment can be seen as an essential element of those personalised learning approaches, as it is characterized by the continual identification of and responses to students‟ needs.

The importance of motivation and emotion in learning

The motivation to learn, the belief about one's own abilities and the existence of learning strategies are a precondition for successful and lifelong learning, as PISA has shown. These findings are supported by the results from neuroscience: Negative emotions that are caused, e.g. by incomprehensible learning materials, affect cognitive functions negatively.

Use of diverse knowledge sources

Learners can acquire knowledge whenever they need it from a variety of sources: books, technology, and experts around the globe. ICTs have become more and more important in today's world to acquire knowledge. Even though ICTs itself do not seem to have a positive learning impact, it is unquestionable that the use of ICTs itself needs to be a goal of today's schools.

Assessment for learning

Tests should evaluate the student's deeper conceptual understanding, the extent to which their knowledge is integrated, coherent, and contextualized – instead of focussing on the memorization of facts. In addition, the work on formative assessment shows how assessment should not only be used to "test" student's abilities but to help them assess their own learning progress.

Many of the examples of innovative practice identified through different projects take place in the "place called school". It may well be helpful as a heuristic device to use a stereotype construct of traditional schooling – transmission pedagogy, emphasis on the reproduction of facts, strong selection based on binary right vs. wrong answers and uni-dimensional intelligence, negligible cooperation among

teachers and among learners, highly standardised organisational and physical units etc. Yet in reality and worldwide, schools cover a very wide range of approaches to learning, just as some of what takes place in out-of-school settings may be even more traditional and close to the stereotype.

4.2. THE ORGANISATIONAL DIMENSION: SCHOOLS AS LEARNING ORGANISATIONS

There is a vast literature on learning organizations and, in particular, on schools as learning organisations. According The OECD-UNICEF Education Working Paper, "What makes a school a learning organisation – A guide for policy makers, school leaders and teachers" (OECD, 2016), it is generally agreed that the learning organisation is a necessity, is suitable for any organisation and that an organisation's learning capability will be the only sustainable competitive advantage in the future. Most scholars see the learning organisation as a multi-level concept involving individual behaviour, team work, and organisation-wide practices and culture.

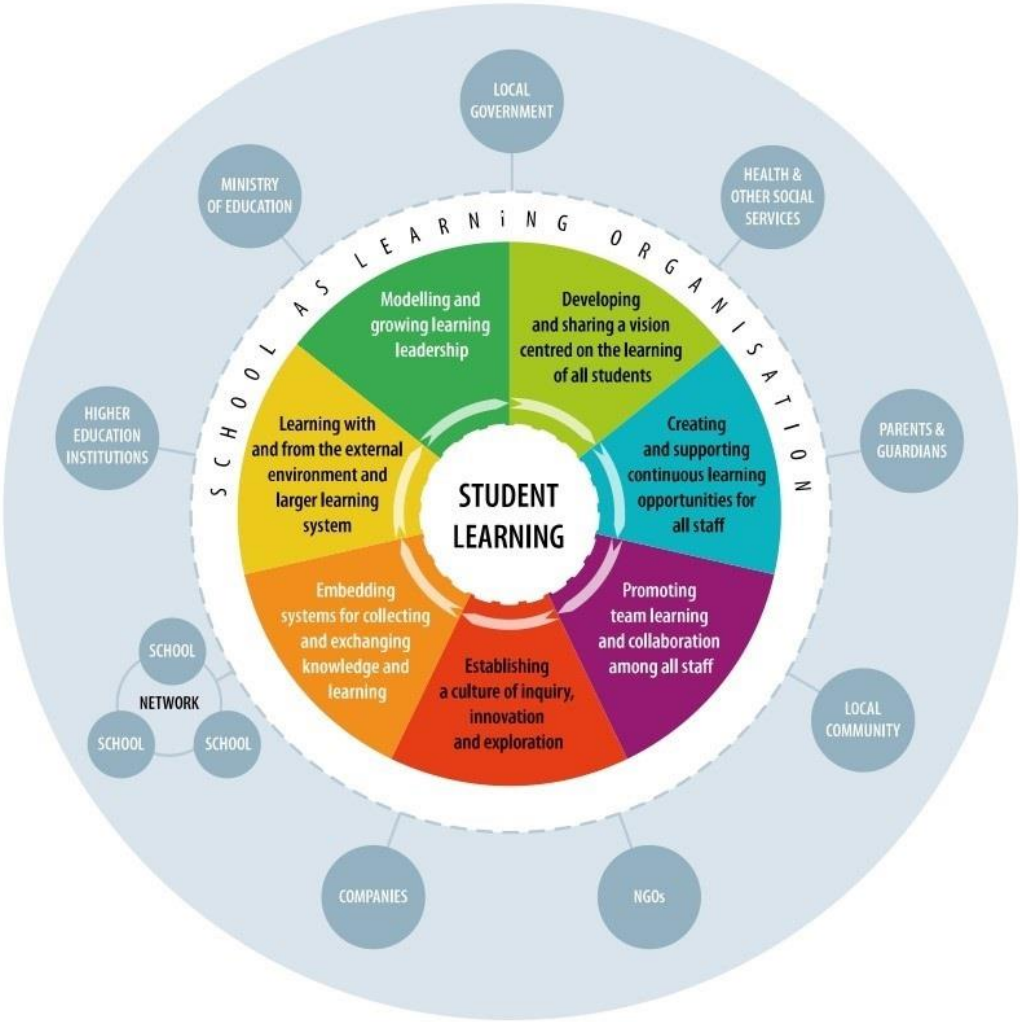
A learning organisation is a place where the beliefs, values and norms of employees are brought to bear in support of sustained learning; where a "learning atmosphere", "learning culture" or "learning climate" is nurtured; and where "learning to learn" is essential for everyone involved progress has been made in advancing the concept, either in research or practice. This lack of progress partly stems from a lack of clarity or common understanding of the school as learning organisation.

This Education Working Paper argues that "a school as learning organisation has the capacity to change and adapt routinely to new environments and circumstances as its members, individually and together, learn their way to realising their vision. Informed by a small network of experts, this working paper

proposes an integrated “school as learning organisation” model that focuses on the following seven dimensions:

- developing and sharing a vision centred on the learning of all students
- creating and supporting continuous learning opportunities for all staff
- promoting team learning and collaboration among all staff
- establishing a culture of inquiry, innovation and exploration l embedding systems for collecting and exchanging knowledge and learning
- embedding systems for collecting and exchanging knowledge and learning
- learning with and from the external environment and larger learning system
- modelling and growing learning leadership.

Figure x: An integrated model of the school as learning organisation



(OECD, 2016: 1)

Around these seven dimensions, the OECD-UNICEF Education Working Paper provides an overview of the actions needed to transform schools into learning organisations (OECD, 2016: 2-10):

1. Developing a shared vision centred on the learning of all students

- A shared and inclusive vision aims to enhance the learning experiences and outcomes of all students
- The vision focuses on a broad range of learning outcomes, encompasses both the present and the future, and is inspiring and motivating
- Learning and teaching are oriented towards realising the vision
- Vision is the outcome of a process involving all staff

- ❖ Students, parents, the external community and other partners are invited to contribute to the school's vision

Any vision to transform a school into a learning organisation should include two things: a front and centre commitment to making a difference in the learning and lives of all students, especially disadvantaged students; and a focus on learning and teaching that influences a broad range of outcomes – both cognitive and social/emotional – for today and the future.

