



5P Competences

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Conceptual frame of reference

Sustainability Skills in Adult Education



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For over three decades, the United Nations has been actively promoting sustainable development. 17 sustainability goals were formulated with the aim of achieving them by 2030¹. The subsequent Incheon Declaration² places special emphasis on education and training, designating them as key components in this collective effort.

Achieving these goals requires more than just changes in the educational system, focusing not only on ensuring a fair distribution of education and improving learning outcomes. It is equally crucial to attain pertinent educational objectives and develop relevant competences. To support that a competence framework was established in 2022 (EU-Commission, 2022) and learning objectives were published in 2017 (UNESCO, 2017). Common to these two publications, as well as similar ones, is their foundation in sustainable development as such. From this they are asking for learning objectives that can be deduced, such as understanding concepts of poverty and engaging in critical discussions about their normative and cultural assumptions. Moreover, they call for the development of relevant competences needed to actively contribute to sustainable development such as respect for sustainability and the ability to critically engage in discussions related to it.

The focus on lifelong learning

In this project, our focus is on a lifelong-learning perspective. Before delving into the project's design, it's crucial to explore the implications of this viewpoint. Despite (or perhaps because of) our frequent use of terms like 'lifelong-learning' or 'informal learning' in everyday language, there exist significant variations in their meanings. Recent publications, exemplified by Rohs (2015), highlight that the term 'informal learning'

¹ <https://sdgs.un.org/goals>

² <https://www.fachportal-paedagogik.de/literatur/vollanzeige.html?FId=1188525>

can be broadly defined as any learning that is not formal. Informal learning then serves as a residual category, representing learning outside organized contexts.

Alternatively, some definitions trace the origin of the term 'informal learning' to the field of vocational occupation and training, emphasizing on-the-job learning and the distinction between general and vocational education. In this context, informal learning also plays a pivotal role in organizational learning (Senge, 1990). Another perspective on the definition of 'informal learning' originates from the European Projects 'Learning Regions' or 'Learning in Place,' contextualizing informal learning within regional development. Here, 'informal learning' emerges as a significant element of regional task-orientation (Kuper & Kaufmann, 2010). Overall, the understanding of 'informal learning' largely depends on the political background associated with the term, resulting in variations across European countries.

To adhere to a widely accepted definition, we rely on recent empirical studies on lifelong learning and informal learning, particularly referencing the Adult Education Survey. The following definitions can be found on EUROSTAT's websites³:

“Lifelong learning encompasses all learning activities undertaken throughout life with the aim of improving knowledge, skills and competences, within personal, civic, social or employment-related perspectives. The intention or aim to learn is the critical point that distinguishes these activities from non-learning activities, such as cultural or sporting activities.”

According to this definition, 'lifelong learning' persists throughout an individual's entire life, pursued with the explicit goal of improving knowledge, skills, and competences. Consequently, learning that occurs by chance is not considered relevant to 'lifelong learning.' These learn-

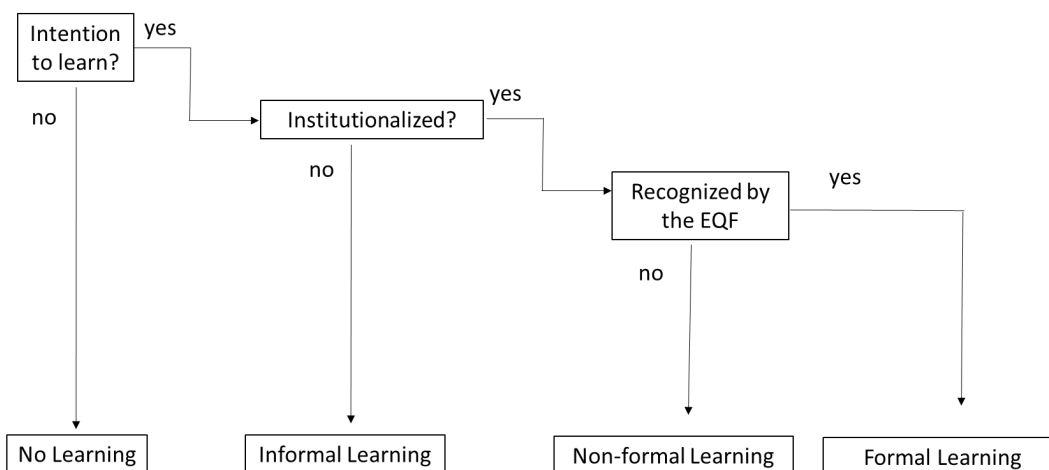
³ https://ec.europa.eu/eurostat/cache/metadata/en/trng_aes_12m0_esms.htm

ing activities are categorized into three distinct groups: formal, non-formal, and informal. The definitions for each category are outlined as follows:

