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LifeComp

The European Framework for **Personal**, **Social** and **Learning to Learn** Key Competence

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***LifeComp* – The European Framework for Personal, Social and Learning to Learn Key Competence**

"Personal, Social and Learning to Learn" was set as a key competence in 2018 by the Council Recommendation on Key Competences for Lifelong Learning. The *LifeComp* framework regards "Personal, Social and Learning to Learn" as a set of competences applying to all spheres of life that can be acquired through formal informal and non-formal education, and can help citizens to thrive in the 21st Century. These competences have been established following a thorough literature research and several consultations with experts and stakeholders. *LifeComp* has nine competences with three descriptors each. The framework is conceptual and non-prescriptive. *LifeComp* can be used as a basis for the development of curricula and learning activities fostering personal, and social development, and learning to learn. The description of the competences can help in exploring its implementation and be contemplated as the embryo of a continuous discussion with teachers and educational policymakers.

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FOREWORD

In May 2018, the Council of the European Union adopted the revised Recommendation on Key Competences for Lifelong Learning, setting out a core set of skills necessary to work and live in the 21st Century. The aim is that everybody should have the essential set of competences needed for personal development, social inclusion, active citizenship, and employment. These competences include Literacy, Multilingual, Mathematical competence and competence in science, technology and engineering, as well as Digital, Personal, Social and Learning to Learn, Citizenship, Entrepreneurship, and Cultural awareness and expression.

LifeComp offers a conceptual framework for the "Personal, Social, and Learning to Learn" key competence for education systems, students, and learners on the whole. *LifeComp* intends to systematise the need to improve personal and social competences through education and lifelong learning, as well as promoting learning how to learn. The framework has undergone several consultations, over the course of which, the consensus was to come up with three areas encompassing three competences each. Every competence has three descriptors, following a model 'awareness, understanding, action'.

The Joint Research Centre (JRC) developed the *LifeComp* framework on behalf of, and in collaboration with the Directorate-General for Education, Youth, Sport, and Culture (DG EAC). This is the third competence framework for individuals the JRC has contributed to develop, following the already consolidated *Digital Competence Framework for Citizens*, also known as DigComp, and the *Entrepreneurship Competence Framework*, EntreComp. We believe that *LifeComp* is a crucial complement to these and other frameworks, and maybe even constitutes the base line, as it deals with life skills – the skills and competences that everybody should continually develop throughout life. The *LifeComp* framework is a conceptual reference framework; more work will be needed to put the framework into practice, and to guide stakeholders on its implementation.

This report is part of the JRC research on 'Learning and Skills for the Digital Era'. Since 2005, more than 25 major studies have been undertaken in this area, resulting in more than 120 publications. More information on all of our studies can be found on the JRC Science hub.

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This work results from ongoing dialogue, feedback, and knowledge exchange with colleagues, as well as with a group of experts and stakeholders, who were involved in workshops and informal conversations. Participants[i] in expert workshops are to be commended for enthusiasm, energy, perceptive focus, and commitment in discussing and co-creating input to underpin the framework conceptualisation – often keeping up dialogue and providing input beyond meetings. The participants are listed below in alphabetical order:

Olena **Bekh**, European Training Foundation; Ana Cristina **Blasco Serrano**, University of Zaragoza; Manuel **Bordoy**, European School of Brussels IV, Laeken; Robin **Bosdeveix**, Ministère de l'Éducation Nationale et de la Jeunesse, France; Elisa **Briga**, The European Federation for Intercultural Learning; Michaela **Brohm-Badry**, University of Trier; Bram **Bruggeman**, VUB Free University Brussels; Stephanie **Carretero**, Joint Research Centre; Carmel **Cefai**, University of Malta; Vivian **Chiona**, Psychologist and Counsellor; Teresa **Coma Rosselló**, University of Zaragoza; Luís Alexandre **Da Fonseca Tinoca**, University of Lisboa; Ruth **Deakin Crick**, Learning Emergence Partners, UK; Paul **Downes**, Dublin City University; Gina **Ebner**, European Association for the Education of Adults; Anastasia **Economou**, Cyprus Institute of Technology; Gisele **Evrard Markovic**, SALTO Training and Cooperation Resource Centre; Meritxell **Fernandez Barrera**, OECD; Hannah **Grainger Clemson**, DG Education, Youth, Sport and Culture; Stephan **Griebel**, Texas Instruments Education Technology; Eleonor **Grenholm**, Uppsala Regional Libraries Consortium; Sonia **Guerriero** UNESCO; Nana **Gulić**, Ministry of Education, Croatia; Claudia **Harzer**, University of Greifswald; Hester **Hulpia**, University of Ghent; Georg **Jürgens**, European Council for Steiner Waldorf Education (ECSWE); Miloš **Kankaraš**, OECD; Eve **Kikas** University of Tallinn, Mika **Launikari**, Everis; Hans **Laugesen**, GL representing ETUCE; Ruth **Martín Escanilla**, INEE, Spain; Antoine **Mioche**, Inspection Générale de l'Education nationale, France; Veronica **Mobilio**, DG Education, Youth, Sport and Culture; Pascale **Mompoint-Gaillard**, Freelance Expert; Barbara **Moser-Mercer**, University of Geneva, Ricarda **Motschilnig**, Policy Advisor for EAEA; Joanna **Napierala**, Joint Research Centre; Ward **Nouwen**, University of Antwerp; Orlaith **O'Connor**,

i Disclaimer: The experts, invited *intuitu personæ* to the workshops, have expressed their personal views. These are not necessarily those of the institutions to which they are affiliated. This final report reflects the views of the authors only.

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A special mention goes to Francesca **Caena**, who led the development of the *LifeComp* framework from September 2018 to September 2019, organising two expert workshops, and authoring the report "Developing a European Framework for the Personal, Social & Learning to Learn Key Competence (*LifEComp*). Literature review and analysis of frameworks", which was the basis for subsequent discussions leading to this version of the framework.

To all of them we give our sincere appreciation for their commitment to constructing a theoretical frame of reference which can assist lifelong learners to reflect on how to develop as thriving individuals, responsible social agents, and reflective citizens.

EXECUTIVE SUMMARY

Policy context

The 2006 Recommendation of the European Parliament and of the Council on Key competences for Lifelong Learning supported the development of competence-oriented teaching and learning, and the need to reform curricula in the European Union. Competence-oriented education focuses on the outcomes of learning processes, as well as on the fact that learning happens in a diverse range of contexts. Competence-oriented education is regarded as advantageous in a time when the knowledge base of our societies is developing at an immense speed, and the skills required need to be transferred to, and developed in many different societal contexts[1]. Key competences and basic skills are needed by all for personal fulfilment and development, employability, social inclusion, civic participation[2], and democracy[3]. Throughout the revision process of the Recommendation, consultations were held, during which stakeholders and experts voiced the pressing need to take stock of the importance of personal and social development aspects across education and training levels and sectors[4]. Such aspects are given a variety of names in international studies and competence frameworks, such as '21st century skills', 'life skills', 'socio-emotional skills', 'soft skills', or 'transversal skills'.

In May 2018, the European Council adopted an updated Recommendation on Key Competences for Lifelong Learning to further promote the development of key competences in the European Union. The revised document emphasised the purpose of key competences by stating that "*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*". In the aim of achieving this outcome, educational systems are expected to provide high-quality education, training, and lifelong learning for all, as well as to support educational staff in implementing competence-based teaching and learning approaches, to promote a range of learning contexts from the perspective of lifelong learning, and to explore approaches to the assessment and validation of key competences[5]. The updated Recommendation defines eight key competences for lifelong learning: Literacy, Multilingual, Mathematical competence and competence in science, technology and engineering, Digital, Personal, Social, and Learning to Learn Citizenship, Entrepreneurship, and Cultural awareness and expression.

Key conclusions

The aim of the *LifeComp* conceptual framework is to establish a shared understanding, and a common language on the "Personal, Social and Learning to Learn" competences. *LifeComp* was developed using a mixed-methods approach, made up of a comprehensive review of academic and desk research, and three iterative multi-stakeholder consultations which benefitted from the expertise of selected academics, educational policymakers, and practitioners from Europe and beyond.

LifeComp is made up of three intertwined competence areas: 'Personal', 'Social', and 'Learning to Learn'. Each area includes three competences: Self-regulation, Flexibility, Wellbeing (Personal Area), Empathy, Communication, Collaboration (Social Area), Growth mindset, Critical thinking, and Managing learning (Learning to learn Area). Each competence has, in turn, three descriptors which generally correspond to the 'awareness, understanding, action' model. These are not to be understood as a hierarchy of different levels of relevance, whereby some are prerequisites for others. Rather, all of them are to be considered complementary and necessary. **FIGURE 1** illustrates, at a glance, the nine competences that makeup *LifeComp*.

LifeComp regards "Personal, Social, and Learning to Learn" competences as ones which apply to all spheres of life, and which can be acquired through formal, informal, and non-formal education. Our leitmotif was to identify competences that are teachable. The journey to becoming self-regulated, empathetic, and flexible citizens is one which is always characterised by a social dimension; this is a key element in the European perspective, and distinguishes our framework from others. Becoming critical thinkers, and having a sense of wellbeing, both on an individual and collective level, are competences which can be taught in schools. This means that citizens can become active agents in determining their learning and professional paths, provided that measures are put in place which encourage the teaching of these kinds of competences within the European educational curricula. The framework could be adapted to different educational contexts. *LifeComp* could inspire the inclusion of new topics in the curricula, or be included in existing subjects. Future areas for the development of *LifeComp* competences, and their assessment, are eventually proposed.

The COVID-19 pandemic has disrupted our lifestyles, forcing important changes in education, employment, and skills requirements at all levels. In the current situation, it is especially relevant that citizens be able to reflect on and develop their personal, social, and learning to learn competences in order to unleash their dynamic potential, self-regulate their emotions, thoughts, and behaviours, build a meaningful life, and cope with complexity as thriving individuals, responsible social agents, and reflective lifelong learners.

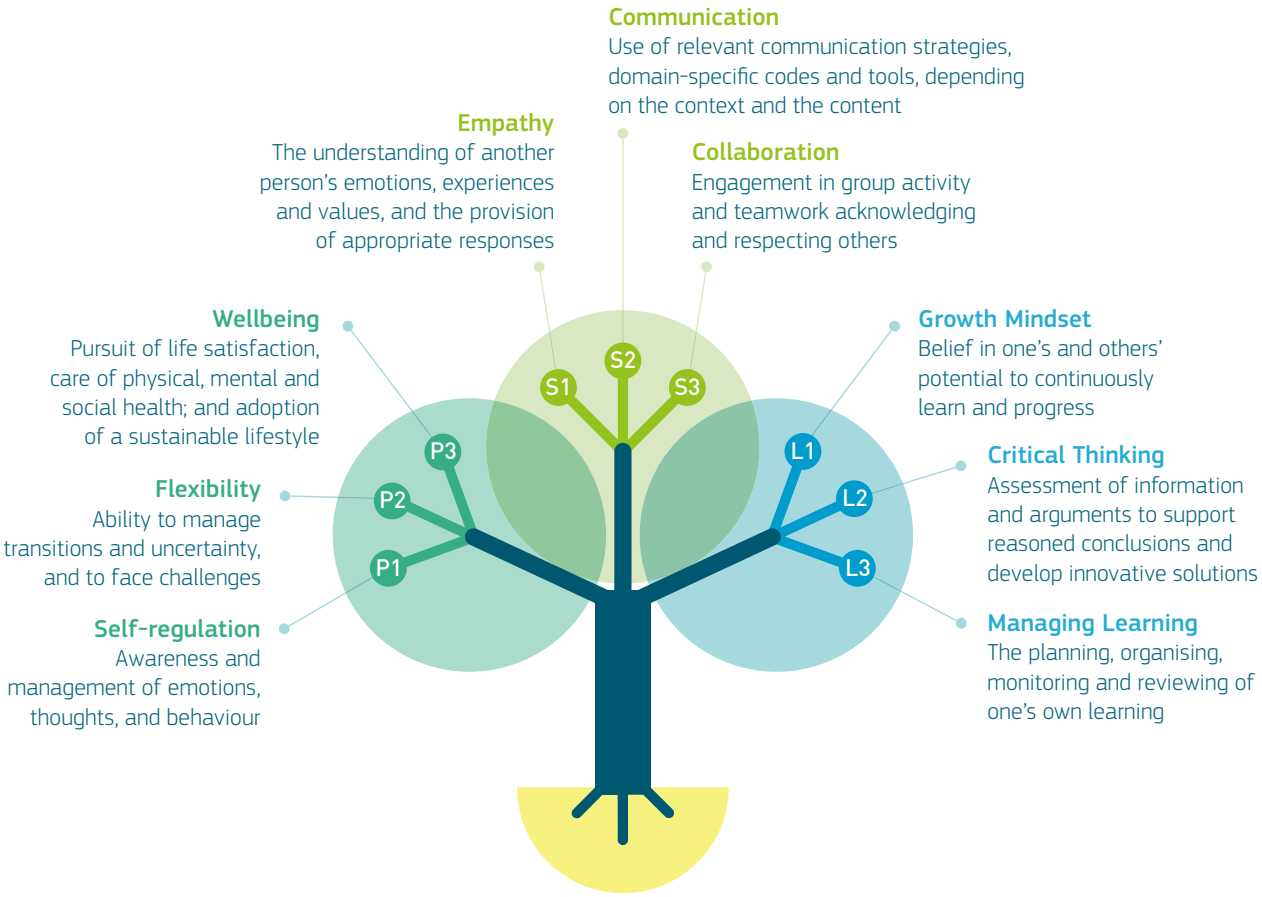


FIGURE 1. LIFECOMP AT A GLANCE

Related and future JRC work

Despite the uniqueness of *LifeComp,* its development builds on previous JRC work which was conducted to establish a common reference framework for citizens' digital competence, known as the Digital Competence Framework for Citizens (*DigComp*), the Entrepreneurship Competence Framework (*EntreComp*), and the respective user guides to put these frameworks into practice, DigComp into Action, and EntreComp into action. Following on from the *LifeComp* conceptual framework, the JRC will further analyse how the framework can be put into practice, focussing for instance on developing guidelines for teachers.

1 INTRODUCTION

In our rapidly changing societies, citizens need to develop competences which allow them to successfully manage the challenges posed by the many transitions taking place in their work, in their personal spheres, and in society.

Our societies are undergoing rapid changes, with technological developments largely driving such a fast pace. Automation is already transforming the labour market, with routine and low-skill tasks increasingly being performed by machines[6].

Technologies are therefore playing an increasingly important role in several areas of life, leading to skills quickly becoming obsolete, producing new work models, and stressing the need for people to update their personal skills throughout their lives. In the economic sphere, we are seeing swift changes in the forms of employment, whereby temporary positions are more common[6]; not only this, employers are increasingly seeking workers with competences such as flexibility, and a disposition towards continued learning. Demographic changes – due to the ageing population pyramid in the EU – highlight the need for renewed efforts to nurture personal wellbeing and ensure longer but also more fulfilling lives[7]. To cope with complex life situations, European citizens need to continuously develop competences which allow them to successfully manage the challenges posed by the many transitions taking place in their work, in their personal spheres, and in society. Individuals need to deal with uncertainty, nurture their resilience, develop on a personal level, build successful interpersonal relations, and learn how to learn. **Formal, non-formal, and informal education can contribute to the acquisition of these competences.**

In 2018, following a consultation process, the Council of the European Union revised the 2006 Recommendation of the European Parliament and of the Council on Key Competences for Lifelong Learning. The former 'Learning to Learn' competence has been underpinned by a wider scope which focuses also on personal and social development. This key competence has thus been labelled "Personal, Social, and Learning to Learn", and is defined as "*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*". The new definition emphasises that this key competence *"includes the ability to cope with uncertainty and complexity, learn to learn, support one's physical and emotional wellbeing, to maintain physical and mental health, and to be able to lead a health-conscious, future-oriented life, empathise and manage conflict in an inclusive and supportive context*[8]". "Personal, Social, and Learning to Learn" is intertwined with other key competences (i.e. Literacy; Multilingual; Mathematical, science, technology and engineering; Digital citizenship; Entrepreneurship; and Cultural awareness and expression); it spans relevant competences which all citizens should develop to empower them to actively participate in society and the economy, in the context of the increasing importance of 'soft skills' in a fast-changing global context.