2. Promoting and supporting continuous professional learning for all staff

- ❖ All staff engage in continuous professional learning
- ❖ New staff receive induction and mentoring support
- ❖ Professional learning is focused on student learning and school goals
- ❖ Staff are fully engaged in identifying the aims and priorities for their own professional learning
- ❖ Professional learning challenges thinking as part of changing practice
- ❖ Professional learning connects work-based learning and external expertise
- ❖ Professional learning is based on assessment and feedback
- ❖ Time and other resources are provided to support professional learning
- ❖ The school's culture promotes and supports professional learning

In a school as a learning organisation, staff are fully engaged in identifying the aims and priorities for their own professional learning in line with school goals

and student learning needs, as defined in the school's development plan. The staff's professional learning is also based on continuous assessment and feedback that should be built into their daily practice. Such reflection, analysis and challenges to established thinking patterns are necessary to bring about and embed change and innovation in educational practice.

3. Promoting team learning and collaboration among all staff

- Staff learn how to work together as a team
- Collaborative working and collective learning – face-to-face and through ICTs – are focused and enhance learning experiences and outcomes of students and/or staff practice
- Staff feel comfortable turning to each other for consultation and advice
- Trust and mutual respect are core values
- Staff reflect together on how to make their own learning more powerful
- The school allocates time and other resources for collaborative working and collective learning

In a school that is a learning organisation, colleagues learn about their learning together. They take time to consider what each person understands about the learning and knowledge they have created collectively, the conditions that support this learning and knowledge, and what all of this means for the way they collaborate. Creating an organisational culture of trust and respect in which team learning and collaboration can thrive naturally involves most, if not all, members of the organisation.

In schools as learning organisations, it is expected that staff share their insights on learning and teaching with colleagues. They meet regularly to reflect together on how to address challenges and solve problems, and learn how to enhance student learning and/or staff practice. School structures thus encourage collaboration and dialogue among staff. Regular staff meetings, presentations during conferences, peer coaching, or having longer-serving staff mentor new teachers are all examples of this collaboration

4. Establishing a culture of inquiry, exploration and innovation

- Staff want and dare to experiment and innovate in their practice
- The school supports and recognises staff for taking initiative and risks
- Staff engage in forms of inquiry to investigate and extend their practice

- ❖ Inquiry is used to establish and maintain a rhythm of learning, change and innovation Staff have open minds towards doing things differently
- ❖ Problems and mistakes are seen as opportunities for learning
- ❖ Students are actively engaged in inquiry

One of the marks of any professional is the ability to reflect critically on both one's profession and one's daily work, to be continuously engaged in self-improvement that will lead to improvement in students' learning. To be able to do this within an organisation requires a pervasive spirit of inquiry, initiative and willingness to experiment with new ideas and practices. This mind set is critical for schools as learning organisations.

To benefit from this spirit of inquiry, professionals need to be able to tolerate ambiguity, avoid snap judgements, consider different perspectives, and pose increasingly focused questions. From that process comes deep understanding and, ultimately, better decisions. Being able to make informed decisions about learning, teaching and children gives professionals confidence, competence, insight, sound judgement, and the ability to adapt. Inquiry has benefits for teachers' professional learning. Cycles of inquiry and knowledge building are central to professional growth.

5. Embedding systems for collecting and exchanging knowledge and learning

- ❖ Systems are in place to examine progress and gaps between current and expected impact
- ❖ Examples of practice – good and bad – are made available to all staff to analyse
- ❖ Sources of research evidence are readily available and easily accessed
- ❖ Structures for regular dialogue and knowledge exchange are in place

- ❖ Staff have the capacity to analyse and use multiple sources of data for feedback, including through ICT, to inform teaching and allocate resources
- ❖ The school development plan is evidence-informed, based on learning from self-assessment, and updated regularly
- ❖ The school regularly evaluates its theories of action, amending and updating them as necessary
- ❖ The school evaluates the impact of professional learning.

Schools as learning organisations develop processes, strategies and structures that allow the schools to learn and react effectively in uncertain and dynamic environments. Effective use of data by teachers, school leaders and support staff has become central to school-improvement processes. Major improvements can be achieved when schools and school systems increase their collective capacity to engage in ongoing assessment for learning, and regularly evaluate, amend and update their theories of action about how their interventions are intended to work, and whether they actually do. A school as a learning organisation makes lessons learned – whether good or bad – available to all staff. It also evaluates the impact of professional learning. Therefore, for a learning culture to emerge, schools as learning organisations need to create the structures for regular dialogue and knowledge sharing among staff and others, such as parents, community members and businesses, when appropriate.

Schools as learning organisations also need to ensure that their staff have the capacity to analyse and use data to improve and, where necessary, transform existing practice Staff need to be able to use data and information from multiple sources (e.g. from students, parents, teacher surveys, peer reviews, team-teaching), including through ICT, in order to provide feedback on learning and teaching and the allocation of resources. School development plans need to be updated regularly, based on this information and on a self-assessment process that involves all staff and other interested parties (e.g. students, parents,

community members, other schools, businesses). Learning Communities is an example of how schools are learning to become more research-engaged and confident about using evidence.

6. Learning with and from the external environment and larger system

- The school scans its external environment to respond quickly to challenges and opportunities
- The school is an open system, welcoming approaches from potential external collaborators
- Partnerships are based on equality of relationships and opportunities for mutual learning
- The school collaborates with parents/guardians and the community as partners in the education process and the organisation of the school
- Staff collaborate, learn and exchange knowledge with peers in other schools through networks and/or school-to-school collaborations
- The school partners with higher education institutions, businesses, and/or public or non-governmental organisations in efforts to deepen and extend learning
- ICT is widely used to facilitate communication, knowledge exchange and collaboration with the external environment

The school as a learning organisation is proactive in continuously scanning the environment to monitor and respond to external challenges and opportunities, as appropriate. Parents or guardians are key partners for schools as learning organisations. Without co-operation between families and schools, it is unlikely that all students will meet the high expectations set by a demanding society. The school as a learning organisation shares information with parents and considers parents as partners in the education process and organisation of the school.

Schools as learning organisations may need additional financial resources and the participation of multiple social services to respond adequately to the needs of disadvantaged students and students with special learning needs.

7. Modelling and growing learning leadership

- School leaders model learning leadership, distribute leadership and help grow other leaders, including students
- School leaders are proactive and creative change agents
- School leaders develop the culture, structures and conditions to facilitate professional dialogue, collaboration and knowledge exchange
- School leaders ensure that the organisation's actions are consistent with its vision, goals and values
- School leaders ensure the school is characterised by a 'rhythm' of learning, change and innovation
- School leaders promote and participate in strong collaboration with other schools, parents, the community, higher education institutions and other partners
- School leaders ensure an integrated approach to responding to students' learning and other needs

Learning leadership provides direction for learning, takes responsibility for putting learning at the centre of the school's mission (and keeping it there), and translates vision into strategy so that the organisation's actions are consistent with its vision, goals and values. School leaders have a vital role in establishing a learning culture, and promoting and facilitating organisational learning. They have to create a safe and trusting environment in which people can change their behaviour, take initiative, experiment and understand that it is expected that they challenge the status quo. This means that school leaders too need to develop the capacity to challenge their own habits and current ways of thinking and operating.

In schools as learning organisations, staff are encouraged to participate in decision making. Distributed leadership develops, grows and is sustained through collaboration, team work, and participation in professional learning communities and networks. Efforts to improve the performance and well-being of socio-economically disadvantaged students requires school leaders to become more involved with partners beyond the school, such as local businesses, sports clubs, faith-based groups and community organisations. School leaders are key to the success of schools as learning organisation by encouraging professional learning and development, promoting innovations and school-to-school collaboration, and helping disseminate good practice.

What are the social and organizational conditions that promote learning?

Wayne Hoy (2012: 76) stresses that the main social and organizational conditions that promote learning are the following:

- Humanistic schools have principals who led by positive example, are considerate, personal, avoid close supervision, are engaging, friendly, and have schools with high morale.
- An open school climate, one that focused on authentic interactions among members, facilitates a humanistic pupil control perspective.
- Openness and humanism in school climate had less alienated students; that is, students suffered less from a sense of powerlessness, normlessness, and self-estrangement or isolation and also facilitated positive student outcomes.
- Social and organizational conditions that explain the dynamics of student achievement involve: collective efficacy; collective responsibility; collective and relational trust (trust in the principal, trust in colleagues, trust in the organization, trust in students and parents); professional community; school collaboration with parents; academic emphasis; and optimism.