- **Formal education and training** are defined as “education that is *institutionalised, intentional and planned through* public organisations and recognised private bodies and – in their totality – constitute *the formal education system* of a country. Formal education programmes are thus recognised as such by the relevant national education authorities or equivalent authorities, e.g. any other institution in cooperation with the national or sub-national education authorities. Formal education consists mostly of initial education. Vocational education, special needs education and some parts of adult education are often recognised as being part of the formal education system.” (ISCED 2011)
- **Non-formal education and training** is defined as “education that is *institutionalised, intentional and planned by an education provider*. The defining characteristic of non-formal education is that it is an addition, alternative and/or complement to formal education within the process of the lifelong learning of individuals. It is often provided to guarantee the right of access to education for all. It caters to people of all ages but does not necessarily apply a continuous pathway-structure; it may be short in duration and/or low-intensity, and it is typically provided in the form of short courses, workshops or seminars. Non-formal education mostly leads to qualifications that are not recognised as formal or equivalent to formal qualifications by the relevant national or sub-national education authorities or to no qualifications at all. Non-formal education can cover programmes contributing to adult and youth literacy and education for out-of-school children, as well as programmes on life skills, work skills, and social or cultural development.” (ISCED 2011) In short, non-formal education and training covers *institutionalised taught learning activities outside the formal education system*.

- **Informal learning** is defined as “forms of learning that are *intentional* or deliberate, but are *not institutionalised*. It is consequently less organized and less structured than either formal or non-formal education. Informal learning may include learning activities that occur in the family, workplace, local community and daily life, on a self-directed, family-directed or socially-directed basis”. (ISCED 2011)

For a clearer grasp of the fundamental distinctions among formal, non-formal, and informal learning, the definitions can be visually represented. According to Bilger et al. (2013, p. 19), a flowchart, as outlined in the Classification of Learning Activities (CLA) by Eurostat (2016, p. 21), can be created. This visual aid aims to foster a shared understanding of the various types of learning:



This understanding can be applied to define the term **‘Education for sustainable development’** (ESD). In the words of the UNESCO (2014, p. 12), “ESD empowers learners to take informed decisions and responsible actions for environmental integrity, economic viability and a just society, for present and future generations, while respecting cultural diversity. It is about lifelong learning, and is an integral part of quality education. ESD is holistic and transformational education which addresses learning content and outcomes, pedagogy and the learning environment. It achieves its purpose by transforming society.” The definition

also implies two key aspects: a) Environmental and Sustainable Development (ESD) can be pursued through formal, non-formal, and informal learning, and b) it necessitates intentionality: the purpose of making informed decisions and undertaking responsible actions for environmental integrity, economic viability, and social justice. This conceptualization of ESD aligns with recent publications by Wals & Mochizuki (2017) and Rieckmann & Barth (2022). Wals & Mochizuki emphasize a gap in knowledge regarding ESD within the realm of non-formal education.

Consequently, the project's intent to establish a competency framework for ESD enters a field with limited research, particularly in the domain of non-formal education. Since informal learning is closely tied to practical actions in daily life (be it occupational, private, or societal), the competency framework must prioritize knowledge that serves as a precondition for these actions. It should not focus on knowledge arising as a consequence of these actions, as the latter does not align with informal learning, given its non-intentional nature.

Implications for learning objectives from the lifelong learning perspective and the concept of developmental tasks

From the perspective of lifelong learning, as described earlier, the learning objectives formulated for formal learning fall short in addressing the needs of informal learning. This is due to several reasons:

- The learning objectives and competences are often formulated in a very general manner, lacking a specific justification for their relevance to concepts like sustainability, such as 'systems-thinking competency,' 'strategic competency,' or 'self-awareness competency' (UNESCO, 2017, p. 10). Consequently, the argument arises that educational innovations are not necessarily required since the objectives have always been relevant.

- Educational objectives are primarily linked to formal learning settings in schools and universities. While they can be integrated into a catalog outlining general skills and competences, this catalog may not be directly connected to problems or situations encountered in everyday life - the very context that drives informal learning.
- It is (almost) impossible to derive actionable insights for pedagogical interventions from analytical categories that justify the weighting of educational objectives (or competences) for individual learners or determine the sequence in which different parts of the competences can or should be taught.

From a Lifelong Learning perspective, it is imperative to augment existing competence frameworks (or lists of educational objectives) with a concept grounded in everyday situations, including professional contexts. The objective of this project is to establish a competence framework aligned with UNO and UNESCO publications, reflecting current developments in our partner countries and community activities. The framework should remain open and adaptable to new trends, with a primary focus on informal learning.

To achieve this goal, we will build upon the concept of developmental tasks widely utilized in developmental psychology. Originally, this concept refers to culturally or societally determined expectations at a specific point in time for individuals of a certain age. Havighurst (1972), a notable proponent of this concept, applied it to adolescents, outlining tasks such as preparing for a professional career, readiness for marriage and family, adaptation of sex roles, acceptance of one's own body and person, and achieving emotional independence from parents and other adults.