Social and emotional education promote students' mental health, academic achievement, and employability over time.

As stated in the 2018 Recommendation, the "Personal, Social, and Learning to Learn" key competence is based on employing a positive attitude towards one's personal, social, and physical wellbeing and learning throughout one's life. It builds on a mindset of collaboration, assertiveness, and integrity. This includes respecting the diversity of others, their needs, and being both prepared to overcome prejudices, and to compromise. Individuals should be able to identify and set goals, deal with complexity, motivate themselves, seek support when appropriate, develop resilience and confidence, and to pursue and succeed at learning throughout their lives. A problem-solving attitude supports the learning process, as well as the individual's ability to handle obstacles and to 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[8]. The key competence also includes the ability to cope with uncertainty and stress, to learn and work both autonomously and collaboratively, to communicate constructively, expressing and understanding different points of view, to create confidence, and to feel empathy. It involves knowledge about the components of a healthy mind, body, and lifestyle. The codes of conduct and rules of communication which are generally accepted in different societies and environments are also relevant. To develop this competence, people also need to be aware of their preferred learning strategies, and know how to keep on learning and searching for education, training, and career opportunities.

According to classical theories of **sociocultural development**[9;10], **learning** occurs through the process of **internalisation,** stemming from social interactions. Because of the social interaction, and the scaffolding provided by a "more knowledgeable other"[11], the learner is progressively able to expand their competence and autonomy. Moreover, individuals' development is influenced by their **participation in multiple systems**[12], in which complex interrelations take place. This leads us to stress the **importance**, on the one hand, **of interactions** with family, educators, peers, etc., and, on the other hand, of the **relevance** of the **socio-cultural context**. Indeed, the values embedded in cultures form a foundation for personal and social development. Although every society has a permanent debate on which values to adopt and promote, and countries can hold different approaches towards teaching common values[ii;iii], the European Union has always stressed the relevance of its common foundational values as a key driver for imagining new ways of schooling, learning, and relating to each other, and to the environment.

Education in its different forms (formal, informal, and non-formal) is the prime vehicle to both help learners to develop this competence, and help them in their unfolding as learners to contribute towards societies becoming further attuned to nature, public health, and other sources of intrinsic value. **All learners**, including those facing disadvantages or special needs, **should be given adequate support** in inclusive settings **to fulfil**

ii Those stated in Article 2 of the Treaty on European Union: respect for human dignity, freedom, democracy, equality, the rule of law and respect for human rights, including the rights of persons belonging to minorities, pluralism, non-discrimination, tolerance, justice, solidarity, and gender equality.

iii Following the terrorist attacks in Paris, the Ministries of Education of the EU Member States formulated within the Paris Declaration (2015) the "Declaration on promoting citizenship and the common values of freedom, tolerance and non-discrimination through education", which recognises the importance of stressing, acknowledging, and promoting European values through formal, informal, and non-formal education.

their potential. Education, by teaching personal and social competences, can eventually be a means of self-fulfilment and self-satisfaction[7]. In formal education, programmes devoted to developing social and emotional competences (e.g. self-regulation, empathy, problem-solving, communication, or collaboration) have been proven to have significantly positive effects on both students and staff[13]. **Social and emotional education** (SEE) contributes to **promote** students' **mental health, academic achievement,** and **employability** over time, increasing prosocial behaviours and reducing disruptive ones[14;15;16], so that the socioeconomic benefits derived by these programmes substantially outweigh their costs[17]. Additionally, implementing *LifeComp* through education may contribute to achieving the *United Nations' Target 4.7 of Sustainable Development Goals*. That is to ensure that "*all learners, by 2030, 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 culture's contribution to sustainable development*"[18].

We would like to highlight that **this framework intends to orient** citizens, educators, educational policymakers, and civil society organisations in a non-prescriptive way. It is far from our intention to influence the personality traits of students and citizens. Rather, our aim is to establish educational curricular materials and related resources that will contribute to higher levels of personal and social development competences for all citizens, as well as fostering wellbeing, life satisfaction, self-fulfilment, and inclusivity, through education. **The goal of the framework is to initiate an agreed upon set of guidelines for the flexible implementation of "Personal, Social, and Learning to Learn" education** in Member States' curricula, and specific school-based curricula, while respecting the European subsidiarity principle, under which both education and lifelong learning fall.

Noteworthily, at the time of this document's creation, citizens around the world are experiencing major stress due to a pandemic which has engendered unparalleled uncertainties for many people's lives. A sudden worldwide public health crisis is bringing about unknown levels of alarm and insecurity. European societies and economies are being affected to the point that individuals are being driven to radically different prevention attitudes, changing their lifestyles, constraining their social interactions, and raising awareness in the collective and even global dimension of human health. The COVID-19 crisis is calling into question the personal and social competences that each of us might have acquired throughout our lives. To confront this disruptive situation, Europeans are urgently trying to adapt to new ways of learning, working, relating to others, and coping with the dangers of dishonest or distorted information. The media, specifically digital social media, is a powerful vehicle of transmission for what is widely termed 'fake news', vastly contributing to the

general uncertainty of citizens. Uncertainty is an exacerbated sentiment in the current times, and therefore, coping with it is one crucial competence to be developed. This framework can help learners and citizens to take a preventive attitude regarding their own health and the health of the others, to discern reliable information from misinformation, to self-regulate emotions, to manage learning flexibly, and to remain hopeful.

Finally, this key competence has close links with two others: **"Cultural Awareness and Expression"**, and **"Citizenship"** (as stated in the Staff Working Document accompanying the 2018 Council Recommendation[1]). 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 having a sense of one's place or role in society in a variety of ways and contexts, and an open attitude towards, and respect for diversity of cultural expression, together with an ethical and responsible approach to intellectual and cultural ownership. On the other hand, the 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. It includes support for social and cultural diversity, gender equality and social cohesion, sustainable lifestyles, promoting a culture of peace and non-violence, a readiness to respect the privacy of others, and to take responsibility for the environment[8;iv]. Even if some overlap of the competences is inevitable, in the description of the "Personal, Social and Learning to Learn" key competence, our aim was to focus on the aspects which distinguish it from other key competences.

Aims and objectives

The development of *LifeComp* was launched by the Joint Research Centre (JRC) on behalf of the Commission's Directorate-General for Education, Youth, Sport and Culture (DG EAC). Its ambition is to provide an agreed upon conceptual framework for the "Personal, Social and Learning to Learn" key competence for lifelong learning. Educational stakeholders could consider *LifeComp* as a basis for discussion, and for promoting this key competence.

iv The Council of Europe and the OECD have developed the "Reference Framework of Competences for Democratic Culture" and the "PISA Global competence framework" respectively. These two frameworks can be seen relevant to the "Cultural awareness and expression", and the "Citizenship" European key competences.

1. PRELIMINARY STUDY

A. A **literature review** of existing concepts, debates, and policies related to the "Personal, Social and Learning to Learn" areas.

B. An analysis of **nine international frameworks** related to at least one of the three areas of the key competence.

C. An analysis of **15 national curricula, assessment tools and competence framework**, including their descriptions of learning outcomes and proficiency levels.

D. An analysis of **13 international projects** spanning different education and training levels, including formal, non-formal and informal education, as well as both youth and adult learning.

2. SCOPING PAPER[4]

In which **18 initial competences** and **91 descriptors** were identified for discussion in an expert workshop.

3. EXPERT SCOPING WORKSHOP

MARCH 2019

Where the **framework development approach was validated**, and the initial list of competences and descriptors was discussed with the aim of reaching an initial consensus, and receiving feedback for the framework's revision.

4. UPDATED FRAMEWORK MODEL and BACKGROUND PAPER[19]

In which **10 competences** and **28 descriptors** are presented.

5. EXPERT CONSOLIDATION WORKSHOP

JUNE 2019

Where the aim was to collect feedback, and build agreement on the revised conceptual model of the framework.

6. JRC TECHNICAL REPORT

A **literature review and analysis of frameworks**[20], which presents nine competences, and 27 descriptors.

7. MULTI-STAKEHOLDER and EXPERT WORKSHOP

NOV 2019

To collect feedback and build agreement on the revised conceptual framework, and to discuss the opportunity for, and relevance of different strategies for its implementation.

8. CONSOLIDATED LIFECOMP FRAMEWORK

It consists of three competence areas, nine competences, and 27 descriptors. Each area is composed of three competences. Each competence is described by three descriptors.

TABLE 1. LIFECOMP FRAMEWORK DEVELOPMENT STEPS

LifeComp ultimately aims to facilitate a basis for peer learning and exchanges among Member States and civil society organisations, in order to eventually have a positive impact on citizens, so that they can fulfil their dynamic potential, self-regulate their emotions, thoughts and behaviours, build a meaningful life, and cope with complexity as thriving individuals, responsible social agents, and reflective lifelong learners. The study has been designed to:

- **Identify** the set of components of "Personal, Social and Learning to Learn" as a competence
- **Describe** these components to establish an agreed upon conceptual model which stakeholders in education, and lifelong learners can refer to
- **Initiate** a continuous discussion regarding the implementation of the key competence

LifeComp has used a robust mixed-method research process, and each of its interim outputs was discussed in expert consultations. A final multi-stakeholder validation seminar eventually led to the consolidated framework which is presented in this report.

Methodology

The conceptual framework *LifeComp* was developed by the JRC on behalf of DG EAC to operationalise the "Personal Social, and Learning to Learn" key competence for lifelong learning. This development is outlined in the key stages described in **TABLE 1**.

Limitations

The *LifeComp* framework results from a robust research methodology[21], where a large and diverse group of experts were consulted at different stages for feedback, and to progressively reach a consensus around a validated proposal.

Nevertheless, **the framework has not yet been adapted to, or tested in practice**. A subsequent step will be to try the *LifeComp* framework out in practice by implementing and evaluating it in a specific context. Feedback from practitioners and end-users is expected to continuously help with amending and refining the framework, both by virtue of the transversal nature of this input, and of these contributors' existing educational experiences (e.g. socio-emotional education).

Structure of this report

Following this introduction, Section 2 provides the reader with a description of the conceptual framework's structure and rationale, and a table with the full competence framework. Section 2 describes the visualisation of the framework. In Sections 3, 4, and 5, the competences and descriptors of the three areas are explained. In Section 6, we reflect on the way forward, on research needs, and on possible avenues for implementation.

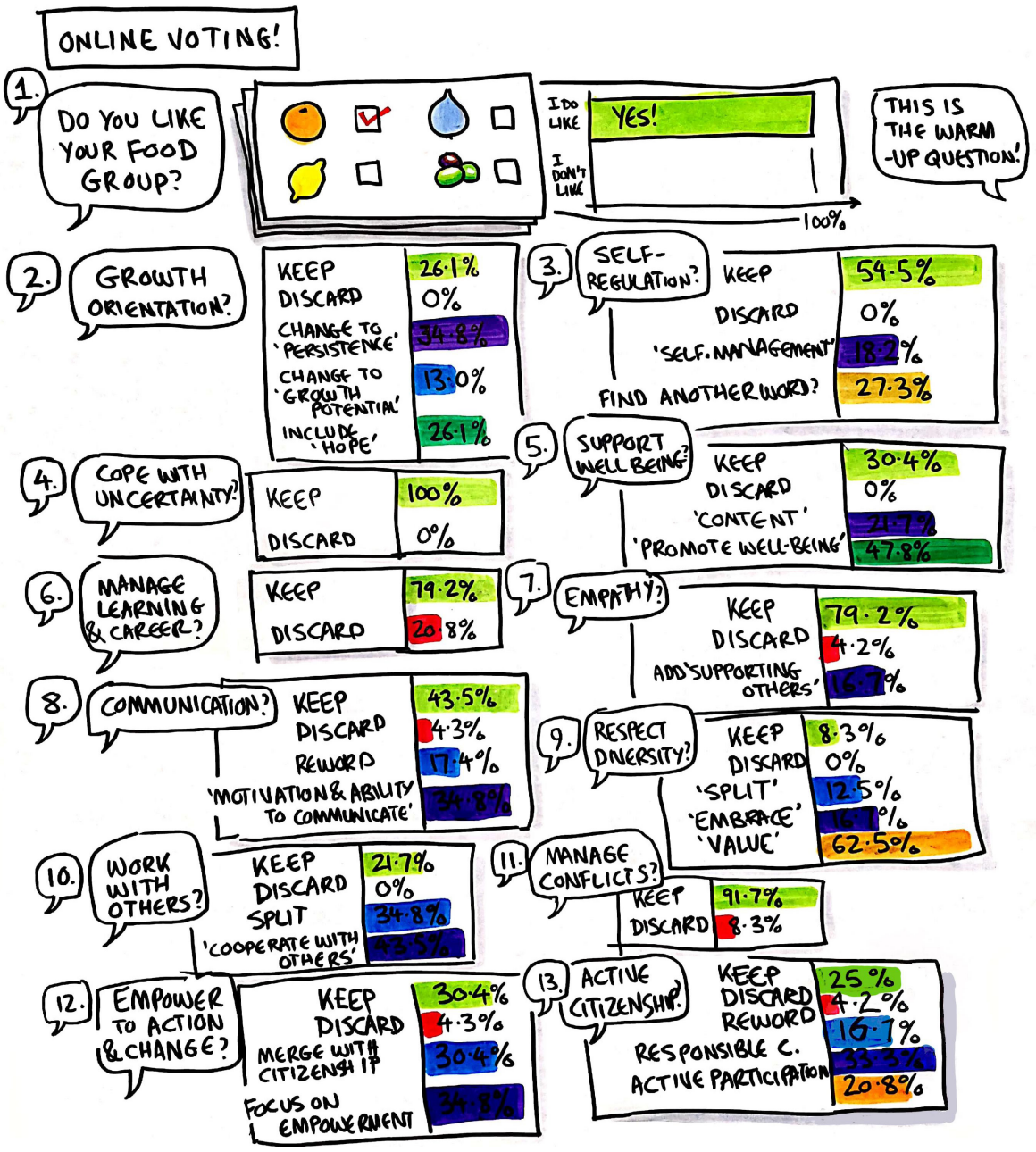


FIGURE 2. EXPERTS VOTES DURING THE SCOPING WORKSHOP IN THE PROCESS OF DEFINING THE LIFECOMP COMPETENCES

2

OVERVIEW OF THE LIFECOMP FRAMEWORK

The *LifeComp* framework is a flexible tool that can be adapted to different learning settings, and target groups to support the development of the "Personal, Social and Learning to Learn" competences in context.

The *LifeComp* framework is a flexible tool that can be adapted to different learning settings, and target groups to support the development of the "Personal, Social and Learning to Learn" competences in context.