- Trust promotes a sense of organizational justice and fairness within the school. Optimism links academic emphasis, trust and efficacy because each implies a sense of hope and the possible,
- Organizational conditions fostered high student achievement comprise: a positive orientation to innovation, that is, a teacher "can do" attitude and internalized responsibility; outreach to parents and cooperation with parents; professional community, that is, collaborative work practices and high academic expectations and standards; and commitment to school community.

The "2020 Vision - Report of the Teaching and Learning in 2020 Review Group (2006) point that realising the vision is designing a new school experience based on personalised learning: "designing learning spaces that reflect these changes is a challenge for headteachers, teachers, pupils and parents who have been involved in thinking through what they want their school to be like in the future. The task is a far more complex one than simply designing a new building. Using the whole school site and designing spaces that will promote new ways of working is only part of the process. Equally important is shaping a strategy for change to ensure that, by the time the new spaces are in place, all members of the school community can take advantage of them in the ways that were intended. There is no single blueprint for a school designed for personalising learning. However, the experience of those that have made progress in this area would suggest that spaces will need to:

- be flexible enough to allow for a variety of learning and teaching approaches and greater diversity in the size and age mix of pupil groupings
- be familiar and welcoming for parents and the wider community, inviting and encouraging them into school
- emphasise participation and collaboration, through being open, safe and inviting

- support interaction, knowledge sharing and learning amongst teachers and support staff
- use technology – both within and outside classrooms – to enhance learning. If society is to benefit over more than a few generations of pupils, schools and local authorities, supported by government, must take seriously their responsibility to work with architects to design schools that are flexible enough to respond to changing circumstances for many years" (p. 25).

Reconfiguring school design and organisation implies to "design new learning spaces and test the implications of personalising learning for the way learning and teaching are organised. Several schools have already been organising this conditions and others should do the same. The above mentioned report summarises some aspects of this kind of design and organisation:

- changes to the traditional school day and greater access via the internet to interactive learning opportunities, enabling 24-hour access to learning;
- some 'stage not age' models of school organisation, in which children and young people are not routinely taught with others of the same age but, instead, according to their attainment
- integrated and extended organisations, which have school functions at their core but are not constrained by them, incorporating other services in a 'learning centre';
- more all-age schools, thus abolishing the need for transition between the primary and secondary phases
- school designs that deliberately do away with long corridors and hiding places, with a positive impact on behaviour
- spaces that can be used for more than one purpose, and classrooms that support a range of teaching approaches" (p .26).

4.3. THE PEDAGOGICAL DIMENSION: THE PROBLEMATIC COMPATIBILIZATION BETWEEN PERSONALISED LEARNING AND COOPERATIVE LEARNING

Teachers have deep beliefs about students' learning. They walk into a classroom with a stablished set of beliefs on the way of teaching and how students learn. These beliefs, developed in teacher training programmes and/or through teachers' own classroom experience, shape how teachers teach. For example, if teachers are convinced that students learn better when they are encouraged to think through and solve a problem on their own, before a teacher intervenes, then they are likely to use more active, student-centred approaches to teaching and learning, such as having students work in small groups, or requiring students to work on a project that takes more than a week to complete.

In the majority of TALIS countries, most teachers report holding beliefs that suggest high levels of self-efficacy. On average across countries, between 80% and 92% of teachers report that they can often get students to believe they can do well in school work, help students value learning, craft good questions for students, control disruptive behaviour in the classroom, make expectations about student behaviour clear, help students think critically, get students to follow classroom rules, calm a student who is disruptive, use a variety of assessment strategies and provide alternative explanations when students are confused. In comparison, motivating students who show low interest in school work (70%) and implementing alternative instructional strategies (77%) both seem relatively more difficult on average for teachers across the TALIS countries.

On average, less than a third of all teachers across countries believe that teaching is a valued profession in society. This is a significant finding on its own, as even the perception of whether a profession is valued can affect recruitment or retention of candidates in the profession. However, the majority of teachers feel

differently, with two-thirds or more of teachers reporting that their society values teaching as a profession.

Also TALIS data indicate that in most countries, constructivist beliefs have a positive association with teachers' self-efficacy and job satisfaction.

*According TALIS results, some **93%** of teachers report that **they believe** that students should be allowed to think of solutions to a problem themselves before teachers show them the solution. However, In Italy, Norway, and Sweden, only between **45%** and **59%** of teachers agree that students learn best by trying to solve problems on their own.*
*TALIS also finds that **teachers who report that they encourage their students to work in small groups** frequently or in all their lessons are more likely to report that they believe strongly in **student-centred learning** than those who never or only occasionally have their students work in small groups.*
*Nearly half (**47%**) of the teachers surveyed, on average, report that they frequently have their **students work in small groups**.*

The "Future Classroom Lab" (FCL), an initiative of the European Schoolnet (EUN) is a good example of this pedagogical dimension of teacher training and professional development. It is formed by six different learning spaces or learning zones. Each zone highlights specific areas of learning and teaching and helps to rethink different points: physical space, resources, changing roles of student and teacher, and how to support different learning styles. All together the spaces form a unique way to visualise a new, holistic view on teaching.

In order to emphasise this holistic perspective, we prefer to use the notion of "environments" or "dimensions" instead of zones or spaces. Thus, we could conceive the FCL as a set of flexible, connected and changeable learning environments, capable of generating diverse and meaningful learning experiences and engaging as many types of students as possible.

The six learning environments comprise: investigate, create, present, interact, exchange, and develop.

1. Investigate	Key points

Students are encouraged to discover for themselves; they are given the opportunity to be active participants rather than passive listeners. Teachers can promote inquiry- and project-based learning to enhance students' critical thinking skills. The flexible furniture supports this concept, and the physical space can be reconfigured quickly to enable work in groups, pairs, or individually. New technology gives an added value to the research by providing rich, versatile and real-life data, and also by providing tools to examine and to analyse.	• Developing critical thinking skills: how to find quality resources, to manage information, etc. • Developing problem-solving skills: a challenge/questionto resolve is set by the students themselves. This builds on their strengths, potentials and preferences. • Learners become active researchers: research across varied media (text-based, video, audio, images, results of experiments, numbers, etc.) is the basis of the classroom activity. Investigation can take place by reading, observing, conducting science experiments, organising surveys, using robots, etc. • Encouraging cross-curricular projects: learning across disciplines helps learners to analyse and understand things from multiple perspectives. • Learning by exploring: students can construct models, test ideas and evaluate the results themselves. The technology provides different ways for the learners to get involved through hands-on learning activities. • Connecting with the outside world: rather than working within the artificial boundaries of a school subject, the teachers and students select real-life challenges and data to investigate
2. Create	**Key points**
Students are allowed and stimulated to plan, design, and produce their own work - for example, a multimedia production or a presentation. Simple repetition of information is not enough: students work with real knowledge-building activities. Interpretation, analysis, teamwork, and evaluation are important parts of the creative process.	• Learning by creating: the learners are actively involved in producing and creating their own content. This allows learners to exercise their imaginations, and to innovate. • Using engaging technology: ICT provides a number of ways to design, create and disseminate learner-generated content. • Developing learners' soft skills: the students develop their soft skills through project-based work, including presentation, planning, and teamwork. • Giving students independence and ownership over their learning: enhancing students' engagement with the task, and helping to foster their sense of personal responsibility. • Creating for real-life: students' social entrepreneurship can be triggered by initiating and implementing

	projects aimed to increase the wellbeing of the school or local community. • Showcasing student work: students can develop over time their learning portfolios, which can help them to link between different disciplines, and provide a real-life context to their classwork.
3. Present	**Key points**
Students need a different set of tools and skills to present, deliver, and obtain feedback on their work. The presentation and delivery of the pupils' work has to be factored into the planning of lessons, allowing students to add a communicative dimension to their work. Sharing of the results can be supported by a dedicated area for interactive presentations that, through its design and layout, encourages interaction and feedback. Online publication and sharing are also encouraged, allowing the students to become accustomed to using online resources, and familiarising themselves with the principles of eSafety.	• Learning to share and communicate: just as important as carrying out interesting work is the sharing of the results. ICT provides multiple ways to create interactive and engaging presentations, both face-to-face and online. • Interacting with a wider audience: presentations are interactive actions, where peers and the teacher give feedback. The physical layout can support this process. • Developing feedback skills: the listeners are given an active role as peer-reviewers, and they learn to provide constructive feedback. The presentations are not prepared for or aimed at the teacher only but for the whole class or even a wider community. • Getting familiar with various methods of sharing: the students learn to use different sharing tools that are part of everyday communication in the 21st century. • Communicating inclusively: students take into account the message, the audience, and resources available when selecting tools. They get to think about how to reach different audiences, and about the digital divide. • Making the presentation a whole school activity: a presentation be can provided as part of the school's public space, e.g. in the school library (face-to-face) or the school website (online) which enables sharing among the whole school community. • Embedding eSafety in schoolwork: before downloading and uploading, the students need to think about the responsible use of online resources. Being content-creators themselves, the students learn to evaluate online sources critically, and to apply necessary permissions and copyrights to the content they share themselves.
4. Interact	**Key points**

The teacher can use technology to enhance interactivity and student participation in traditional learning spaces. One challenge of the traditional classroom setting is getting all students actively involved; technology enables each and every pupil to contribute. Solutions vary from individual devices like tablets and smartphones, to interactive whiteboards and interactive learning content. Learning involves both teachers' and students' active engagement.	• Rearranging physical space: to break the traditional classroom paradigm of rows, the students are seated in different can try out different settings, e.g. a horseshoe shape, or in small groups. • From spectators to active learners: ICT provides opportunities for students to be active in different ways that support their own learning styles. This also can help the teacher to move away from the teacher-led lessons. • Interacting with the learning content: the interactive whiteboards can be used together with media rich content and learner response devices. • 1:1 computing for a motivated classroom: 1:1 computing with netbooks, tablets, or smartphones, allows for more personalised learning, and enhances student motivation. • From supervision to communication: many software now permit new collaboration and communication functionalities, in addition to classroom management function, when students are using their own devices.
5. Exchange	**Key points**
Great importance iIs given to the ability to collaborate with others. The teamwork takes place while investigating, creating and presenting. The quality of collaboration is composed of ownership, shared responsibility and decision-making process within groups. ICT can help to create a richer way of communication and collaboration. Collaboration is not limited to face-to-face and	• Peer-to-peer collaboration: learning to communicate and work with others is probably one of the most valuable skills a child can learn. Extending this across the school (e.g. older students coaching younger students) can reinforce pupils' sense of social responsibility. • Teamwork for better inclusion: working in groups can teach children to take into account differences between learners (e.g. gifted – less gifted). • Learning by playing: playing is common to all children. Digital games and simulations can be used to introduce more engaging learning. • Collaborating online: the exchange can be extended to after-school tasks with the aid of an online learning environment and supervised use of social networks. • Letting ideas fly: brainstorming is a great group activity, allowing pupils to exercise their natural creativity and imagination.

synchronous communication, but can take place online and also asynchronously.	
Develop	**Key points**
Implies informal learning and self-reflection. Students can carry out school work independently at their own pace, but they can also learn informally while concentrating on their own interests outside of the formal classroom settings both at school and at home. By providing ways to foster self-directed learning, the school supports learners' self-reflection and meta-cognition skills. The school encourages students towards true lifelong learning by acknowledging and validating informal learning.	• Allowing for an informal environment: the informal learning space at the school can be a more home-like environment, allowing for a more relaxed and non-monitored space. • Supporting motivation and self-expression: teachers can support personalised learning, for example, with tailored learning activities, or by allowing more freedom to learners in selecting their topics of investigation. Students can also develop their personal learning portfolios. • Using personal learning devices: personal learning devices, like netbooks and tablets, provide access to online resources and virtual learning environments both at home and at school • Adopting ways to recognise informal learning: learning diaries and portfolios can be used to keep track of informal learning. • Flipped classroom: students engage in well-structured independent learning at home, allowing the teacher to devote the time in the classroom to project work and collaboration. • Learning through play: providing educational games for pupils to use during breaks and after school.

The OCDE study – Teaching Strategies for Instructional Quality –, based on the analysis of the TALIS-PISA Link database (OECD, 2016), aims to identify what goes into high-quality teaching in order to take action to improve policies, teacher training and professional development programmes for teachers with the aim of improving the achievement of all students.

The main research questions are:

- What are the most common teaching strategies used by mathematics teachers?
- To what extent do these strategies vary within and between schools?
- How do teachers' instructional strategies contribute to students' mathematics performance and their attitudes towards learning?
- How do characteristics of the school, the classroom and the teacher affect the implementation of teaching strategies?

The analysis of mathematics teachers' classroom practices has highlighted the existence of three underlying teaching strategies: these are referred to as active learning, cognitive activation and teacher-directed instruction (Table y).

These teaching strategies are not mutually exclusive. A teacher can present a summary of recently learned content (teacher directed-strategies), encourage students to work in small groups to come up with a joint solution to a problem or task (active learning strategies) and expect students to explain their thinking on complex problems (cognitive-activation strategies) with different frequencies.

Table y: Fostering opportunities for teachers to expand their teaching practices

What can teachers do?	What can school leaders do?

• Be open to working together with colleagues and school leaders. • If formal collaborative activities aren't already established, take the initiative to create them. • Work with other teachers to develop a system of peer feedback on all aspects of teaching, from lesson planning and classroom practice to student evaluation. • Participate in induction programmes, mentoring programmes and other professional development activities when they're offered.	• If professional development programmes are not available at school, try to make them available. These activities do not have to be costly or involve external experts. For example, collaboration among teachers within a school can result in effective mentoring systems. • Provide opportunities and support to build relationships within the school. This support could be in the form of a physical space where teachers can meet or by setting aside time away from administrative work to allow teachers to meet and develop relationships with students or colleagues. • Encourage collaboration among teachers. While collaboration may require adjustments to teachers' schedules, the benefits to teachers' practices – and to teachers' morale – are likely to outweigh any administrative inconveniences.

Source: OECD (2014b), *A Teachers' Guide to TALIS 2013: Teaching and Learning International Survey*, TALIS, OECD Publishing, Paris, http://dx.doi.org/10.1787/9789264216075-en.

It means that teaching strategies are multidimensional. There is no single strategy that can guarantee better student outcomes. How well they work depends on the context in which they are applied. However, research has highlighted a number of practices that enable learning among students (Hattie, 2009; Marzano et al., 2001; Wayne and Young, 2003). These include techniques such as strong classroom management, clear instructions, helping students engage meaningfully with the learning content, applying formative assessment and providing constructive, supportive feedback.

5. CONTRIBUTIONS FROM THE NESTT PROJECT TO A EUROPEAN BENCHMARK IN TEACHER TRAINING

5.1. QUESTIONING THE MAINSTREAM PERSPECTIVE CONCERNING TEACHER EDUCATION

Historically, the school acquires such a dominant role that it has become common, and somewhat unconscious, to consider that education is restricted to school education. An example of this trend is the devaluation of playing - and the reduction of children time to have that experience, although it is key activity for children, especially free play, in nature, parks and other public spaces - due to the extension of curriculum, subject programs, textbooks, tests and examinations, etc. and the inherent increased length of stay of children in school. As a result of the expansion of schooling, the “métier d'élève” overlapped the “métier d'enfant”. On the contrary, the NESTT project point to the importance of listening to children not only in matters relating to their “métier d'élève”, but also in valuing their daily experience, which includes contacting and using the various learning resources they have today at their disposal.