It is not intended to be prescriptive; rather, it provides a validated description of the components that make up the key competence. Usually, the definition of "competence" encompasses knowledge, skills, and attitudes. However, a **holistic perspective**, which understands the interdependence between elements of the framework as a complex ecosystem, can be more effective[22]. In fact, the key competence spans elements with different profiles and makeup. Some, for instance, have a focus on attitudes as dispositions and orientations to actions; others represent a set of competences.

To cope with any given situation, individuals activate a number of competences, which will vary to address the demands of each circumstance. All competences included in the framework are, therefore, equally relevant, necessary, interrelated, and interconnected, and should be treated as parts of a whole.

AREA	COMPETENCES	DESCRIPTORS
PERSONAL	**P1 Self-regulation** Awareness and management of emotions, thoughts and behaviour	P1.1 Awareness and expression of personal emotions, thoughts, values, and behaviour
		P1.2 Understanding and regulating personal emotions, thoughts, and behaviour, including stress responses
		P1.3 Nurturing optimism, hope, resilience, self-efficacy and a sense of purpose to support learning and action
	P2 Flexibility Ability to manage transitions and uncertainty, and to face challenges	P2.1 Readiness to review opinions and courses of action in the face of new evidence
		P2.2 Understanding and adopting new ideas, approaches, tools, and actions in response to changing contexts
		P2.3 Managing transitions in personal life, social participation, work and learning pathways, while making conscious choices and setting goals
	P3 Wellbeing Pursuit of life satisfaction, care of physical, mental and social health; and adoption of a sustainable lifestyle	P3.1 Awareness that individual behaviour, personal characteristics and social and environmental factors influence health and wellbeing
		P3.2 Understanding potential risks for wellbeing, and using reliable information and services for health and social protection
		P3.3 Adoption of a sustainable lifestyle that respects the environment, and the physical and mental wellbeing of self and others, while seeking and offering social support
SOCIAL	**S1 Empathy** The understanding of another person's emotions, experiences and values, and the provision of appropriate responses	S1.1 Awareness of another person's emotions, experiences and values
		S1.2 Understanding another person's emotions and experiences, and the ability to proactively take their perspective
		S1.3 Responsiveness to another person's emotions and experiences, being conscious that group belonging influences one's attitude
	S2 Communication Use of relevant communication strategies, domain-specific codes and tools, depending on the context and content	S2.1 Awareness of the need for a variety of communication strategies, language registers, and tools that are adapted to context and content
		S2.2 Understanding and managing interactions and conversations in different socio-cultural contexts and domain-specific situations
		S2.3 Listening to others and engaging in conversations with confidence, assertiveness, clarity and reciprocity, both in personal and social contexts
	S3 Collaboration Engagement in group activity and teamwork acknowledging and respecting others	S3.1 Intention to contribute to the common good and awareness that others may have different cultural affiliations, backgrounds, beliefs, values, opinions or personal circumstances
		S3.2 Understanding the importance of trust, respect for human dignity and equality, coping with conflicts and negotiating disagreements to build and sustain fair and respectful relationships
		S3.3 Fair sharing of tasks, resources and responsibility within a group taking into account its specific aim; eliciting the expression of different views and adopting a systemic approach
LEARNING TO LEARN	**L1 Growth mindset** Belief in one's and others' potential to continuously learn and progress	L1.1 Awareness of and confidence in one's own and others' abilities to learn, improve and achieve with work and dedication
		L1.2 Understanding that learning is a lifelong process that requires openness, curiosity and determination
		L1.3 Reflecting on other people's feedback as well as on successful and unsuccessful experiences to continue developing one's potential
	L2 Critical thinking Assessment of information and arguments to support reasoned conclusions and develop innovative solutions	L2.1 Awareness of potential biases in the data and one's personal limitations, while collecting valid and reliable information and ideas from diverse and reputable sources
		L2.2 Comparing, analysing, assessing, and synthesising data, information, ideas, and media messages in order to draw logical conclusions
		L2.3 Developing creative ideas, synthesising and combining concepts and information from different sources in view of solving problems
	L3 Managing learning The planning, organising, monitoring and reviewing of one's own learning	L3.1 Awareness of one's own learning interests, processes and preferred strategies, including learning needs and required support
		L3.2 Planning and implementing learning goals, strategies, resources and processes
		L3.3 Reflecting on and assessing purposes, processes and outcomes of learning and knowledge construction, establishing relationships across domains

TABLE 2. THE LIFECOMP FRAMEWORK

The *LifeComp* conceptual model builds on the aforementioned three areas which are clearly outlined by the 2018 Council Recommendation. As shown in **TABLE 2**, each area is made up of three competences. In turn, each competence has **three descriptors** which are outlined using the **'awareness, understanding, action' model**, suggested by experts for depicting different facets of deployment. The order in which the descriptors are presented **does not imply a sequence** in the **acquisition process** or a **hierarchy**. In other words, every competence has different dimensions, which individuals can develop at different levels. The proposed set of competences has been identified and validated by experts and stakeholders in iterative consultations. The version in **TABLE 2** is the final version elaborated by the JRC and DG EAC.

Visualisation of the framework

As a visual representation of the framework, we choose the **metaphor of a tree**, which stresses the **dynamic interdependence** of all competences in an individual and a **growth model** over time. The tree has overlapping branches, which are fed by the roots, representing the individual's connection to the sociocultural context and to others. Every element of the tree is equally necessary for its development as a whole. Roots and the crown grow up simultaneously, and are equally necessary for the livelihood and flourishing of the tree as a living being.

In **FIGURE 3**, we explain how the *LifeComp* areas, competences and descriptors are represented in the visual metaphor. As illustrated, we take the example of a tree yielding buds, flowers, and fruits at the same time, suggesting a coexisting **variety of different competences**, which are all **at different stages of progression**.

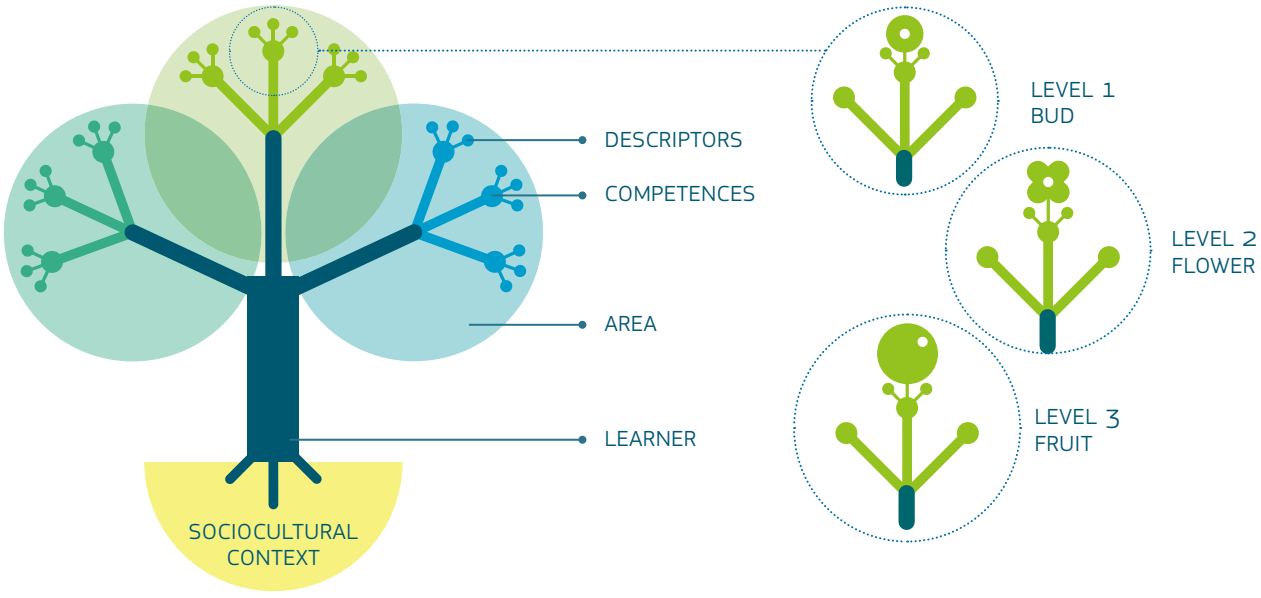


FIGURE 3. THE LIFECOMP FRAMEWORK VISUAL METAPHOR

FIGURE 4. LIFECOMP DESCRIPTORS TYPOLOGIES

FIGURE 5. LIFECOMP AT A GLANCE

Each area of *LifeComp* is composed of three competences. Each competence is, in turn, illustrated by three descriptors that generally follow the model "awareness, understanding and action". Throughout the text, the icons in **FIGURE 4** are displayed with the corresponding descriptor and will help the reader to navigate the report.

In **FIGURE 5**, we illustrate, at a glance, the nine competences that compose the *LifeComp* framework. Each competence is represented with its corresponding definition.

The tree metaphor aims to highlight that personal development occurs within the sociocultural context and to acknowledge the role of the social ecosystem and the contextual factors in promoting or hindering an individual's growth.

FIGURE 6 shows the relevance of the **relations with other** individuals (e.g. family, teachers, mentors, peers, friends, etc.) at a **microsystem level**. It also shows the **sociocultural context** (e.g. the specific physical, social, cultural, economic and historical circumstances of living of each individual) that underpins competence development at a **macrosystem level**.

FIGURE 6. THE LIFECOMP ECOSYSTEM

3 THE PERSONAL AREA

Personal development occurs in the relation and the interaction with others within the social and historical contexts. The influence of contextual factors in promoting or hindering the scope of personal agency is, therefore, to be acknowledged.

This area refers to **personal development, thriving and realising the potential of everyone**. The influential 1996 Delors report[23] stated that one of the four pillars of education against the backdrop of lifelong learning was "**learning to be**", referring to the development of "one's personality and to be able to act with growing autonomy, judgment and personal responsibility".

To be personally competent is tightly related to "learning to be"[24], as every individual should acquire a series of skills, knowledge, and attitudes, as indicated in the 2018 Council Recommendation on Key Competences for Lifelong Learning. "Learning to be" implies to be knowledgeable about a healthy mind, body, and lifestyle; being skilled on how to cope with complexity, uncertainty, and stress, seek support when needed, and stay resilient, as well as to develop the ability to work autonomously and manage one's career. It also entails having attitudes of assertiveness, integrity, self-motivation, problem-solving to deal with changes, and a generally positive disposition towards the promotion of one's personal, social, and physical wellbeing.

Personal development occurs in the relation and the interaction with others within the social and historical contexts, and everybody holds multiple social identities simultaneously. Many factors intersect[25] and create different experiences of inequalities or privilege, such as gender, race and ethnicity, sexuality, socio-economic class, age, disability, being a migrant or a refugee, among others. The influence of **social-cultural contextual factors** in promoting or hindering the scope of **personal agency** is, therefore, to be acknowledged, as well as the need for policies to address the **structural causes of inequalities**, and to promote the flourishing of all individuals. Education for personal development has the potential to ease inequality, offering all citizens the tools to analyse the world and act critically[26].

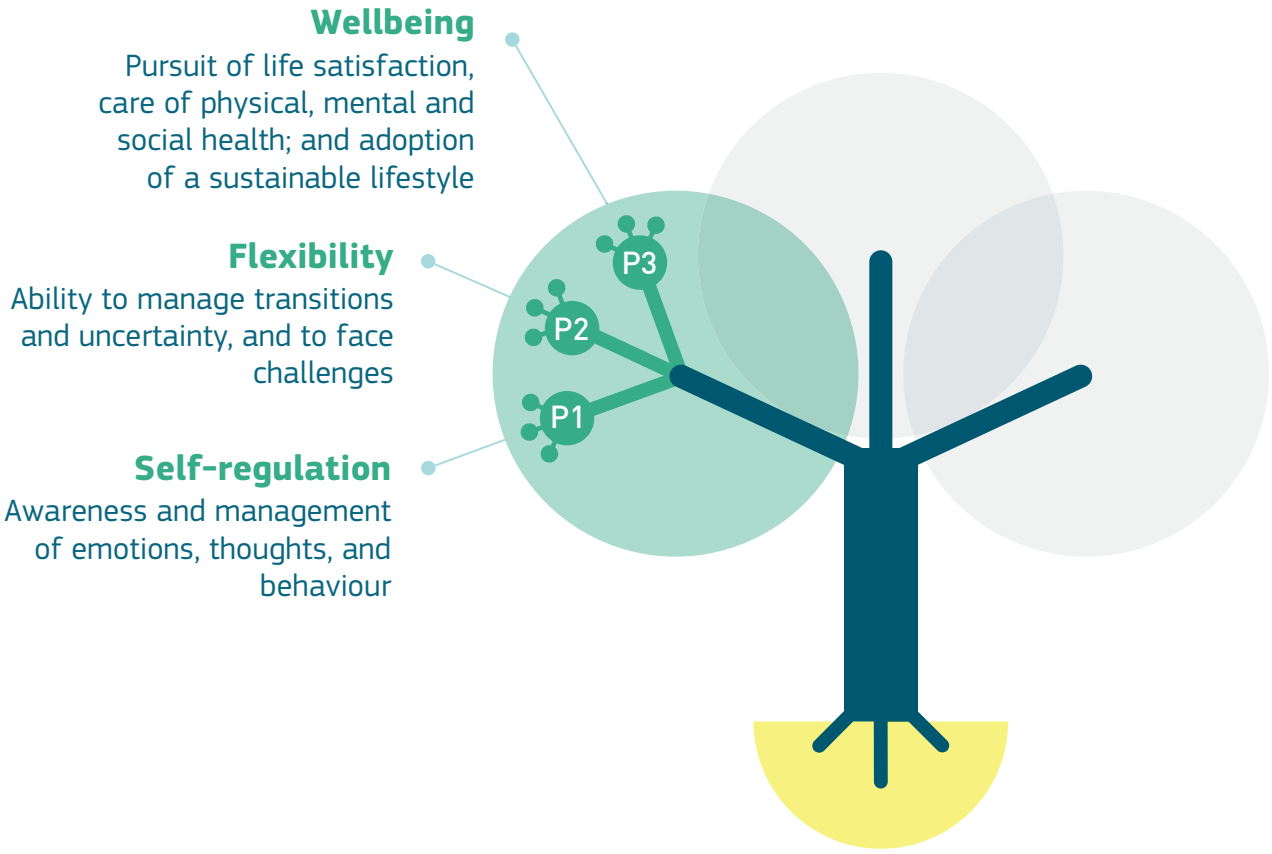


FIGURE 7. LIFECOMP PERSONAL AREA COMPETENCES

P1 Self-Regulation

P1.1	Awareness and expression of personal emotions, thoughts, values, and behaviour
P1.2	Understanding and regulating personal emotions, thoughts, and behaviour, including stress responses
P1.3	Nurturing optimism, hope, resilience, self-efficacy, and a sense of purpose to support learning and action

P2 Flexibility

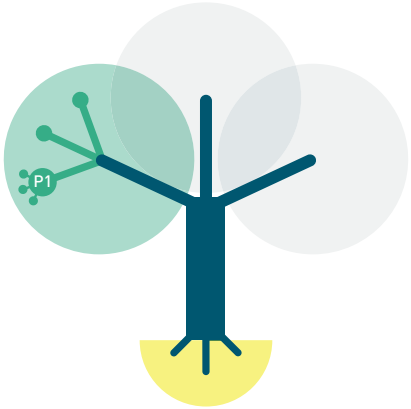
P2.1	Readiness to review opinions and courses of action in the face of new evidence
P2.2	Understanding and adopting new ideas, approaches, tools, and actions in response to changing contexts
P2.3	Managing transitions in personal life, social participation, work and learning pathways, while making conscious choices and setting goals

P3 Wellbeing

P3.1	Awareness that individual behaviour, personal characteristics and social and environmental factors influence health and wellbeing
P3.2	Understanding potential risks for wellbeing, and using reliable information and services for health and social protection
P3.3	Adoption of a sustainable lifestyle that respects the environment, and the physical and mental wellbeing of self and others, while seeking and offering social support

TABLE 3. LIFECOMP PERSONAL AREA COMPETENCES AND DESCRIPTORS

P1 Self-regulation



The awareness and management of emotions, thoughts and behaviour

Self-regulation is a **typically human capacity** which allows us to alter and regulate our responses so that they are not the result of an unconscious reaction to a stimulus[27]. Self-regulation is a cyclical process carried out through three main steps: establishing a desired state, i.e. creating action plans, setting goals, and anticipating future outcomes; comparing the current state with the desired one, monitoring oneself, and cultivating self-awareness; and acting to modify the current state if it does not correspond to the desired one[28].