Therefore, the bottom line of the NESTT project was to listen pupils about their perceptions on their learning as they have their own voice regarding the school and their daily lives. This was considered the most appropriate way of questioning the issues of teaching and teacher education in order to make them more congruent with the profound changes occurred over the last decades which transformed the way children see the world and life and their relationship with knowledge and learning. Also it was intended to help the various actors to think differently and innovatively on these issues, encompassing pre-service and in-service teacher training in a lifelong continuous professional development perspective.

Several activities were carried out under the NESTT Project to foster cooperation for innovation and the exchange of good practices in the area of teacher education. Among others, an investigation was carried out with the objective of knowing the students' perspectives on their learning, encompassing in this concept not only learning in a school context, but one that derives from the most diverse experiences, in school and in educational contexts. non-formal, and extract from the results of this research some implications for teacher education.

Recent contributions from different areas, such as the childhood studies, and more specifically, the sociology of childhood, have been emphasising a conception of children as social actors, competent and with voice. Childhood cultures, children' participation and citizenship, children' rights, among others issues, are significant examples of a different theoretical and conceptual approach, both for teaching and learning, providing simultaneously a background for changing teacher education policies and practices. However, the way teachers teach continues probably to be the most frequently question formulated to reflect and take decisions concerning educational change. Improving teaching and teacher education practices is usually considered a key educational issue, both at the political and academic levels.

Considering that studies on teacher education have given more prominence to teachers' perspectives, namely, on their beliefs, attitudes, practices, training needs, etc., the NESTT survey sought to approach the problem from a different perspective, based on from students' perspectives on what they like to learn and how and where they think they learn more and better. It was intended to know and understand how do students face their learning and what trends and challenges do their prospects for innovation in teaching and teacher education.

The hypothesis explored in the NESTT project research aimed at changing the mainstream perspective which tends to argue that changes in education and learning goes through teacher training, but without profoundly questioning what

to change and how; to answer what and to whom, etc. That is why the NESTT project has tried to distance itself from this dominant perspective, based on what is often referred to as "meeting the needs of teachers", sometimes by listening to teachers but more often by imposing training programs on teachers without even considering their real work contexts. Instead the NESTT project opted by emphasising students' perspectives on learning, namely what they like to learn and where and how they learn more and better, not only at school under the formal curriculum, but also in non-formal and informal contexts and experiences.

Research findings suggest that the curricula activities are almost exclusively carried out in school, although they could be related with students' experiences outside the school, insofar as they are important sources for the learning processes taking place either in or out of school. In this sense we conclude this work by reflecting and formulating some implications and recommendations for teacher education policies and practices.

5.2. IMPLICATIONS OF THE NESTT PROJECT TO RETHINK TEACHER EDUCATION POLICIES AND PRACTICES

Conducting an empirical research focused on children' perspectives and not on teachers and other adults' perspectives as is common, was considered in the ambit of the NESTT Project a challenging approach to have a picture about their understandings of what is learning and what is not. In other words, understanding pupils' perspectives on their learning was considered a potentially fruitful strategy either to give voice to these social actors, who are often not sufficiently listened on these and other issues that directly concern them, or should do, or to provide information on how schools and teachers teach and its relationship with teacher education. Recent contributions from the literature in different areas, such as the childhood studies, have been emphasising a conception of children as social actors, competent and with voice. Childhood cultures, children' participation and

citizenship, children' rights, among others issues, are significant examples of a different theoretical and conceptual approach for teaching and learning, providing simultaneously a theoretical and conceptual background for changing teacher education policies and practices.

Generally, findings show a strong identification of the students' perspectives with the school culture. In fact, non-formal and informal learning experiences tend to be seen by students as activities that they do not face as learning. On the one hand, children tend to confine the notion of learning to the school context and subsume their role as students; on the other hand, they show a less internalized recognition of non-formal educational situations and contexts as sources of learning.

Also, they emphasise the pupils' critical views of teaching, especially in relation to the predominance of lectures. Working in groups, in pairs and in projects at school; studying and learning at home and at their friends'; and learning by traveling, visiting museums, listening to music, among others issues related to out-of-school learning, are considered by children as more significant and enjoyable ways of learning. Implications for teacher education also have to be discussed considering a set of constraints and possibilities of pedagogical innovation in challenging times schools and teachers have to deal with.

The analysis and discussion of the survey results taught us a lot about students believes and perceptions as well as the way they express their perspectives concerning their learning. Although the questionnaire items referred to varied learning experiences in diverse contexts of formal and non-formal education, the results revealed a marked identification of responses with the school structure and culture, tending the answers to confine the notion of learning to school spaces and times of curricular scope. Actually the students' understandings tend to be only those that are directly related to the school, and even more narrowly to the school subjects and teachers leading activities, in a content-based

perspective. In addition, it seems that they do not relate formal and non-formal learning experiences and they set barriers between what they consider as studying (seen as working) and as playing.

Taking into consideration the NESTT Project outcomes, including the survey on the students' perspectives on their learning experiences, a set of implications and recommendations are presented below focused on teaching and learning and teacher education issues:

- The results of the NESTT survey teach us a lot about the students believes and the way they express their perspectives concerning their learning. Their understandings tend to be only those that are directly related to the school, and even more narrowly to the school subjects and teachers leading activities, in a content-based perspective. It seems that they do not relate formal and non-formal learning experiences and they set barriers between what they consider studying/working and playing.
- In which concerns to teacher education, initial and continuous, it is necessary to question and overcoming the tendency of raising barriers between formal and non-formal education, in order to extract from them the reciprocal potential for children and young people education.
- Teacher education policies, programmes and practices need to contribute at the different levels of decision and action, to questioning and overcoming those boundaries commonly established between school and non-school education or, using other terminology, between formal and non-formal education.
- Provide information, giving feedback and organising pedagogic, professional and scientific meetings based on the NESTT project outcomes is necessary not only with regard to the schools where the questionnaire was administrated but also involving other students and teachers, putting

in relation schools, teacher's centres, such as Casa do Professor, and higher education institutions providing initial teacher education.

- Conceiving teacher education programmes valuing the several interrelated dimensions of teaching and professional development, such as scientific, didactics, pedagogical, political, social, cultural and ethical dimensions;
- Sharing positive experiences and innovative practices that promote professional development and teaching practice, based on the networking practice at a European level;
- Organising learning activities using the various school spaces (laboratories, school library, clubs, computer room, radio, cinema, video, etc.);
- Taking advantage of the students learning experiences resulted in the learning environment outside the school, although they don´t see these experiences as learning experiences;
- Promoting collaborative work and collegial-training-focused activities to build supportive and engaging environments in relationship with school autonomy and curricular flexibility;
- Broadening the curriculum to the public and community spaces and places, namely the city, and motivate the use of the existent resources, like the school library and the public library, visit museums, going to the theatre, and contact nature, etc.;
- Valuing the variety of educational contexts, formal and non-formal, by carrying out activities that allow autonomous learning in the context of study visits, field work, associating these activities to work in projects, in inter and trans disciplinary projects;

- ❖ Promoting close and cooperative relationships and partnerships with families and other local entities, in the sense of building and nourishing learning communities, so that they act as educational agents;
- ❖ Integrating ICT in the set of the students' learning experiences, emphasising the important role of the digital technologies not only to occasionally search information but mainly to a systematic work of selecting, organising, etc. in a research-based and knowledge production-based approach to learning.
- ❖ It is necessary to promote students' participation in decision-making processes and to listen to them as members of learning communities of which they are co-builders. In this sense, we argue that changing teacher education policies and practices also implies questioning the still dominant conception of school and teaching and learning but simultaneously the mainstream conception of children and childhood that considers she/she is being prepared to be a social actor but is not yet. This conception of children and childhood is still very rooted, constituting an obstacle, mainly regarding the school and the teachers' professional cultures, for changing educational policies and practices, namely concerning the area of teacher education.

The questioning and mutual enrichment of a diversity of learning approaches, valuing formal, non-formal and informal learning experiences and its complementarities, can be fruitful for the transformation of educational conceptions and practices both at school and in other educational contexts. The same goes for the role of policy makers, higher education institutions and other responsible entities in teacher education, considering their crucial role on rethinking teacher education at a time when profound changes are taking place at a rapid pace for which teacher education cannot be ignored.

The following topics emphasise some implications of the research findings for teaching and teacher education:

- School structure and culture are deeply internalized in children's perceptions and representations about learning. They tend to consider learning mainly what is inherent to the school, the curriculum and above all the classroom.
- What they do and experience in their daily lives, in non-formal and informal educational activities and contexts, is often not seen by the as learning.
- Nevertheless, they reveal a critical sense in relation to some characteristics of the teaching / learning processes that they experience in their schools, such as expository classes, predominance of individual work, excess of homework, pressure of exams, among others.
- The fact that the questionnaire has been answered in the school space (and in all that it represents, materially and symbolically) will have influenced the answers, showing that children tend to restrict their status as social actors to the role of students.
- Placing themselves in the role of teachers, they suggest different methods / practices, among them group work; project work; field trips; study visits; the use of ICT, including smartphones, in the classroom; shorter classes; use of diverse learning resources (images, diagrams, drawings, photographs, videos, documentaries, etc.); "Classes outside four walls", for example, in the city, especially in historical centers; more experimental classes; more manual activities, acting, etc.
- In terms of the teachers' personal characteristics, they say they would be "honest," "calm," "patient," “their students’ friends," interested in "listening and talking to their students," etc.

- The importance of listening to children, not only in matters related to the "métier d´élève" but also valuing their daily experience in their "métier de l´enfant", which includes the contact and use of various learning resources that they have at their disposal.
- The need to promote children's participation in decision-making processes and to listen to them as members of learning communities of which they are co-builders.

Discussing and reflecting on the NESTT survey findings within the scope of the present study as a whole is essential in which concerns to the demanding challenges learning, teaching and teacher education are facing in contemporary societies. Facing them as object of collective analysis and reflection, both in schools and in other non-formal education contexts, is crucial for changing policies, conceptions and practices regarding the issue of learning. It is equally crucial to involve students' guardians, professionals, parents and, of course, students themselves, as the questionnaire results focus on key school aspects, namely in which refers to teaching and teacher education, such as communication and student participation.

The same can be said regarding the role of policy makers, higher education institutions and other entities that have responsibilities in teacher education, insofar as one of the main objectives of this study is to analyse and discuss research findings based on students' perspectives, seeking to draw from them some implications to policies and practices, in order to rethink teacher education at a time when they are taking place, at a rapid pace, profound changes, for which teacher education cannot be oblivious.

A great deal of work has already been done – and continues to be done – on the dissemination of the NESTT project and particularly the research findings, by organising training activities involving teachers in their own schools sometimes in other places, such as schools and universities, as well as meetings and

workshops with students, school principals and researchers, putting particular emphasis on the reflection based on the research findings and its implications either for teaching and learning or teacher education.

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APPENDICES

KEY COMPETENCES FOR LIFELONG LEARNING - A EUROPEAN REFERENCE FRAMEWORK

I
(Resolutions, recommendations and opinions)
RECOMMENDATIONS

COUNCIL

COUNCIL RECOMMENDATION
of 22 May 2018
on key competences for lifelong learning
(Text with EEA relevance)

(2018/C 189/01)

(This Recommendation replaces the Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning)

THE COUNCIL OF THE EUROPEAN UNION

Having regard to the Treaty on the Functioning of the European Union, and in particular Articles 165 and 166 thereof,
Having regard to the proposal from the European Commission,

Whereas:

1) The European Pillar of Social Rights (1) states as its first principle that everyone has the right to quality and inclusive education, training and lifelong learning in order to maintain and acquire skills that allow full participation in society and successful transitions in the labour market. It also states the right of everyone 'to timely and tailor-made assistance to improve employment or self-employment prospects, to training and re-qualification, to continued education and to support for job search'. Fostering the development of competences is one of the aims of the vision towards a European Education Area that would be able 'to harness the full potential of education and culture as drivers for jobs, social fairness, active citizenship as well as means to experience European identity in all its diversity' (2).

2) People need the right set of skills and competences to sustain current standards of living, support high rates of employment and foster social cohesion in the light of tomorrow's society and world of work. Supporting people across Europe in gaining the skills and competences needed for personal fulfilment, health, employability and social inclusion helps to strengthen Europe's resilience in a time of rapid and profound change.

3) In 2006, the European Parliament and the Council of the European Union adopted a Recommendation on key competences for lifelong learning. In that Recommendation the Member States were asked 'to develop the provision of key competences for all as part of their lifelong learning strategies, including their strategies for achieving universal literacy, and use the 'Key Competences for Lifelong Learning —

A European Reference Framework' (3). Since its adoption, the Recommendation was a key reference document for the development of competence-oriented education, training and learning.

4) Nowadays, competence requirements have changed with more jobs being subject to automation, technologies playing a bigger role in all areas of work and life, and entrepreneurial, social and civic competences becoming more relevant in order to ensure resilience and ability to adapt to change.

5) At the same time, international surveys such as the Organisation for Economic Cooperation and Development (OECD) Programme for International Student Assessment (PISA) or the OECD Programme for the International Assessment of Adult Competencies (PIAAC) indicate a constant high share of teenagers and adults with insufficient basic skills. In 2015 one in five pupils had serious difficulties in developing sufficient reading, mathematic or science skills. (1) In some countries up to one third of adults are proficient at only the lowest levels in literacy and numeracy (2). 44 % of the Union population have low or no (19 %) digital skills (3).

6) Consequently, investing in basic skills has become more relevant than ever. High quality education, including extra-curricular activities and a broad approach to competence development, improves achievement levels in basic skills. In addition, new ways of learning need to be explored for a society that is becoming increasingly mobile and digital. (4) Digital technologies have an impact on education, training and learning by developing more flexible learning environments adapted to the needs of a highly mobile society (5).

7) In the knowledge economy, memorisation of facts and procedures is key, but not enough for progress and success. Skills, such as problem solving, critical thinking, ability to cooperate, creativity, computational thinking, self-regulation are more essential than ever before in our quickly changing society. They are the tools to make what has been learned work in real time, in order to generate new ideas, new theories, new products, and new knowledge.

8) The New Skills Agenda for Europe (6) announced the review of the 2006 Recommendation on key competences for lifelong learning acknowledging that investing in skills and competences and in a shared and updated understanding of key competences is a first step for fostering education, training and non-formal learning in Europe.

9) Responding to the changes in society and economy, reflecting discussions on the future of work, and following the public consultation on the review of the 2006 Recommendation on key competences, both the Recommendation and the European Reference Framework of key competences for lifelong learning need to be revised and updated.

10) The development of key competences, their validation and the provision of competence-oriented education, training and learning should be supported by establishing good practices for better support of educational staff in their tasks and improving their education, for updating assessment and validation methods and tools, and for introducing new and innovative forms of teaching and learning (7). Therefore, basing itself on the experiences of the last decade, this Recommendation should address the challenges in implementing competence-oriented education, training and learning.