Self-regulation requires curbing one's tendency to react to stimuli with automatic responses (e.g. a learned habit, an innate response, or an impulse to act). In other words, Self-regulation requires controlling responses, and overriding unwanted reactions to an impulse, rather than eliminating the impulse itself[27].

Self-regulatory strength is a capacity that everyone has to different extents, and which **increases with practice**. Stressful situations in which individuals face many different demands can temporarily deplete their self-regulatory strength, making it more challenging to continue to fight frustration, and to successfully control impulsive responses. A willingness to engage in self-regulation depends on the individual's beliefs regarding their self-regulatory strength[29]. This, in turn, contributes to a sense of personal agency, i.e. the appreciation of our capacity to act on oneself and the environment[30]. Self-regulation plays an important role in individuals' active engagement in their learning, and their engagement in learning how to learn, and it is necessary for developing other key competences. For instance, together with self-efficacy (the belief in one's capacity to achieve their goals), self-regulation is a key component of the Entrepreneurship competence, i.e. the capacity to create cultural, social, or economic value[31].

P1.1

Awareness and expression of personal emotions, thoughts, values, and behaviour

Self-awareness is fundamental for self-regulation since it allows identifying promptly unwanted responses, making it easier to prevent and control undesired outcomes

Having an awareness of one's emotions, thoughts, and values plays a crucial role in personal development, disposing individuals to be open to learning and change. This descriptor focuses on individuals' self-awareness of their emotions, thoughts, and values, a key component of emotional intelligence[32]. Individuals need to be able to **perceive** and **recognise** their own **emotions** and **thoughts, bodily responses**, the values that drive them towards personal development, and how those factors influence their behaviour, and affect their performance in various areas of life.

Asking others for feedback, and adopting an **introspective attitude** to gain a realistic but compassionate[33] insight of oneself, can help individuals to develop self-awareness. This, in turn, facilitates an understanding of one's own strengths, virtues, and limitations. It enables the possibility of **cultivating** one's positive **qualities** and **addressing limitations**[15], the development of a trustworthy representation of oneself, and the improvement of self-confidence. Possessing sound self-awareness is fundamental for self-regulation, since it allows us to promptly identify unwanted responses, making it easier to prevent and control undesired outcomes. Self-awareness is also needed to make sound decisions, to promote personal wellbeing, and to manage careers, as it helps to align one's values with appropriate occupational goals and civic engagement, resulting in more satisfactory learning and professional choices.

P1.2

Understanding and regulating personal emotions, thoughts, and behaviour, including stress response

The deployment of strategies to attend and regulate emotions helps achieve better performance in personal, educational, and professional settings

This descriptor focuses on **self-management**, the capacity to understand how emotions, thoughts, and values influence behaviour, and how to modulate and regulate them. Individuals need to make a sustained effort to redirect their spontaneous flow of emotions, thoughts, verbal and bodily responses, and to be able to implement strategies for reducing the level of their emotional strains and impulses. This includes the ability to **label emotions, interpret** their contextual **meaning**, understand complex feelings (e.g. experiencing mixed feelings), and adopt an attitude of discernment and **self-acceptance** to deal with these constructively[33]. Managing feelings and emotions plays a crucial role in personal development, disposing individuals to be open to learning and change[34].

Any emotions, be it those which cause positive or those which cause negative feelings, are adaptive mechanisms necessary for life. At the same time, the deployment of **strategies** to pay attention to and regulate emotions helps individuals to perform better in personal, educational, and professional settings[35;36]. Both strategies of **down-regulation** (wilfully reducing the intensity of emotions which cause negative feelings), and **up-regulation** (intentionally amplifying and nurturing emotions which cause positive feelings), have **positive effects** on personal **wellbeing**[37]. Both self-management and the ability to refrain from unwary behaviours are critical skills for coping with stressful situations and conflicts. Regulating emotions also contributes to creating relationships based on trust. The ability to delay gratification, undertaking a challenging task that requires postponing reward, represents another critical aspect of self-regulation, and can predict individuals' academic performance[38;39]. Honing this ability requires the individual to train a sense of perspective, which allows for them to focus their attention beyond the immediate stimuli, and to consider the possible personal outcomes regarding their long-term concerns, values, and goals. There are several strategies to regulate our thoughts, emotions and behaviours; individuals need **to find those strategies which best suit** them, and adapt to tasks and specific situations.

P1.3

Nurturing optimism, hope, resilience, self-efficacy, and a sense of purpose to support learning and action

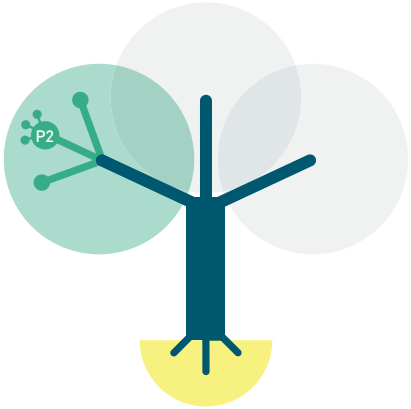
A sense of personal purpose enhances the motivation to actively pursue long-term goals

This descriptor stresses the importance of pursuing a positive perspective on life, and a sense of purpose. It focuses on cultivating hope, optimism, resilience, and self-efficacy[40]. *Hope* is the **motivational energy** to initiate and sustain progress in the pursuit of goals, and the ability to **imagine** and go through **alternative ways** to reach them[41] (such as by having a "Plan B" to reach a goal). *Optimism* implies nurturing **positive expectations** about the possibility of succeeding in the present and the future. *Resilience* is the ability to **cope positively** and **bounce back** from adversity, uncertainty, conflict, as well as with positive changes such as promotions or increased responsibility.

Self-efficacy is the sense of one's worth, and positive belief and **confidence** in one's **own ability** to successfully complete a task, and to obtain a positive outcome in a specific situation. Self-efficacy positively correlates with performance, as it contributes to perseverance and trying harder to succeed[30]. Conversely, a low level of self-efficacy is commonly followed by disengagement[42]. Self-efficacy also contributes to diminishing the level of emotional activation while facing a challenge[43].

The last element of this descriptor is "*nurturing a sense of purpose*", which related to having long-term goals which are shaped by one's beliefs and values. A sense of **personal purpose** enhances the motivation to actively pursue **long-term goals** which surpass the constraints of life, thus helping individuals to reflect on their existential questions and how to live a **meaningful life**. Individuals who engage in actions which display a clear sense of purpose are often those with the highest levels of life satisfaction[44;45]. Nurturing a sense of purpose and coherence is closely intertwined with long-term levels of personal wellbeing.

P2 Flexibility



The ability to manage transitions and uncertainty, and to face challenges

The contemporary global context is increasingly volatile, uncertain, complex, and ambiguous[46]. Citizens need to **deal with ambiguity**[47], and to be able to change or persist in their behaviours in order to cope with ever-changing internal and external circumstances. Moreover, life itself is characterised by developmental changes and disruptive events, whether positive or negative, which individuals need to face, including changes in learning settings or the workplace (such as finishing primary school and entering secondary school, or getting a promotion at work), in the family (for example, the birth of a child, or the loss of a parent), and in the outside environment (such as a public health alert, or a natural disaster). Being flexible means having the capacity to **adapt** to **new situations**, and to make adjustments to accommodate changes. Moreover, it implies an attitude of accepting complexity, contradictions, and lack of clarity, and a willingness to tackle tasks even when only incomplete information is available[47].

In 2019, the **most requested skill** in online job advertisements was the ability to "adapt to change", as employers are increasingly looking for individuals with the "*ability to modify one's attitude or behaviour to accommodate modifications in the workplace*"[48]. As such, it is critical that citizens develop these skills. The individual potential to manage transitions is tightly interlinked with self-regulation, specifically with the regulation of personal emotions, thoughts, and behaviours in changing circumstances. Coping with uncertainty, ambiguity, and risk, is also relevant within the **Entrepreneurship Competence Framework** (*EntreComp*), which describes flexibility as the competence to make decisions when the result of that decision is uncertain, when the information available is partial or ambiguous, or when there is a risk of unintended outcomes[31].

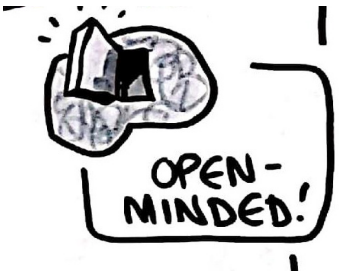
P2.1

Readiness to review opinions and courses of action in the face of new evidence

Intellectual interest and curiosity are needed to be able to explore new situations with openness; so too are the capacities to negotiate and to weigh up different points of view

This descriptor stresses the relevance of being **aware of newly available data**, changing circumstances, and accordingly and promptly demonstrating a **willingness to modify one's actions**, opinions, or preferred way of doing things. It encompasses intellectual interest and **curiosity** to explore new situations with openness, as well as having the capacity to consider multiple aspects and to understand, negotiate, and **weigh up different points of view** on a specific topic.

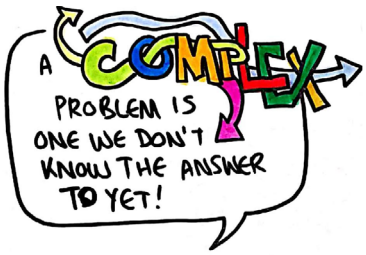
For individuals to be ready to review opinions and courses of action, they must understand that there is no single strategy or behaviour which will always lead to positive outcomes. Rather, the usefulness of our intended approaches must be assessed according to the shifting situation. It is important to stress that reviewing one's opinion or a way of proceeding does not mean having a weak resolve; it indicates an ability to openly face changes, and to manage the fear of change, which requires a coherent and robust sense of self[49]. This descriptor also focuses on individuals being able to **reflect on and react** adequately to positive and negative **feedback**, and to modify personal plans where necessary.



P2.2

Understanding and adopting new ideas, approaches, tools, and actions in response to changing contexts

Being flexible means having an attitude of openness to novel ideas, tools, or ways of doing things, and being able to deal with uncertainty



This descriptor focuses on the relevance of adopting an attitude of **openness** to novel ideas, tools, or ways of doing things, and the ability to **deal** with **uncertainty**. Individuals need to be open to generating alternative solutions, and to **abandoning strategies** which do not lead to a desired result, curbing the tendency to continue an initial course of action in situations which require a change[50].

The digital age is inherently **complex**. We are facing the spread of new digital tools, artificial intelligence (AI), virtual reality (VR), big data, etc., which are becoming omnipresent in almost all important areas of life, such as education, work, and research. Being flexible in today's society also means being able to foster and improve one's **digital skills**, and taking advantage of new possibilities for development that have been triggered by the spread of technology. However, to participate in "datafied" societies, citizens need to know how to manage the stream of personal data that they generate, whilst also being aware of possible threats to their privacy and civil liberties[51]. Climate change is also posing severe challenges to our society, introducing constraints that may dramatically alter our ways of living. To reduce its impact on human wellbeing, it is important that citizens can **anticipate** and respond to **changes**, while mitigating adverse consequences, and grasping new opportunities to change their lifestyles. Citizens need to become more conscious of the global dimension of today's challenges.

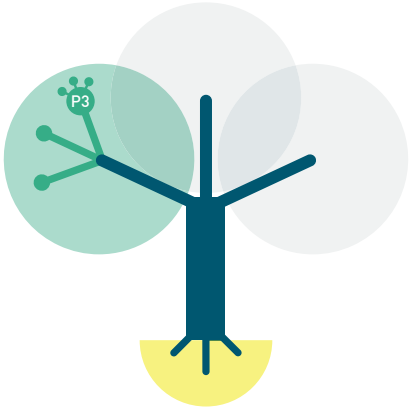
P2.3

Managing transitions in personal life, social participation, work and learning pathways, while making conscious choices and setting goals

The ability to proactively look for opportunities, learn continuously, understand and adapt to changes, will represent a competitive edge for citizens

Flexibility encompasses career management skills, continually pursuing further training to adapt to different employment contexts at any age, setting meaningful goals, and making effective career decisions towards successful transitions[52]. It entails the capacity to proactively visualise future options, and use relevant strategies for making **informed choices**, coping with the indecision and anxiety that may be experienced while making a choice[53]. In the 21st Century, learning and career paths are becoming less and less linear. Citizens will frequently need to change their jobs, spot personal growth opportunities, and create individualised lifelong learning paths[26]. A cross sectoral approach in career education, which includes different stakeholders who support individuals across sectors in continually learning these competences, could be beneficial for promoting the acquisition of career management skills.

Career development may be considered a cyclical process, which starts with the exploration and **awareness** of educational and occupational **opportunities**. It follows with the self-awareness to reflect on and understand **personal** values, interests, skills, needs, **abilities, limitations**, and **decision making** to make a plan and set goals. The last step would be planning transitions, understanding how to seek and secure jobs, or create opportunities[54]. The ability to proactively look for opportunities, learning continuously, acquiring new skills, and understanding and adapting to changes will represent a competitive edge for citizens. It is therefore relevant that individuals are able to cope with ambiguity and to adapt to different roles, obligations, and contexts. This descriptor also stresses the importance of being able to set goals, plan and monitor the short and long-term progress towards their achievement, persisting in the face of hardship, and getting around obstacles.



P3 Wellbeing

The pursuit of life satisfaction, care of physical, mental and social health; and adoption of a sustainable lifestyle

This definition highlights the **interconnectedness** and **interdependence** of **physical, mental, social** and **environmental** aspects of **wellbeing**. It is widely accepted that human beings have three innate psychological needs which need to be satisfied for health and well-being[55]. These are: **autonomy**, the need to feel ownership of one's behaviour; **competence**, the need to produce a desired outcome and to experience mastery; and **relatedness**, the need to feel connected to others. The degree to which these psychological needs are satisfied is influenced not only by personal competence, but also by the demands, obstacles and affordances of the social, cultural, and economic context. The pursuit of life goals directly linked to the satisfaction of basic needs (for example affiliation, personal growth and community) is associated with wellbeing[56]. Positive psychology, a well-established branch of modern psychology[57], can be appropriately applied to education on wellbeing, provided that the view on positive emotions is balanced with how people have to face up to painful emotions as part of personal growth and development in life and that motives relating to both immediate enjoyment and personal flourishing are considered as different aspects of wellbeing (see the description of P3.3).

By adopting a **systemic** understanding that takes account of the interaction of multiple factors, wellbeing can be characterised as emerging from the dynamic integration of and relationships between the *physical, cognitive, emotional, social, existential, and environmental factors*.