11) Supporting the validation of competences acquired in different contexts will enable individuals to have their competences recognised and obtain full or, where applicable, partial qualifications (8). It can build on the existing arrangements for the validation of non-formal and informal learning as well as the European Qualification Framework (9), which provides a common reference framework to compare levels of qualifications, indicating the competences required to achieve them. In addition, assessment may help in structuring learning processes and in guidance, helping people to improve their competences also with regard to changing requirements on the labour market (10).

12) The definition of the set of key competences needed for personal fulfilment, health, employability and social inclusion has been shaped not only by societal and economic developments, but also by various initiatives in Europe during the last decade. Special attention has been given to improving basic skills, investing in language learning, improving digital and entrepreneurial competences, the relevance of common values in the functioning of our societies, and motivating more young people to engage in science related careers. These developments should be reflected in the Reference Framework.

13) Target 4.7 of the Sustainable Development Goals highlights the need to 'ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development' (1). Unesco's Global Action Programme on Education for Sustainable Development affirms that education for sustainable development is an integral element of quality education and key enabler of all other Sustainable Development Goals. This aim is reflected in the revision of the Reference Framework.

14) The provision of language learning, which is increasingly important for modern societies, intercultural understanding and cooperation, profits from the Common European Framework of Reference for Languages (CEFR). This Framework helps to identify the main elements of the competence and supports the learning process. It also lays the foundation of defining language competences, in particular those referring to foreign languages and is reflected in the update of the Reference Framework.

15) The development of the Digital Competence Framework and the Entrepreneurship Competence Framework support competence development. Likewise, the Council of Europe's Reference Framework of Competences for Democratic Culture presents a comprehensive set of values, skills and attitudes for an appropriate participation in democratic societies. All of these have been taken into due consideration when updating the Reference Framework.

16) In order to motivate more young people to engage in science, technology, engineering and mathematics (STEM) related careers, initiatives across Europe started to link science education more closely with the arts and other subjects, using inquiry-based pedagogy, and engaging with a wide range of societal actors and industries. While the definition of those competences has not changed much over the years, the support of competence development in STEM becomes increasingly relevant and should be reflected in this Recommendation.

17) The importance and relevance of non-formal and informal learning is evident from the experiences acquired through culture, youth work, voluntary work as well as grassroots sport. Non-formal and informal learning play an important role in supporting the development of essential interpersonal, communicative and cognitive skills such as: critical thinking, analytical skills, creativity, problem solving and resilience that facilitate young people's transition to adulthood, active citizenship and working life (2). Establishing better cooperation between different learning settings helps promoting a variety of learning approaches and contexts (3).

18) In addressing the development of key competences in a lifelong learning perspective, support should be ensured at all levels of education, training and learning pathways: to develop quality early childhood education and care (4), to further enhance school education and ensure excellent teaching (5), to provide up-skilling pathways to low-skilled adults (6) as well as to further develop initial and continuing vocational education and training and modernise higher education (7).

19) This Recommendation should cover a wide range of education, training and learning settings, both formal, non-formal and informal in a lifelong learning perspective. It should seek to establish a shared understanding of competences which can support transitions and cooperation between these different

learning settings. It sets out good practices that could address the needs of educational staff which includes teachers, trainers, teacher educators, leaders of education and training institutes, employees in charge of training colleagues, researchers and university lecturers, youth workers and adult educators as well as employers and labour market stakeholders. This Recommendation also addresses institutions and organisations, including social partners and civil society organisations, guiding and supporting people in improving their competences from early age on throughout their lives.

20) This Recommendation fully respects the principles of subsidiarity and proportionality,

HAS ADOPTED THIS RECOMMENDATION
Member States should:

1. support the right to quality and inclusive education, training and lifelong learning and ensure opportunities for all to develop key competences by making full use of the 'Key Competences for Lifelong Learning — A European Reference Framework' as set out in the Annex, and

1.1. support and reinforce the development of key competences from an early age and throughout life, for all individuals, as part of national lifelong learning strategies;

1.2. support all learners, including those facing disadvantages, or having special needs, to fulfil their potential;

2. support the development of key competences paying special attention to:

2.1. raising the level of achievement of basic skills (literacy, numeracy and basic digital skills) and supporting the development of learning to learn competence as a constantly improved basis for learning and participation in society in a lifelong perspective;

2.2. raising the level of personal, social and learning to learn competence to improve health conscious, future-oriented life management;

2.3. fostering the acquisition of competences in sciences, technology, engineering and mathematics (STEM), taking into account their link to the arts, creativity and innovation and motivating more young people, especially girls and young women, to engage in STEM careers;

2.4. increasing and improving the level of digital competences at all stages of education and training, across all segments of the population;

2.5. nurturing entrepreneurship competence, creativity and the sense of initiative especially among young people, for example by promoting opportunities for young learners to undertake at least one practical entrepreneurial experience during their school education;

2.6. increasing the level of language competences in both official and other languages and supporting learners to learn different languages relevant to their working and living situation and that may contribute to cross-border communication and mobility;

2.7. fostering the development of citizenship competences with the aim of strengthening the awareness of common values, as referred to in Article 2 of the Treaty on European Union and the Charter of Fundamental Rights of the European Union;

2.8. increasing the awareness of all learners and educational staff of the importance of the acquisition of key competences and their relation to society;

3. facilitate the acquisition of key competences by making use of good practices to support the development of the key competences as set out in the Annex, in particular by:

3.1. promoting a variety of learning approaches and environments, including the adequate use of digital technologies, in education, training and learning settings;

3.2. providing support to educational staff as well as other stakeholders supporting learning processes, including families, to enhance key competences of learners as part of the approach for lifelong learning in education, training and learning settings;

3.3. supporting and further developing the assessment and validation of key competences acquired in different settings in line with the Member States' rules and procedures;

3.4. reinforcing collaboration between education, training and learning settings at all levels, and in different fields, to improve the continuity of learner competence development and the development of innovative learning approaches;

3.5. reinforcing tools, resources and guidance in education, training, employment and other learning settings to support people in managing their lifelong learning pathways;

5. report through existing frameworks and tools of the Strategic Framework for European Cooperation in Education and Training (ET2020) and any successor framework on experiences and progress in promoting key competences in all education and training sectors, including non-formal and, as far as possible, informal learning;

HEREBY WELCOMES THAT THE COMMISSION WITH DUE REGARD TO MEMBER STATES' COMPETENCES:

6. supports the implementation of the Recommendation and the use of the European Reference Framework by facilitating mutual learning among Member States and developing in cooperation with Member States reference material and tools such as:

6.1. where appropriate, frameworks for specific competences which facilitate development and assessment of competences (1);

6.2. evidence-based guidance material on new forms of learning and supportive approaches;

6.3. support tools for educational staff, and other stakeholders, such as on-line training courses, self-assessment tools (2), networks, including eTwinning and the Electronic Platform for Adult Learning in Europe (EPALE);

6.4. approaches to the assessment and support of validation of key competences acquired following up on previous work in the context of ET2020 (3) and any successor framework;

7. supports initiatives to further develop and promote education for sustainable development with regard to the UN Sustainable Development Goal 4 on inclusive and equitable quality education and lifelong learning opportunities for all;

8. reports on experiences and good practices to enhance key competences of learners as part of the approach for lifelong learning in education, training and learning settings in the Union through existing frameworks and tools.

This Recommendation replaces the Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning.

Done at Brussels, 22 May 2018.

For the Council

The President

K. VALCHEV

ANNEX

KEY COMPETENCES FOR LIFELONG LEARNING

A EUROPEAN REFERENCE FRAMEWORK

Background and aims

Everyone has the right to quality and inclusive education, training and life-long learning in order to maintain and acquire skills that enable them to participate fully in society and manage successfully transitions in the labour market.

Everyone has the right to timely and tailor-made assistance to improve employment or self-employment prospects. This includes the right to receive support for job search, training and re-qualification.