Individuals may improve their **physical wellbeing** by adopting good sleep hygiene practices, engaging in a variety of physical exercise adapted to their condition and ages, and developing healthy eating habits, among others. **Cognitive** wellbeing may be enhanced by stimulating creative activities, cultivating mental flexibility, personal growth and the curiosity and pleasure to keep learning throughout the lifespan. **Emotional** wellbeing can be fostered by developing autonomy, the capacity for self-determination[58], awareness, understanding and regulating personal emotions, thoughts and behaviours, and nurturing a sense of self-worth and optimism. It is closely linked with Self-regulation. Individuals may also boost their **social** wellbeing by cultivating their empathy, caring for others and adopting altruistic behaviours, while devoting time to building interpersonal affective relationships, seeking help when needed and offering support to others in need. Citizens may also foster their

existential wellbeing by cultivating a sense of purpose in life, making conscious choices and seeking a work-life balance. **Environmental** wellbeing is also part of personal wellbeing. It can be promoted by adopting a sustainable lifestyle, acting responsibly to reduce our environmental impact[59] and collectively raising awareness and advocating for actions to combat climate change.

The outbreak of the COVID-19 pandemic in 2020 and actions taken to fight its spread are emphasising the interconnectedness between individual health behaviour and **collective health** and wellbeing at all levels, from local to global. To overcome this challenge it is vital that we as societies strengthen our understanding of **co-shared responsibility** and **mutual care**, and our **sense of belonging** to a wider community. By protecting their own health, individuals protect that of others and are protected in turn. More than ever, active citizens need to be aware of their global interdependence and of the importance of protecting and promoting public healthcare systems.

P3.1

Awareness that individual behaviour, personal characteristics and social and environmental factors influence health and wellbeing

Individuals need to be aware of the impact that many different factors may have on personal health, wellbeing, and life satisfaction

This descriptor focuses on individuals' **awareness** of the **impact** that many **different factors** may have on personal **health, wellbeing** and **life satisfaction**. It means adopting a systemic view on the determinants of health and wellbeing: individual behaviour and genetics, social support networks and culture, physical environment, employment and working conditions, income and social status, health services, gender, and education level[60].

This awareness may help individuals achieve a better understanding of their own and others' health. It also implies **appreciation** for the resources and **networks** that can support individual wellbeing (family, school, friends, etc.). Awareness of the interaction between the various factors that influence wellbeing may empower citizens to act, whether individually (e.g. by abandoning unhealthy personal behaviours) or collectively, by advocating for improved healthcare systems and social services, or policies to address climate change, among others[61;62].

P3.2

Understanding potential risks for wellbeing, and using reliable information and services for health and social protection

Citizens need to understand the dangers of trusting and sharing false information on health, since it may undermine medical advice, publicise harmful therapies or cause unjustified alarm

This descriptor stresses the ability to **access, understand,** appraise and **apply reliable health information**, for decisions on disease prevention, healthcare and health promotion. Health literacy can work as a key promoter of resilience, fairness and inclusion[63;64]. This descriptor is closely linked to learning to learn, as the complexity of healthcare systems requires an attitude of lifelong learning to update the health-related knowledge and skills needed to be able to make informed health-related decisions.

Critical thinking is also relevant to being able to distinguish reliable and unreliable health information. Citizens need to understand the **dangers** of **trusting** and sharing **false information** on health, since it may undermine medical advice, publicise harmful therapies, or cause unjustified alarm. It also entails the capacity to identify and **use** reliable **services for health** and **social protection**, such as those intended to protect citizens against the risks associated with unemployment, invalidity, parental responsibilities, ageing, and inadequate housing, among others[65].

P3.3

Adoption of a sustainable lifestyle that respects the environment, and the physical and mental wellbeing of self and others, while seeking and offering social support

Adopting a systemic approach is needed to consider the interdependence of one's own and others' health and wellbeing, as well as safeguarding healthy environments

This descriptor highlights the relevance of adopting a lifestyle that contributes to **promoting health** and **preventing diseases**. At the same time, the promotion of wellbeing includes adopting a sustainable lifestyle that takes into account "*the dynamic relationship between natural resource use, environmental quality and health and wellbeing*"[66]. It underlines the need to adopt a systemic approach that considers the **interdependence** of one's own and others' health and wellbeing, as well as safeguarding **healthy environments**. It requires understanding that everyday choices can have an impact on the environment, and that adopting certain ways of life can allow individuals to reduce their carbon footprint.

This descriptor also stresses the importance and the benefits for health and wellbeing of engaging in **prosocial behaviours**[67], offering help to others, and of being able to seek help. It is well known that receiving social support after a stressful experience reduces its negative emotional burden. At the same time, engaging in **affiliative behaviours**, those which create and reinforce cohesion in a group and social integration, and prosocial behaviours, that is, behaviours oriented towards benefitting others, such as helping, sharing and comforting[68], may mitigate the negative effects of **daily stressors**[69].

Both ***hedonic* motives**, those seeking pleasure, enjoyment, comfort and satisfaction, and ***eudaimonic* motives**, those seeking excellence, personal growth, meaning and authenticity, contribute to wellbeing in different ways. For example, hedonia relates to an immediate but short effect of freedom from concerns, feeling alive, relaxation and positive affect. On the contrary, eudaimonia leads in the medium and long-term to an increased sense of meaning, and an elevated experience of engagement and connection with a broader whole. Engaging in both hedonic and eudaimonic activities contribute to higher levels of wellbeing and life satisfaction[v][70].

v Some activities can produce both hedonic and eudaimonic wellbeing. Among those are playing an instrument, practising arts, and practising sport.

4

THE SOCIAL AREA

Being socially competent means cultivating an attitude of collaboration, respecting human diversity, overcoming prejudice, and compromising while participating in society.

The social area is related to learning to live together and to awareness of the social nature of the human being. It implies the ability and willingness to interact, communicate and collaborate with others constructively.

Internalising our shared values is both an essential ingredient, and an outcome of the use of social competences. Most of the emerging jobs which are expected to expand between now and 2025 will require strong collaboration and communication skills[71]. Together with empathy, entrepreneurship, innovation, and other skills, collaboration and communication will be fundamental to becoming "robot-proof"[72] in a labour market profoundly shaped by technological breakthroughs. It is therefore important that citizens develop them.

To be socially competent, every individual should acquire a range of skills, knowledge and attitudes as mentioned in the European Council Recommendation on Key Competences of 2018. As per the Recommendation, social competence refers to knowledge about the codes of conduct and rules of communication accepted in our societies and environments, and skills allowing the individual to communicate constructively in different environments, work collaboratively, negotiate, show tolerance, express and understand different points of view, create confidence, and feel empathy. Being socially competent also means cultivating an attitude of collaboration, respecting human diversity, overcoming prejudice, and compromising while participating in society. The competences described in the social area are closely intertwined with "Citizenship" and "Cultural Awareness" key competences, which complement the description of the skills required for living and thriving together in democratic societies.

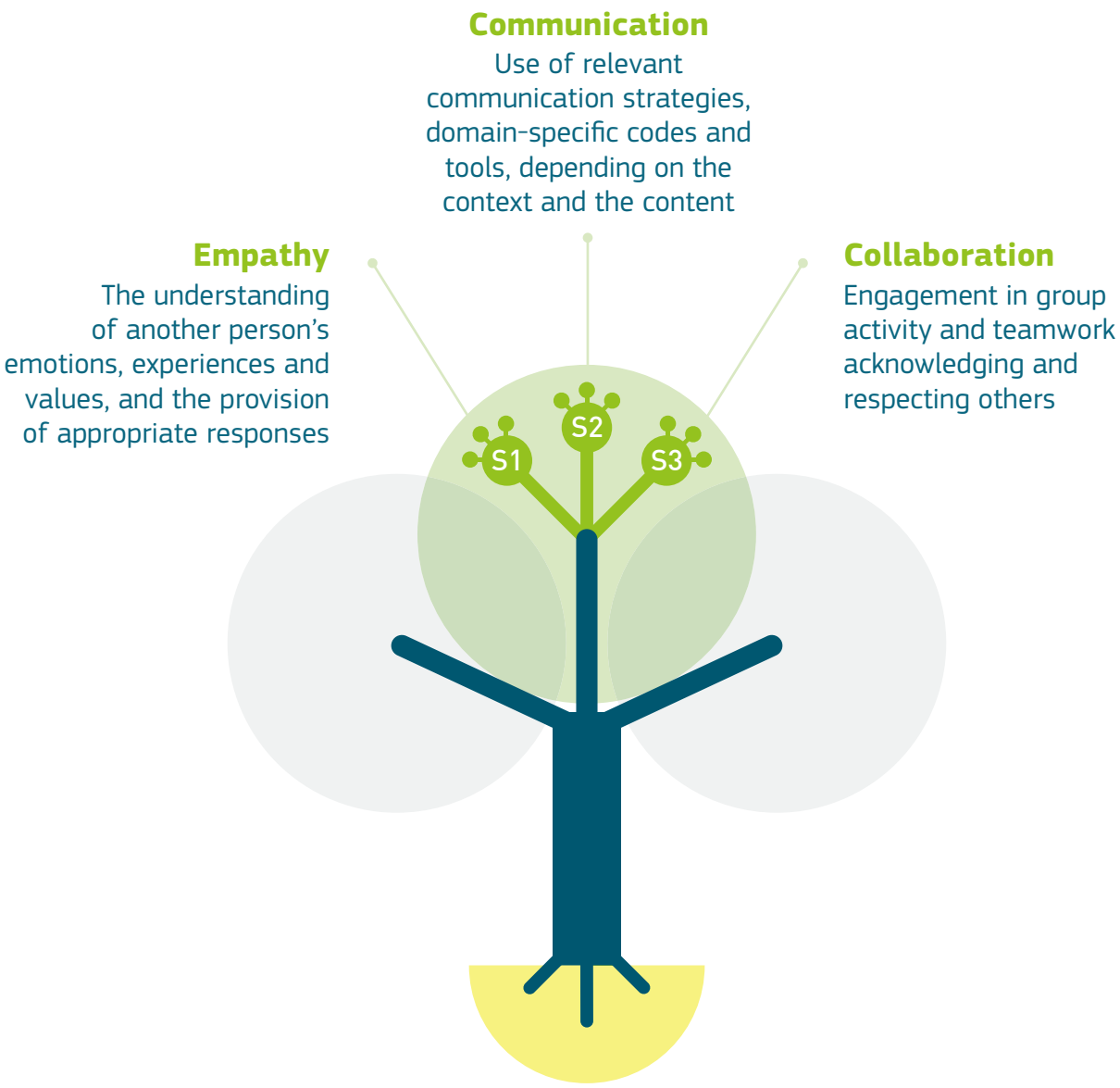


FIGURE 8. LIFECOMP SOCIAL AREA COMPETENCES

S1 Empathy

S1.1	Awareness of another person's emotions, experiences and values
S1.2	Understanding another person's emotions and experiences, and the ability to proactively take their perspective
S1.3	Responsiveness to another person's emotions and experiences, being conscious that group belonging influences one's attitude

S2 Communication

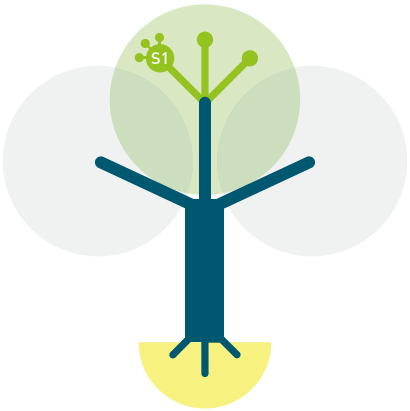
S2.1	Awareness of the need for a variety of communication strategies, language registers, and tools that are adapted to context and content
S2.2	Understanding and managing interactions and conversations in different socio-cultural contexts and domain-specific situations
S2.3	Listening to others and engaging in conversations with confidence, assertiveness, clarity and reciprocity, both in personal and social contexts

S3 Collaboration

S3.1	Intention to contribute to the common good and awareness that others may have different cultural affiliations, backgrounds, beliefs, values, opinions or personal circumstances
S3.2	Understanding the importance of trust, respect for human dignity and equality, coping with conflicts and negotiating disagreements to build and sustain fair and respectful relationships
S3.3	Fair sharing of tasks, resources and responsibility within a group taking into account its specific aim; eliciting the expression of different views and adopting a systemic approach

TABLE 4. LIFECOMP SOCIAL AREA COMPETENCES AND DESCRIPTORS

S1 Empathy



The understanding of another person's emotions, experiences and values, and the provision of appropriate responses

Empathy is critical for deploying other social and emotional competences, and building **positive relationships**[15;73;74]. Empathy is at the root of all pro-social behaviours and provides a basis for coping with stress and resolving conflicts[75]. It comprises three aspects[76]: the ability to recognise emotions in others; to cognitively take the perspective of others and share emotional states with them; and the ability to offer an appropriate response to others' emotions.

Empathy enables effective communication, interaction and collaboration. It is pivotal for regulating prosocial behaviours while inhibiting aggressive and antisocial ones[77]. Indeed, the UNESCO Working Group on Global Citizenship Education includes empathy among global citizenship competences[78]. Evidence shows that human brains are **hard-wired for empathy**[79] and that the capacity of understanding and helping others has been key for the **survival of our species**. It's also well-acknowledged that empathy can be improved through specific training[80;81].

S1.1

Awareness of another person's emotions, experiences and values

Acquiring abilities to read nonverbal cues like the tone of voice, gestures, and facial expressions is key for developing empathy

This descriptor focuses on the ability to be **aware** of **other people's emotions** and values. The ability to recognise emotions in others is closely intertwined with self-awareness or the ability to identify, label, and describe one's own emotions[82] (Self-Regulation **P1.1**). This means that the more one is aware of one's own emotions, the more one will be able to recognise others' feelings.

People can express their emotions through nonverbal communication. As human beings, we are able to accurately identify at least six basic emotions in others regardless of our cultural background: anger, disgust, fear, happiness, sadness and surprise[83; 84]. The ability to **read nonverbal cues** like tone of voice, gestures, and facial expressions is, therefore, key to this descriptor. This is also the case for the digital world, where digital nonverbal cues such as emoticons are used to make emotions more explicit[85].

Empathy leads to **affective resonance**, which is the automatic capacity to be emotionally aroused by others' emotions[86]. It also involves awareness of diversity, the ability to acknowledge and accept that people from different cultures may hold different values or have different experiences, and that this is part of the richness of humanity.

S1.2

Understanding another person's emotions and experiences, and the ability to proactively take their perspective

Training own self-awareness and self-empathy enhances the ability to understand others and to reduce personal distress when confronted with others' feelings

This descriptor stresses the ability to take the perspective of another person, while maintaining a separation between one's emotions and experiences and those of others. It entails the cognitive ability to make inferences, "read" others' minds, imagine how the other person perceives a specific situation and how that person feels. The capacity to **understand other people's emotions** is one of the pillars of social understanding, which is key to effective communication (**S2**) and collaboration (**S3**). The ability to take people's perspective does not necessarily imply endorsing them. Thus, it is possible to empathise with someone, and still disagree with their attitudes or values.

There are two ways of taking the perspective of others: one can imagine how the other person feels or how one would feel in the same situation. These two processes may lead to different emotional outcomes[87;88]. The first is found to evoke more empathetic emotions and altruistic behaviours, while the second is found to evoke mixed feelings of empathy and personal distress (e.g. feeling alarmed, disturbed, or troubled) which, if excessive, can lead to emotional disengagement to relieve one's negative emotional state. **Training** one's own **self-awareness** and **self-empathy** enhances the ability to understand others and to reduce personal distress when confronted with others' feelings[89].

S1.3

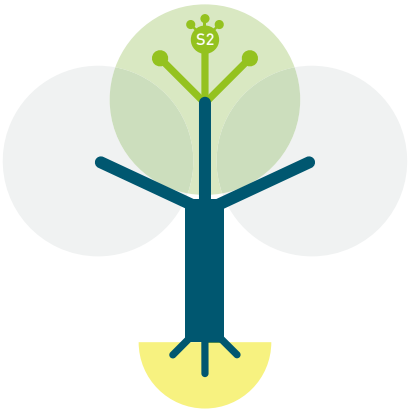
Responsiveness to another person's emotions and experiences, being conscious that group belonging influences one's attitude

Educational interventions aimed at increasing the ability of perspective-taking, developing self-awareness, and providing positive experiences of otherness help in developing empathy

This descriptor focuses on the motivational aspect of empathy, the ability to offer an appropriate response to others' emotions to alleviate their distress. **Empathic concern**, the capacity to feel congruent emotions (i.e. with the same positive or negative valence) and experiencing feelings of sympathy, compassion, tenderness, and sorrow, among others, while observing another person is a related concept. Empathic concern may lead to compassionate pro-social behaviour aimed at mitigating others' suffering.

It is important to stress that those **pro-social behaviours** are **intentional**, and several interconnected factors mediate the decision on whether to engage in them or not. Individuals tend to have more empathy for others who look or act like them, for others who have suffered in a similar way and, in general, for people belonging to the same social group (e.g. same race, ethnicity, political, or religious affiliation, etc.). **Empathic failure** towards out-group members is a well-known phenomenon[90] that may lead not only to attenuated empathic response, but also to counter-empathic responses. To counter this tendency **cognitive empathy** may play a role when a lack of emotional empathy exists because of racial, ethnic, religious, or physical differences[91].

A meta-analytic study with American students showed a decline in empathic concern and ability to take the perspective of others[92] due to an increase in narcissism and individualism, growing exposure to violence, time spent online and on social media, and the consequent decline of face-to-face interactions. A change in parenting style and an increase in the expectations of achievement and success of students may contribute to this phenomenon. However, just as some circumstances may lead to a decrease in empathy, others may lead to an increase, since people can learn how to be empathetic. More specifically, **educational interventions** aimed at increasing the ability to take others' perspectives, develop self-awareness, and provide positive experiences of otherness **help in developing empathy**[93;94;95].



S2 Communication

The use of relevant communication strategies, domain-specific codes and tools, depending on the context and content

A 'linguistic model' of interpersonal communication identifies six fundamental elements that are necessary for a communication to occur[96]: **the sender** who transmits a message; **the message**: or object of the communication; **the receiver**: who receives and decode the message; **the context**: the situation in which the message is sent, the frame of reference that allows understanding the message, which is also set by receiver's level of knowledge; **the code**: the system of rules that allows a message to be formulated, for example, the language that the sender chooses to use to communicate. The code of communication must be understandable both by the sender and by the receiver of the message to be interpreted correctly; **the channel**: it connects the sender and the receiver physically and psychologically allowing the communication to take place. Examples include written communication channels, such as email or text messaging. When engaged in interpersonal interaction, each behaviour has a meaning. *It is **not possible** for individuals **not to communicate***[97] (even the decision not to speak is conveying a message). Therefore, what will differentiate one communicative act from another is its effectiveness or its clarity.

The spread of digital technologies has created novel ways of communicating. **Computer mediated communication** (CMC) enables communication and collaboration over distance allowing people to exchange messages and **large amounts of data** instantaneously and at a low cost, **facilitating connection** that would not have occurred face to face. Social media platforms are massively used for entertainment[98] but also to connect with others, maintain relationships and to obtain information about the world and one's own social network[99]. However, the CMC's lack of socio-emotional and nonverbal cues that are present in face-to-face communication may impair the effectiveness of CMC, leading to unintended interpretations. The lack of immediate contact with others may favour **polarisation** and uninhibited aggressive verbal behaviours[100]. In the context of education, important phenomena like cyberbullying, the misuse of technology to harass, intimidate or terrorise another person[101], or sexting, sending, receiving and forwarding of sexually explicit messages, pictures or videos, have serious consequences for students' wellbeing[102].

Students and lifelong learners, need to learn how to **make safe, responsible and ethical use of social media**, protect their personal information and develop strategies that allow them to cope and minimise their harmful effects, and to ensure and maximise the affordances and benefits of communication using digital technologies. This is why digital competence is so important. The **Digital Competence Framework for Citizens** stresses the relevance of the ability "to create, and manage one or multiple digital identities, to be able to protect one's own reputation, to deal with the data that one produces through several digital tools, environments and services, and of interacting through a variety of digital technologies and to understand appropriate digital communication means for a given context". Moreover, it highlights the importance of "being aware of behavioural norms and know-how while using digital technologies and interacting in digital environments, as well as to adapt communication strategies to the specific audience and to be aware of cultural and generational diversity in digital environments"[103].

S2.1

Awareness of the need for a variety of communication strategies, language registers, and tools that are adapted to context and content

Individuals need to learn modulate their messages, taking into account the audience, the kind of relationship with the speaker, the context in which the communication takes place, its purpose, and the tools that will convey the message

To communicate effectively, individuals need to decide which **communication strategies** they will use in each situation: verbal strategies (written, including digital forms, and oral language), non-verbal strategies (body language, facial expressions, tone of voice), visuals strategies (signs, icons, illustrations) or mixed strategies. They need to **modulate their messages** taking into account the audience (e.g., the average level of knowledge on the topic being communicated about), the kind of relationship with the speaker (e.g., a friend, a manager, a teacher), the *context* in which the communication takes place, its *purpose* (to instruct, inform, persuade, order, entertain, inquire, socialise…), and the *tools* that will convey the message (text, email, smartphones, web conferencing, group messaging, social networks…). Both verbal and non-verbal communication strategies can be articulated using *different registers*, from formal to informal, which are needed to communicate effectively.

S2.2

Understanding and managing interactions and conversations in different socio-cultural contexts and domain-specific situations

For individuals to engage in communication in multi-cultural settings, they need to develop an attitude of openness and respect for cultural otherness

This descriptor highlights the importance of being able to **adapt** the communication style **to** different **socio-cultural contexts**[47]. Individuals need to adjust their communication style to: *the physical context*, the time of day, the noise level, or the lighting of the settings in which the communication is taking place (e.g., people need to communicate differently in a library, a party, or the workplace); *the cultural context*, the values, lifestyles, behaviours and beliefs of both the speaker and the audience, shape how people produce and interprets a message.

Individuals engaged in **communication** in **multi-cultural settings** need to develop an attitude of openness and **respect** for cultural **otherness**[47]. This entails self-awareness of their own cultural heritage and its influence on the way they perceive the world, including the tendency to interpret it from an ethnocentric point of view (i.e. the belief that own culture is better than others), the ability to shift temporarily into another perspective and to listen to others authentically[104]. The *social context*, the relationship between the speaker and audience, also sets rules on the intimacy level among speakers and the overall formality of the exchange.

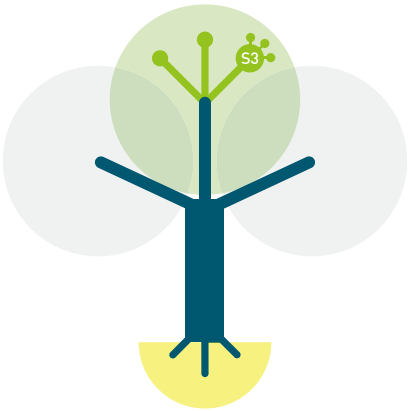
S2.3

Listening to others and engaging in conversations with confidence, assertiveness, clarity and reciprocity, both in personal and social contexts

Effective listening underpins positive human relationships. It entails listening to the whole message, respecting turn taking, especially when the topic causes strong opinions

This descriptor stresses the relevance of the ability to **listen effectively** to others: being aware of and able to monitor verbal and non-verbal communication, showing empathy, patience and interest, clarifying, summarising and giving feedback to the other's message, and developing trust[105; 106]. Effective listening is a skill that underpins positive human relationships. It entails listening to the whole message, **respecting turn taking**, especially when the topic causes strong opinions.

Individuals need to be aware of **confirmation bias**[107], the human tendency to seek for, listen to, and remember the information that confirms their previous beliefs while dismissing the information that challenges it. Being aware of this potential risk, and actively trying to contrast it, is especially relevant in online environments. Currently, the algorithms of the main search engines or social platforms personalise the outcomes of the queries, offering tailored results, based on the algorithm's guesses on what each user would like to see[108]. The so-called **"filter bubbles"**[109] may limit the exposure to ideas that challenge users' beliefs, thus reinforcing confirmation bias. It is also to be underlined the importance of developing the ability to assert one's positions by expressing thoughts, feelings, desires and beliefs in direct and appropriate ways, while respecting those of others. We include effectively *advocating, promoting, arguing, debating, persuading* and *negotiating*, both in personal and public settings.



S3 Collaboration

Engagement in group activity and teamwork acknowledging and respecting others

The challenges that individuals need to face in the 21st century both personally and collectively are complex, resulting from the evolving interaction of many interrelated factors and agents that are not fully knowable, predictable or controllable[110]. To address them successfully and innovatively, effective collaboration among individuals, organisations, and networks must be fostered. A diversity of perspectives and backgrounds is likely to play a positive role in collaboration since it increases the level of novelty, while providing a greater variety of ideas and approaches to accomplishing shared tasks[111]. Citizens need to develop their **capacity to co-participate in collective activities** and ventures, and to embolden others to collaborate, deploying collective agency[30], pooling their knowledge, competences and resources, so that a common goal may be accomplished[47]. The sense of shared accomplishment in collaboration and the bonds among group members can help build caring relationships and to fight negative psychological states such as depression, anxiety or repressed anger, fear of failure, hopelessness and meaninglessness, which is especially relevant in the current situation with the COVID-19 pandemic. Positive interdependence (relying on each other's efforts) and promotive interaction (encouraging and facilitating each other's contributions) are key aspects of collaboration [4; 112].

Individuals that are focused on maximising their own results and, at the same time, care about the needs of others, are in a better position to act as good negotiators and problem solvers. **People who are willing to collaborate** are likely to **find compromises** and **innovate**[113]. These individuals can more easily go beyond the dichotomous choices posed by social dilemmas like those situations in which, without communication and collaboration, individuals choose to protect themselves at the expenses of the others. Without collaboration, worse results can be produced as people tend to act in a way that produces an immediate benefit for them individually, but a long-term negative consequence for the group as a whole.

Digital technologies offer innovative ways of collaborating, such as online collaborative environments, and co-working on shared documents. Strategies for exploiting the affordances of digital technologies should be developed. **The Digital Competence Framework for Citizens** (DigComp) also stresses the relevance of collaboration: "*To share data, information and digital content with others through appropriate digital technologies. To act as an intermediary, to know about referencing and attribution practices; and To use digital tools and technologies for collaborative processes, and for co-construction and co-creation of data, resources and knowledge*"[103].

S3.1

Intention to contribute to the common good and awareness that others may have different cultural affiliations, backgrounds, beliefs, values, opinions or personal circumstances

Individuals need to learn not only to cope with diversity but also to take advantage from it by collaborating and creating synergies

This descriptor stresses the need to construct **respectful interaction** with people who are perceived to have different cultural affiliations, beliefs, opinions or practices from oneself, enabling one to build positive, constructive relationships and effective collaboration[106;114]. It entails **sensitivity towards different worldviews** and willingness to cooperate in fair relationships. The more far-reaching a group objective is, the greater the need for a broad selection of diverse players and their ability to take diverse perspectives on a task. It is therefore key that individuals learn not only to cope with diversity but also to take advantage of it by collaborating and creating synergies. This descriptor also highlights the relevance of **willingness to contribute** actively to the common good, the interests, goals and facilities, whether material, cultural or institutional, that a group shares[115].

Positive interdependence, that is, relying on each other's efforts, and promotive interaction, that is, encouraging and facilitating each other's contributions, are key aspects of collaboration[4;112]. To facilitate promotive interactions, individuals in a group should be willing to: **providing** each other with efficient and **effective help** and assistance; **exchanging resources** and processing information efficiently and effectively; **providing** each other with **feedback** to improve performance in tasks and responsibilities; **challenging** each other's **conclusions** and reasoning in order to promote higher quality decision-making and greater insight into the problems; **advocating** the exertion of effort to achieve **mutual goals**; **influencing** each other's efforts to achieve the group's goals; **acting in trusting** and trustworthy **ways**; and being motivated to **strive for mutual benefit**[112;116;117].

S3.2

Understanding the importance of trust, respect for human dignity and equality, coping with conflicts and negotiating disagreements to build and sustain fair and respectful relationships

To cope with conflicts, individuals need to learn how to gather and exchange information to identify underlying problems, look for alternatives, evaluate their implications and be open about one's preference to select solutions

This descriptor stresses the importance of developing attitudes which recognise the dignity, rights and freedoms of others and fair relationships[47]. One of the key factors for the effectiveness of collaboration is the level of **psychological safety** that participants experience in a group[110]. Psychological safety is the feeling that the members of a group will not neglect, despise or undermine someone for expressing opinions, asking for clarification or proposing solutions. A feeling of trust together with an attitude of respect within the group is critical for learning in work teams since it allows members to seek feedback and further information, discuss errors and innovate, thus facilitating appropriate actions to accomplish a task[118; 119; 120].

Since collaborating with people holding different points of view, perspective or background may be challenging, managing conflicts, preventing, containing, transforming and solving disputes, are essential skills for effective interaction in teams, communities and organisations both in physical and in virtual interactions[121]. Conflicts are part of human relations and occur in every domain of life. It is therefore important that citizens learn how to cope effectively by learning strategies to manage conflicts constructively and to resolve them[121]. **Conflict management** requires intentional actions to deal with conflict situations. This does not necessarily imply avoiding or reducing the conflict. For conflict management it is necessary to gather and exchange information to identify underlying problems, look for alternatives, evaluate their implications and be open about one's preference in selecting solutions[122]. **Conflict resolution** is a process aimed at reducing, terminating, or eliminating a dispute. Strategies to terminate the conflict include: negotiation, mediation, conciliation, and arbitration[123].

S3.3

Fair sharing of tasks, resources and responsibility within a group taking into account its specific aim; eliciting the expression of different views and adopting a systemic approach

The greater the capacity of the group's members of understanding others' feelings and perspectives is, the greater the group's collective intelligence and its capacity to successfully accomplish tasks will be

This descriptor stresses the relevance of structuring teamwork fairly. Teamwork occurs in all spheres of life (e.g. an event, a party, an excursion, etc.), and at different levels (e.g. in the family, the community, or at a global scale) and thus not only in working or learning environments. When team members have clear roles, plans and goals, the work dynamics improve and the team as a whole obtains better results[118]. A **collective intelligence** emerges from the collaboration in a group, harnessing its power to solve problems or achieve goals. Collective intelligence is an emergent property of a group of individuals working for **a common goal**[124], which strongly correlates with the average empathy of their members and the fairness in the distribution of turn-taking in a conversation[125]. This means that the greater the capacity of the group's members to understand others' feelings and perspectives is, the greater the group's collective intelligence and its capacity to successfully accomplish tasks will be. Eliciting the input of all the participants and preventing a few people from dominating the communication process is highly beneficial too. It also encourages group members to feel **entitled to express** their own opinions constructively even when it goes against what has been collectively decided by a group, thus contributing to avoiding the *Abilene Paradox*, where individuals in a group support a decision, even if this is counter to their preference, to conform to what they believe is a group consensus[126].