These principles are defined in the European 'Pillar of Social Rights'.

In a rapidly changing and highly interconnected world, each person will need a wide range of skills and competences and to develop them continually throughout life. The key competences as defined in this Reference Framework aim to lay the foundation for achieving more equal and more democratic societies. They respond to the need for inclusive and sustainable growth, social cohesion and further development of the democratic culture.

The main aims of the Reference Framework are to:

a) identify and define the key competences necessary for employability, personal fulfilment and health, active and responsible citizenship and social inclusion;
b) provide a European reference tool for policy makers, education and training providers, educational staff, guidance practitioners, employers, public employment services and learners themselves;
c) support efforts at European, national, regional and local level to foster competence development in a lifelong learning perspective.

Key competences

For the purposes of this Recommendation, competences are defined as a combination of knowledge, skills and attitudes, where:

d) knowledge is composed of the facts and figures, concepts, ideas and theories which are already established and support the understanding of a certain area or subject;

e) skills are defined as the ability and capacity to carry out processes and use the existing knowledge to achieve results;
f) attitudes describe the disposition and mind-sets to act or react to ideas, persons or situations.

Key competences are those which all individuals need for personal fulfilment and development, employability, social inclusion, sustainable lifestyle, successful life in peaceful societies, health-conscious life management and active citizenship. They are developed in a lifelong learning perspective, from early childhood throughout adult life, and through formal, non-formal and informal learning in all contexts, including family, school, workplace, neighbourhood and other communities.

The key competences are all considered equally important; each of them contributes to a successful life in society. Competences can be applied in many different contexts and in a variety of combinations. They overlap and interlock; aspects essential to one domain will support competence in another. Skills such as critical thinking, problem solving, team work, communication and negotiation skills, analytical skills, creativity, and intercultural skills are embedded throughout the key competences.

The Reference Framework sets out eight key competences:

- Literacy competence,
- Multilingual competence,
- Mathematical competence and competence in science, technology and engineering,
- Digital competence,
- Personal, social and learning to learn competence,
- Citizenship competence,
- Entrepreneurship competence,
- Cultural awareness and expression competence.

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.

Essential knowledge, skills and attitudes related to this competence

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.

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)

Essential knowledge, skills and attitudes related to this competence

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.

Mathematical competence and competence in science, technology, engineering

Mathematical competence is the ability to develop and apply mathematical thinking and insight in order to solve a range of problems in everyday situations. Building on a sound mastery of numeracy, the emphasis is on process and activity, as well as knowledge. Mathematical competence involves, to different degrees, the ability and willingness to use mathematical modes of thought and presentation (formulas, models, constructs, graphs, charts).

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.

Essential knowledge, skills and attitudes related to this competence

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.

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.

Essential knowledge, skills and attitudes related to this competence

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.

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 and manage one's own learning and career. It includes the ability to cope with uncertainty and complexity, learn to learn, support one's physical and emotional well-being, 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.

Essential knowledge, skills and attitudes related to this competence

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.

Citizenship 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.

Essential knowledge, skills and attitudes related to this competence

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.

Entrepreneurship 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.

Essential knowledge, skills and attitudes related to this competence

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.

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.

Essential knowledge, skills and attitudes related to this competence

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.

Supporting the development of key competences

Key competences are a dynamic combination of the knowledge, skills and attitudes a learner needs to develop throughout life, starting from early age onwards. High quality and inclusive education, training and lifelong learning provides opportunities for all to develop key competences, therefore competence-oriented approaches can be used in all education, training and learning settings throughout life.

In support of competence-oriented education, training and learning in lifelong learning context, three challenges have been identified: the use of a variety of learning approaches and contexts; support for teachers and other educational staff; and assessment and validation of competence development. In order to address those challenges, certain examples of good practices have been identified.

1. A variety of learning approaches and environments

a) Cross-discipline learning, partnerships between different education levels, training and learning actors, including from the labour market, as well as concepts such as whole school approaches with its emphasis on collaborative teaching and learning and active participation and decision-making of learners can enrich learning. Cross-discipline learning also

allows for strengthening the connectivity between the different subjects in the curriculum, as well as establishing a firm link between what is being taught and societal change and relevance. Cross-sectoral cooperation between education and training institutions and external actors from business, arts, sport and youth community, higher education or research institutions, can be key to effective competence development.

b) Acquisition of basic skills as well as broader competence development can be fostered by systematically complementing academic learning with social and emotional learning, arts, health-enhancing physical activities supporting health conscious, future-oriented and physically active life styles. Strengthening personal, social and learning competences from early age can provide a foundation for development of basic skills.

c) Learning methodologies such as inquiry-based, project-based, blended, arts- and games-based learning can increase learning motivation and engagement. Equally, experimental learning, work-based learning and scientific methods in science, technology, engineering and mathematics (STEM) can foster development of a range of competences.

d) Learners, educational staff and learning providers could be encouraged to use digital technologies to improve learning and to support the development of digital competences. For example, by participating in Union initiatives such as 'The EU Code Week'. The use of self-assessment tools, such as the SELFIE tool, could improve the digital capacity of education, training and learning providers.

e) Specific opportunities for entrepreneurial experiences, traineeships in companies or entrepreneurs visiting education and training institutions including practical entrepreneurial experiences, such as creativity challenges, start-ups, student-led community initiatives, business simulations or entrepreneurial project-based learning, could be particularly beneficial for young people, but also for adults and for teachers. Young people could be given the opportunity to have at least one entrepreneurial experience during their school education. School, community and business partnerships and platforms at local level, notably in rural areas, can be key players in spreading entrepreneurial education. Appropriate training and support for teachers and principals could be crucial to create sustained progress and leadership.

f) Multilingual competence can be developed by close cooperation with education, training and learning settings abroad, the mobility of

educational staff and learners and the use of eTwinning, EPALE and or similar on-line portals.

g) All learners, including those facing disadvantages, or having special needs, could be given adequate support in inclusive settings to fulfil their educational potential. Such support could consist of language, academic or socio-emotional support, peer coaching, extra-curricular activity, career guidance or material support.
h) The collaboration between education, training and learning settings at all levels can be key to improve the continuity of learner competence development throughout life and for developing innovative learning approaches.
i) Cooperation between education and training and non-educational partners in local communities and employers in combination with formal, non-formal and informal learning can support competence development and ease the transition from education to work as well as from work to education.

2. Support for educational staff

a) Embedding competence-oriented approaches to education, training and learning in initial education and continuing professional development can help educational staff in changing teaching and learning in their settings and to be competent in implementing the approach.
b) Educational staff could be supported in developing competence-oriented approaches in their specific contexts by staff exchanges and peer learning, and peer counselling allowing for flexibility and autonomy in organising learning, through networks, collaboration and communities of practice.
c) Educational staff could be provided assistance in creating innovative practices, taking part in research and making appropriate use of new technologies, including digital technologies, for competence-oriented approaches in teaching and learning.
d) Guidance could be provided for educational staff, access to centres of expertise, appropriate tools and materials can enhance the quality of teaching and learning methods and practice.

3. Assessment and validation of competence development

a) Key competence descriptions could translate into frameworks of learning outcomes that could be complemented with suitable tools for diagnostic, formative and summative assessment and validation at appropriate levels (1).

b) Digital technologies, in particular, could contribute to capturing the multiple dimensions of learner progression, including entrepreneurial learning.
c) Different approaches to assessment of key competences in non-formal and informal learning settings could be developed, including related activities of employers, guidance practitioners and social partners. These should be available to everyone, and especially to low skilled individuals to support their progression to further learning.
d) Validation of learning outcomes acquired through non-formal and informal learning could expand and become more robust, in line with the Council Recommendation on the Validation of prior non-formal and informal learning, including different validation processes. Also the use of tools such as Europass and Youthpass, which serve as tools for documentation and self-assessment, may support the validation process.

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