This descriptor also stresses the need to adopt a **systemic approach**, i.e. handling teamwork with a global point of view to seamlessly combine awareness and action. A systemic approach requires one to understand how the different and interconnected aspects of a group task, as well as external factors, influence its outcomes. It entails focusing on the dynamic, complex and **evolving relations among components**, and how it contributes to the stability of the system. In other words, it implies looking at the task and adopting a perspective that allows us to see how it fits in the broader context. For collaboration to be successful, a group needs to take advantage of the different capabilities and complementarities of its members, so that everyone can contribute with their skills, knowledge and attitudes to the outcomes of the group's work.

5

THE LEARNING TO LEARN AREA

Learning to Learn is a competence that can be acquired throughout the lifespan. It is a relevant driver for change in adulthood, promoting employability and competitiveness.

Learning to Learn is said to be the "most important skill of all"[26]. In our rapidly changing world, students entering primary education today are likely to work in jobs that do not exist yet, use technologies still to be invented, or address unexpected global challenges.

The increasing flow of data brings with it novel social phenomena, like the intentional transmission of dishonest information. Digitisation is changing the way people live, interact, study and work[127], and digital technologies can facilitate and enhance learning[128], and at the same time demand reskilling and upskilling of today's citizens[129]. The complexity and interconnectedness of the challenges we are facing and the unpredictability of derived opportunities and threats implies the need for citizens to become lifelong learners. Learning to Learn is the ability to pursue and persist in learning, and to organise one's learning, including effective management of time and information, both individually and in groups[130]. Learning to Learn implies taking responsibility for one's development.

This competence involves several components within the personal and social domains. Related to **personal development**, Learning to Learn involves: **inherited assets**, like aptitudes; a **cognitive dimension**, e.g. problem-solving skills, and the use of different learning methods; a **metacognitive dimension**, e.g. self-awareness and self-assessment of one's knowledge, **affective and motivational dimension**, e.g. the motivation to learn, and the regulation of the emotions triggered by the learning activity; and **learning dispositions**, e.g. critical curiosity, a growth mindset, creativity, and resilience. Related to the **social domain**, Learning to Learn involves social, historical, economic and cultural aspects of the **context** in which learning occurs. The social dimension of Learning to Learn also stresses the relevance of the **perception of support** from significant others, the capacity to learn with peers and in groups, and the environmental resources and social values within the community[131].

According to the Council Recommendation of 2018 on key competences for Lifelong Learning, Learning to Learn entails knowledge of one's preferred learning strategies, the competence's areas that need to be developed, and how to do it, and the support available to tackle education and training. Learning to Learn also entails skills to identify one's capacity, reflect critically and make decisions, to organise, persevere and evaluate one's learning. Finally, this competence includes attitudes of confidence in the ability to succeed in learning, desire to apply prior learning, curiosity, and a positive attitude towards learning throughout one's life.

The Learning to Learn competence can be acquired throughout the lifespan. It is a relevant **driver for change** in adulthood[131], promoting employability and competitiveness[132]. Competent lifelong learners can engage intentionally, effectively and consciously in new learning activities throughout their lives. This implies creating a meaningful learning path and the ability to select, manage, and interpret complex and interconnected data[133]. Learning to Learn can unleash potential for change in individuals and communities, contributing to the common good of society, and empowering them to thrive in a rapidly changing world[134]. Therefore to enhance economic performance and social cohesion it is relevant to provide to all citizens, especially those at most risk of exclusion, with high-quality opportunities for formal, non-formal and informal learning all over the lifespan and of reflection on one's own learning for its enhancement[135; 136].

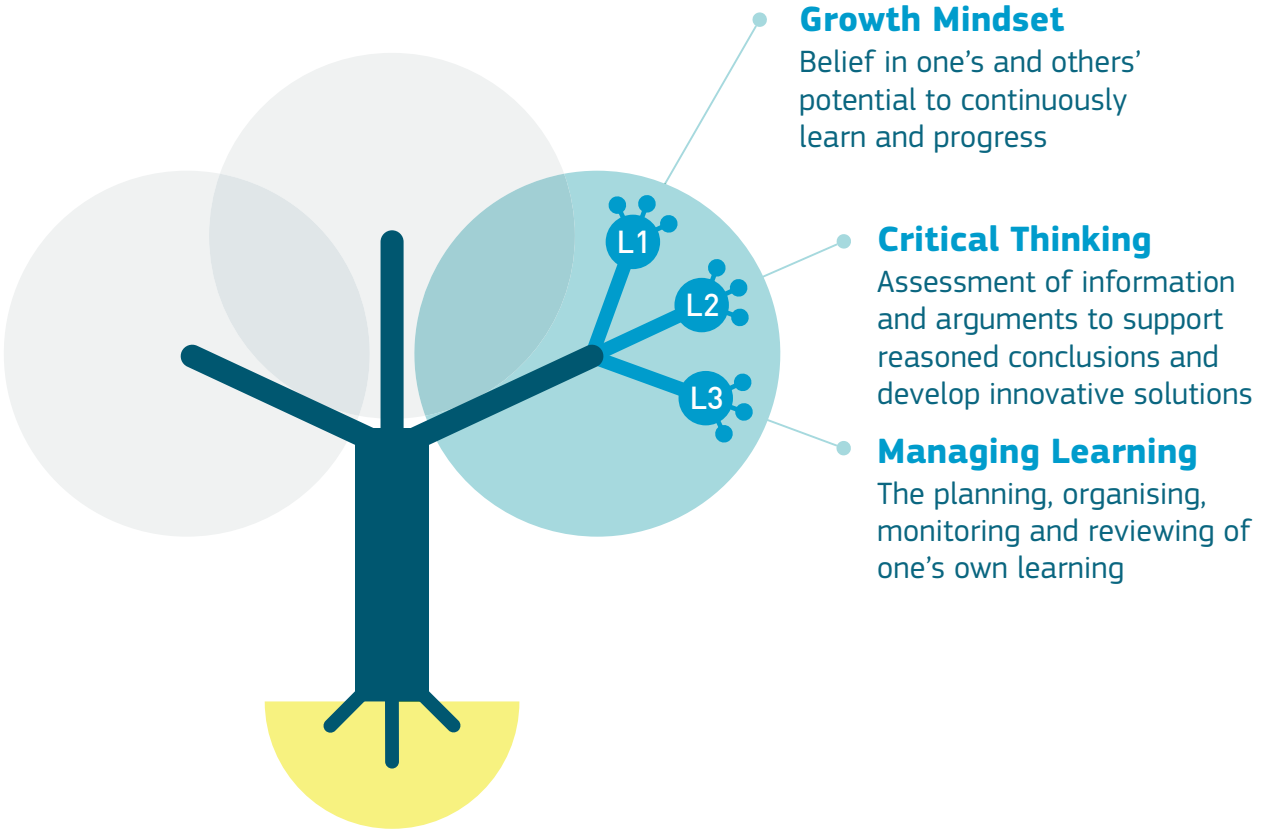


FIGURE 9. LIFECOMP LEARNING TO LEARN AREA COMPETENCES

L1 Growth Mindset

L1.1	Awareness of and confidence in one's own and others' abilities to learn, improve and achieve with work and dedication
L1.2	Understanding that learning is a lifelong process that requires openness, curiosity and determination
L1.3	Reflecting on other people's feedback as well as on successful and unsuccessful experiences to continue developing one's potential

L2 Critical Thinking

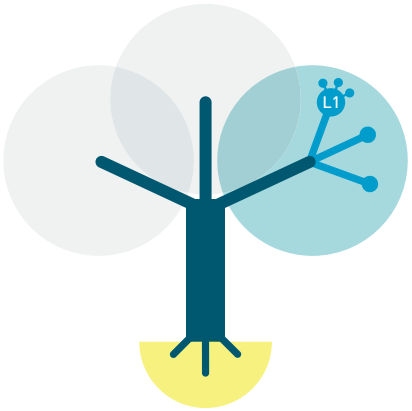
L2.1	Awareness of potential biases in the data and one's personal limitations, while collecting valid and reliable information and ideas from diverse and reputable sources
L2.2	Comparing, analysing, assessing, and synthesising data, information, ideas, and media messages in order to draw logical conclusions
L2.3	Developing creative ideas, synthesising and combining concepts and information from different sources in view of solving problems

L3 Managing Learning

L3.1	Awareness of one's own learning interests, processes and preferred strategies, including learning needs and required support
L3.2	Planning and implementing learning goals, strategies, resources and processes
L3.3	Reflecting on and assessing purposes, processes and outcomes of learning and knowledge construction, establishing relationships across domains

TABLE 5. LIFECOMP LEARNING TO LEARN AREA COMPETENCES AND DESCRIPTORS

L1 Growth Mindset



The belief in one's and others' potential to continuously learn and progress

It is openness and curiosity to new learning experiences, supported by **the belief in one's potential to improve** with dedication and work[34; 137; 138]. The terms fixed mindset and growth mindset describe the underlying beliefs people have about learning and intelligence. If a fixed mindset leads people to assume that intelligence and creativity are static attributes that cannot be modified, a growth mindset leads people to believe that these can be cultivated through effort and deliberated practice. Having a growth mindset, in turn, allows people to embrace challenges, persevere while facing obstacles, consider effort as necessary to achieve mastery, learn from criticism, and be inspired by others' accomplishments.

People with a growth mindset react to setbacks focusing on improving their performance and are more likely to employ positive strategies to succeed at learning. In other words, a growth mindset allows people to recover more quickly and successfully from failure and boosts their achievements[137]. People typically hold mixed positions[139], being able to deploy a growth mindset in some areas of learning and specific instances, while showing a fixed mindset in others. This competence, which is linked to self-awareness and self-direction, stresses, therefore, the importance of aiming to continuously develop the capacity of facing challenges and learning through believing in the improvement of their own potential[139].

L1.1

Awareness of and confidence in one's own and others' abilities to learn, improve and achieve with work and dedication

Educators and learners need to value the process of learning, the variety of the strategies employed, perseverance, learning progress, and effort

People that deploy a growth mindset believe that intelligence and general abilities are not inborn and unmodifiable traits. On the contrary, they consider them as something that can be nurtured and improved over time through meaningful or reasoned effort and dedication. Within a growth mindset, skills are understood as **malleable abilities** that can be enhanced through effort and commitment. On the other end, individuals with a fixed mindset, commonly believe that those who have the required ability will achieve success naturally and effortlessly[140].

Educators and learners should **praise** and value the **process of learning**, the variety of the strategies employed, perseverance, **learning progress** and **effort**[141]. Focusing on the quality of the effort and helping learners to persist, contribute in shifting them from seeing failure as an indication of a lack of ability, to seeing failure as a chance to improve that ability[142]. At the same time, effort per se may not be enough to achieve a learning goal, since an intentional, meaningful and reflective work is needed to actively analyse the task and chose the best strategy to resolve it[143]. This descriptor also stresses the relevance of **self-efficacy**[43] as a motivational aspect of the competence that allows individuals to seek out challenges as an opportunity to learn and grow[144].

L1.2

Understanding that learning is a lifelong process that requires openness, curiosity and determination

Learning throughout the lifespan requires an attitude of willingness and openness to learning from each interaction and experience

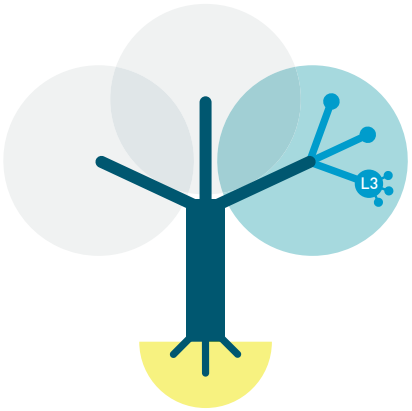
It entails understanding that **self-directed lifelong learning** is a demand in modern societies[145] in which adult learners are required to **upskill** and **reskill** to successfully thrive in a rapidly changing labour market[6]. Learning throughout the lifespan may happen in a variety of formal, non-formal and informal settings both intentionally and incidentally, requiring an attitude of willingness and openness to learning from each interaction and experience. On the other side, **curiosity** is an orientation to dig deeper, the desire to understand **complex topics** or problems, and intellectually explore a wide variety of things[146]. Curiosity is the interest and desire to gain a better understanding of the world and other people[147]. Furthermore, determination, persistence, the ability to set and commit to long-term goals[148], contribute to succeed in lifelong learning.

L1.3

Reflecting on other people's feedback as well as on successful and unsuccessful experiences to continue developing one's potential

Dealing with setbacks, failure and negative feedback and learning from it, enables to move forward effectively

This descriptor highlights the importance of meaningful and reflective effort as a means to achieve a learning goal. It implies being able to reflect on one's learning outcomes, to seek input from others when stuck in a problem and to master and employ different strategies to solve a task. Within a growth mindset, unsuccessful experiences and mistakes are necessary steps towards succeeding. Dealing with setbacks, failure and negative feedback from a growth mindset, therefore, implies being aware of and mitigating possible feelings of anger, defeat, insecurity, worry, incompetence or defensiveness while nurturing the willingness to capitalise on setbacks and learn from it to move forward effectively[149]. A reflective attitude, aimed at analysing successful and unsuccessful experiences to understand what worked and what did not, and actively asking for feedbacks, enable people to learn from experience.



L2 Critical Thinking

The assesment of information and arguments to support reasoned conclusions and develop innovative solutions

Critical thinking is a higher-order thinking skill that is crucial to cope with uncertainty, complexity, and change. It is tightly interwoven with **L3** (Managing Learning) and a "mindful agency", which involve managing the process of learning, the feelings associated with a challenge, and agency in taking responsibility in the learning process[34]. Critical thinking entails a **self-directed, skilful analysis of information**, beliefs or knowledge, with an ongoing reconstruction of one's thinking[150], knowledge about methods to assess and produce new knowledge and strategies to solve problems. It assumes awareness of the egocentric and sociocentric tendencies of human thinking that may produce flaws in the quality of reasoning, as well as willingness to **critically assess and evaluate information**. Critical thinkers endeavour to develop intellectual virtues such as intellectual integrity to recognise areas of inconsistency and contradiction in one's thought, intellectual humility to recognise possible flaws in one's own thinking, intellectual empathy to make genuine efforts to understand others' perspective, and an intellectual sense of justice and confidence in reason. Critical thinking, thus, involves the awareness that personal values influence the process of comparing, evaluating and weighting different arguments[3].

The amount of information available online in the so-called "post-truth" era, in which "objective facts are less influential in shaping public opinion than appeals to emotion and personal beliefs"[151] is reaching us almost limitlessly. It is therefore critical for citizens to be able to distinguish between real facts, propaganda, opinions, and rumors, and to be committed to **stopping the spread of misinformation**, inverting the trend that sees false news spreading online farther, faster, deeper, and more broadly than the truth[152].

Perspectives on critical thinking increasingly take into account the relevance of both **divergent and convergent** thinking for its deployment[153; 154]. Divergent, creative thinking is needed to generate new ideas, while convergent thinking is used to evaluate different options and provide the best possible answer to a problem or question. Convergent thinking thus involves evaluation, analysis, synthesis, and interpretation processes to provide a conclusion. It provides critical thinking with the "why" and "how" of choosing one idea[155]. Critical thinking, just like creativity, is seen as a higher-order skill crucially related to learning dispositions or attitudes to learning that can be taught or stimulated[156]. In divergent thinking, the **playful exploration** of ideas, perspectives and pathways requires affective and cognitive resources to scaffold engagement with the unknown[157]. A critical thinker requires self-regulation of thought and judgment, and willingness to assess and evaluate information critically[155].

L2.1

Awareness of potential biases in the data and one's personal limitations, while collecting valid and reliable information and ideas from diverse and reputable sources

Individuals need to be aware of the possibility of dealing with misinformation and willing to fact-check a piece of information and evaluate the credibility of a source

This descriptor stresses the relevance for a critical thinker of being **aware** of the **limitations** and biases in one's knowledge. For instance, the confirmation bias, the tendency to favour ideas that confirm our existing beliefs[107]; the availability bias, the tendency to judge the probability of an event based on how easily an example of those event comes to mind[158], or the belief bias, the tendency to evaluate the logical strength of an argument based on the believability of its conclusions, are some of the cognitive biases that may hinder our capacity to assessing information correctly.

Moreover, in the contemporary situation in which online information may lack gatekeepers, it is important that individuals are aware of the possibility of dealing with **misinformation** and are **willing to fact-check** a piece of information and **evaluate the credibility** of a source by assessing its accuracy, reliability and authority, while preferring primary sources over secondary sources of information where possible.

L2.2

Comparing, analysing, assessing, and synthesising data, information, ideas, and media messages in order to draw logical conclusions

Deploying critical thinking requires testing the robustness of arguments and thoughts to identify possible biases

In the digital society we are drenched by data. This descriptor stresses the relevance of **making sense of data** more than accumulating it. This requires open-mindedness and willingness to asses information, ideas and media messages in a critical way[155]. Critical thinkers need to assess situations and assumptions, ask questions and evaluate whether an argument make sense or not[147].

Deploying critical thinking therefore requires **testing the robustness of arguments** and thoughts to identify possible biases. An argument should respond to standards of thinking involving clarity, credibility, accuracy, precision, relevance, depth, breadth, and significance[155]. As indicated in the "**Digital Competence Framework for Citizens**", individuals need to be able to analyse, compare and critically evaluate the credibility and reliability of both the sources of data, information and digital content, and of the data, information and digital content itself[103]. A critical attitude helps individuals to tolerate ambiguity and to change their mind if new evidence arises[159].

L2.3

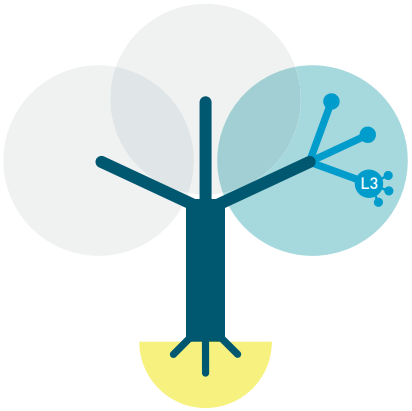
Developing creative ideas, synthesising and combining concepts and information from different sources in view of solving problems

Creativity enables individuals to question assumptions, re-evaluate problems considering different variables and to take sensible risks. Being persistent, collaborative, and disciplined sustain creativity

The capacity to think creatively is relevant to problem-solving. **Creativity** is a transversal skill that anyone can develop[160] to generate **outcomes** that are both **original and of value**, and is as well a driver for innovation[161]. To develop creativity, individuals need to use their imagination and intuition, adopting a playful attitude to explore new ideas and assess new strategies of problem-solving while accepting some levels of risk-taking[34]. To accept the risk of failure linked with creativity, individuals need to feel both safety and stimulation[162]. Therefore, different situations may foster or limit individual creativity.

Creativity enables individuals to question assumptions, re-evaluate problems considering different variables and to take sensible risks[163]. Creative characteristics within an individual may be considered as emerging from the capacity of **generating ideas** with fluency, flexibility, originality, and metaphorical thinking, taking stock of divergent thinking; **digging deeper** *into ideas*, analysing, synthesising, reorganising, and redefining, with the willingness to understand complexity, taking stock of critical thinking; **openness and courage to explore ideas**, with curiosity, playfulness, imagination, a sense of self-efficacy, tolerance for ambiguity and persistence; **listening to one's inner voice**, which requires self-awareness of and commitment towards one's own values and goals, ethical work, and the capacity to self-regulate own action[164]. Being persistent, collaborative, and disciplined are nourishable "habits of minds" that sustain creativity[163].

L3 Managing Learning



The planning, organising, monitoring and reviewing of one's own learning

Managing learning entails the motivation to foster both metacognitive knowledge and metacognitive regulation of learning[165]. Metacognitive knowledge refers to: **knowledge about cognition** in general, of one's **personal knowledge** state, and of one's strengths and weaknesses as a learner; **knowledge** about the **task** e.g. its level of difficulty, which kind of strategies are better suited to solve it, when and why use them; and **strategic knowledge** of general strategies for learning, thinking and solving problems. **Metacognitive procedural regulation** applies the metacognitive knowledge to planning, monitor and evaluating one's own learning[166; 167].

Motivation, i.e., the energy, direction and persistence that move individuals towards action[55], is a powerful driver of learning and of Learning to Learn. Intrinsic motivation drives individuals towards engaging in a learning activity because it is personally rewarding. Extrinsic motivation refers to an activity performed to achieve some external reward, e.g. praises, grades, money, or fame. After childhood, the possibility to engage in intrinsically motivated activities is challenged by the social pressure towards activities that are not interesting for the individual. When engaged in extrinsically motivated actions, the integration and internalisation of the values that justify those actions (e.g. *"I study this subject that I don't like because I am conscious of its relevance for my future career"*) is associated with more engagement, better performance, and a higher quality of learning. Different learning settings can promote or hinder individuals' capacity for integrating social values and responsibilities of extrinsically motivated behaviours. Learning contexts that take into account the basic psychological needs of autonomy, relatedness and competence are more likely to promote positive motivation for better learning outcomes[55].

The awareness of our own learning dispositions, motivations and reflection on learning, play also a relevant role in managing the learning[168], enabling learners to achieve **meaningful learning**. Meaningful learning is the one in which learners are able to consciously integrate the new knowledge and relate it to relevant concepts that they previously mastered[169]. Meaningful learning is, therefore, the long-lasting result of the learner's disposition towards an **active and constructive**

effort to understand the new information bridging it through non-arbitrary connections to the previous knowledge[170]. The knowledge acquired through meaningful learning is well understood, transferable to new situations and disciplinary fields and enables a deeper understanding of reality[145].

The **awareness of oneself as a learner** with specific interests, motivation, desires and goals, of the emotions triggered by the learning setting and the self-regulation under threat or pressure, as well as putting in place metacognitive strategies to monitor learning, are seen as boosters of the overall "resilient agency in learning"[34;171]. Applying metacognitive knowledge and regulation facilitates an active attitude in learners, who are able to adapt their learning strategies to the content and their specific goals.

Adopting a lifelong attitude towards learning requires developing self-regulatory skills[172]. Self-regulated learning involves metacognitive, motivational, and behavioural processes that are personally initiated to acquire knowledge and skill, such as goal setting, planning, learning strategies, self-reinforcement, self-recording, and self-instruction[172]. Learners who can manage their own learning are actively involved in their learning process by designing their own learning cycles, i.e. defining goals and a strategies to achieve them, planning and managing activities to implement such strategies, evaluating processes and results based on evidence for achievement, and reflecting on their learning process[173]. This, in turn, facilitates the adoption of a growth mindset and increases intrinsic motivation.

L3.1

Awareness of one's own learning interests, processes and preferred strategies, including learning needs and required support

Learners need to be aware of their learning dispositions and preferred learning strategies but also of their attitudes and values

This descriptor stresses the relevance of self-awareness and self-knowledge, the ability to **think about the own thinking**, and the awareness and understanding of own thought processes, particularly of those related to the self as a learner. It includes the judgment of the ability to perform a task, i.e. self-efficacy, the motivation to complete it, and the level of interest in the learning task[174]. To be effective, self-awareness and self-knowledge need to be **accurate** and provide an **honest** portrait of the situations that enable the learner to take effective actions. At the same time, individuals' belief in their self-efficacy as learners mediates the **persistence** in the face of difficulties, as well as the effort and interest that they mobilise in learning. The higher the self-efficacy is, the higher the challenge of the goals that individuals are keen to assume, and the greatest the resources that they are willing to spend to achieve them[43]. Learners need to be aware of their learning dispositions and preferred learning strategies but also of their attitudes and values. Moreover, especially in informal and non-formal settings, it is critical that learners be aware of their interest and purpose in learning.

Learning is a relational process of co-construction that entails interdependence[175]. Therefore an attitude of openness towards learning with and from others, as well as a sense of belonging to a learning community that can scaffold the learning effort, are desirable learning dispositions, particularly in formal settings of education[34]. In particular, **cooperative learning**, which builds on positive social interdependence, i.e. a situation in which the group's success depend on the collaborative participation of all the members, produce more interest in the learning task, better learning outcomes, improved relationships among group members, and higher self-esteem, when compared to the outcomes of competitive or individualistic learning settings[117].

L3.2

Planning and implementing learning goals, strategies, resources and processes

To monitor a learning activity, learners need to be aware of their comprehension and performance while executing the learning task, to persevere in a successful learning strategy or to modify one that is not working

This descriptor stresses the importance of self-regulation for learning. Self-regulated learners can direct their learning, set goals, motivate themselves and apply appropriate strategies to achieve their goals[43;144]. It entails planning, implementing and monitoring a learning activity. To **plan** a learning activity, the learner needs to understand the learning goal to be achieved, determine which of the known learning strategies would best suit the goal, and allocate the appropriate resources to achieve it. The planning of a learning activity also builds on self-knowledge, since based on their strengths, weaknesses and level of motivation, learners will be in the position of using the most appropriate strategies to achieve their goals.

To **monitor** a learning activity, the learners needs to be aware of their comprehension and performance while executing the learning task, to persevere in a successful learning strategy or to modify one that is not working. The ability to generate questions to monitor one's level of understanding of a learning task and the completeness of the information required for the comprehension of a task are important aspects of metacognitive regulation[176]. Self-efficacy and self-regulation have a positive impact on each other: training the self-regulative skills has a positive influence on self-efficacy[177], and higher self-efficacy increase the use of self-regulation strategies[178].

L3.3

Reflecting on and assessing purposes, processes and outcomes of learning and knowledge construction, establishing relationships across domains

As learners improve in their comprehension of the learning processes, they will be able to recognise that learning activities in different domains are similar, and therefore the same strategy can be transferred and applied across different areas

Reflection leads to improvement in the cognitive and emotional self-awareness that is necessary to guide learning. This descriptor stresses the importance of **reflection on** and evaluation of the **learning outcomes**. It allows us to identify possible errors in the learning process and to self-correct them. Continuous formative assessment, which is specifically intended to provide feedback on performance to improve and accelerate learning, allows the learners to adjust their learning strategies and tasks for better learning outcomes, as well as plan and redesign new ones[179].

As learners improve in their comprehension of the learning processes, they will be able to recognise that learning activities in different domains are similar, and therefore the same strategy can be transferred and applied across different areas. The use of learning strategies boost learning, the knowledge of the strategies in itself does not ensure their use. An effective learner needs to have a reflective attitude in order to select the most appropriate approach to achieve a learning goal. Eventually, the assessment of the implemented process and strategies helps learners identify the factors that prevent them from reaching a satisfactory result and from address them[176].

6 WAYS FORWARD

Innovative pedagogical experiences with transversal and subject-based approaches are to be envisaged, so that we understand better how to teach *LifeComp* competences.

The existence of numerous socioemotional education and learning frameworks[vi] by leading organisations worldwide indicates the increasing importance given to personal and social development through education and lifelong learning.

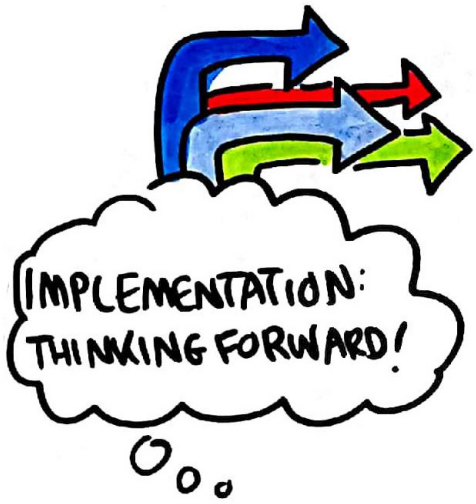
The disparities of skills and features identified by those frameworks is also a fact to be noted. The aim of the *LifeComp* conceptual framework is to provide a common understanding and shared language at the European level, following the 2018 Council Recommendation on key competences for lifelong learning, as to support initiatives to ensures that these life skills are acquired as much as possible by all individuals in Europe through education, including non-formal and informal education, and different levels of formal education from primary school to university.

Although the discussion of *LifeComp* learning outcomes and progression levels might be premature at this stage, the qualitative measurement of the competences' development through formative assessment and the creation of self-reflection tools to support all learners, including adults and informal learners can be contemplated. Since this is a theoretical framework that needs to be put in practice, piloting in schools with teachers volunteering can be envisaged to develop and further improve the framework. The framework, if adopted in formal education settings, would benefit from mobilising the active participation of the whole school communities, including students, teachers, school leaders, families and local communities. This recommendation links to the suitability of using a Whole School Approach[vii], stressing the centrality of students' voices as described in the UN Convention on the Rights of the Child[viii], but also the relevance of the competences described for staff and community development.

vi An overview of frameworks worldwide can be found here: http://exploresel.gse.harvard.edu

vii NESET, the Network of Experts working on the Social dimension of Education and Training sees socioemotional education (SEE) as a core component of education focusing on a set of intra and interpersonal competences that are relevant to a whole school systemic approach that can be suitable for *LifeComp*.

viii See art. 12 in https://www.ohchr.org/en/professionalinterest/pages/crc.aspx



There is a need to explore the application of *LifeComp* in different contexts, such as those educational settings with diverse classrooms that include socio-economically disadvantaged students, ethnic and sexual minorities, or students with special needs. Creating flexible guidelines for educators with a focus on teaching methodologies for different age groups and different levels of learning, and allowing for context-specific adaptations of the different framework components is of utmost importance. Practical solutions and scenarios for different subject areas can be designed. Initial Teacher Education (ITE) and teachers' Continuous Professional Development (CPD) can also benefit from *LifeComp*.

The implementation process should be spiral, not linear, with each step informing all others. Importantly, innovative pedagogical experiences with transversal and subject-based approaches are to be envisaged, so that we understand better how to teach *LifeComp* competences and how these can be embedded in the curriculum whether on a cross-curricular basis or in particular subjects, but also in lifelong learning and lifelong guidance. There is a clear need to share examples of policy in this area and to providing examples of innovative educational practices and tools that teachers and lifelong learners can use. Member States could develop national standards from this framework, adapting it to their own contexts.

The *LifeComp* framework is not prescriptive. Rather, it aims to make explicit the need for particular competences, to foster the reflection about where learners stand, and seek ways for them to continuously improve. At first instance, *LifeComp* may appear to be overly ambitious and difficult to achieve for all, but it is important to make these competences explicit so that we can start working towards achieving them. The acquisition and deployment of the competences is a dynamic process, influenced by personal and contextual factors. Having shown a high level of competence in a given situation does not necessarily imply that the individual will be able or willing to show the same level of competence in a different setting. We believe, therefore, that the processes of reflection, self-cultivation and continuous self-improvement would be a valuable outcome to acquiring *LifeComp*. Finally, the current health crisis has proven the urgent need of acquiring *LifeComp* competences as well as digital competences. We are presented with the opportunity of exploring the potential of the use of digital tools to foster and facilitate the acquisition of *LifeComp* competences. Nevertheless, educating learners of these will remain a challenge in more digitalised and blended settings.

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