Havighurst himself emphasizes the adaptability of this concept across various life stages. For early adulthood, tasks may include choosing a life partner, establishing a family, managing a home, and building a career. In middle age, individuals may focus on maintaining a standard of living, fulfilling civic and social responsibilities, sustaining a relationship with a spouse, and adapting to physiological changes. Later in maturity, tasks may shift towards adjusting to deteriorating health, transitioning to retirement, fulfilling social and civil obligations, and coping with the loss of a spouse.

Building on Havighurst's work, Hurrelmann (1998) further refines the concept, approaching it from a socialization perspective that is closely aligned with informal learning. Hurrelmann identifies four developmental tasks:

- **Training of discipline and intellectual and social competences:** Actively assuming tasks and duties that are personally satisfying and contribute to public welfare.
- **Designing a self-image of body and soul:** Developing a personal identity, fostering close connections with loved ones, and maintaining satisfying contacts with others.
- **Developing skills to productively use economic, leisure, and media offerings:** Creating strategies for relaxation and regeneration.
- **Designing a value orientation and developing the ability to participate actively in the political shaping of living conditions.**

In developmental psychology and the theory of socialization, the inquiry into the repercussions for adolescents who fail to successfully navigate developmental tasks is common. Here, we apply the concept of developmental tasks to lifelong learning, a notion akin to Hericks (2009), who

employs the concept in his theory of teacher professionalization. In this context, we refer to tasks that must be acquired and updated throughout the entire lifespan, closely linked to the perspective of sustainability. If this ongoing acquisition and updating do not occur sufficiently, it is not just the individual who is adversely affected; it is the sustainability itself.

Upon reviewing the cited literature, three pivotal concepts emerge, integral to competences for sustainability and learning objectives: **Generation, justice, and responsibility.**

Generation:

The theme of 'generation' is intricately linked to sustainability, explicitly referenced in the GreenComp competence framework (Supporting Fairness, p. 14). The concept revolves around the notion that each generation inhabits a world, or learns to live in a world, shaped by preceding generations. Inheriting this world, each generation continues certain aspects while modifying others, with the aim of passing on the world to subsequent generations. A vital condition for sustainable development lies in recognizing and engaging critically and responsibly with this intergenerational dynamic. This pertains not only to the history of humanity, the nation, and the family but also to one's personal history. Norms and values must be scrutinized and made conscious, prompting individuals to reflect upon the legacy they wish to leave for their children, the children of their friends, their community, their country, and the world. This aspect is particularly emphasized in SDG 8 (Decent Work and Economic Growth) and is relevant to SDG 1-3, SDG 5-12, and SDG 16.

Justice:

Justice is explicitly mentioned in certain competences of GreenComp and is directly tied to specific Sustainable Development Goals (SDG 5: Gender Equality or SDG 10: Reduced Inequality). Implicit references to justice are found in other goals as well (SDG 1: No Poverty or SDG 2: Zero

Hunger). The concept of justice extends to discussions about justice between nations, regions, and individuals. Questions about equality and inequality are intertwined with issues related to the distribution of natural resources or the organization of power and domination.

Responsibility:

The notion of feeling responsible has been previously addressed by Havighurst and Hurrelmann. Sustainability represents another facet of responsibility, involving accountability for one's actions, values, and engagement for sustainability. This aspect is also reflected in the competence framework (Valuing Sustainability or Political Agency and Collective Action) and is echoed in the Sustainable Development Goals. It encompasses being responsible for others and the conditions necessary for a 'good life,' thus intertwining with the broader question of generations.

Out of these topics three developmental goals can be drawn that are described in the following paragraphs:

1. The first developmental task is aiming at the existence and the continuance of the world. This encompasses considerations for one's own future, the future of the society and the future of the forthcoming generations. The main question that is raised is: on what (material) basis can this future be designed? This means our management of resources. The developmental task is, to learn how to handle our material resources in order to give us as persons, other persons and other societies a worthwhile and sustainable future.
2. The second developmental task is focussing on the social cohesion of a society, on the social contact of persons among themselves and on the results of a comparison between a person and other

persons. It is about fairness and values around it. The developmental task is to develop social values and a concept of social fairness.

3. The third developmental task is connected to one's own position in the world. Unlike being ascribed, as might have been the case in the past, it is now earned and can be assured through individual efforts. Consequently, it is crucial to be convinced of one's own self-efficacy and engage in sustainability as far as one's own abilities and interests allow that.

The three developmental tasks have in common, that they cannot be achieved finally. They have to be thought over the whole lifetime, they have to be modified and updated and some competences have to be learnt newly. Concerning the aspect of lifelong learning this does not happen independently from one's own life. The opposite is true: it happens it happens enclosed in one's own life, and therefore is intricately interwoven with it. This is the reason why in this project initiatives and projects are collected and analysed which are undertaken in connection with these developmental tasks on a national and on a regional level.

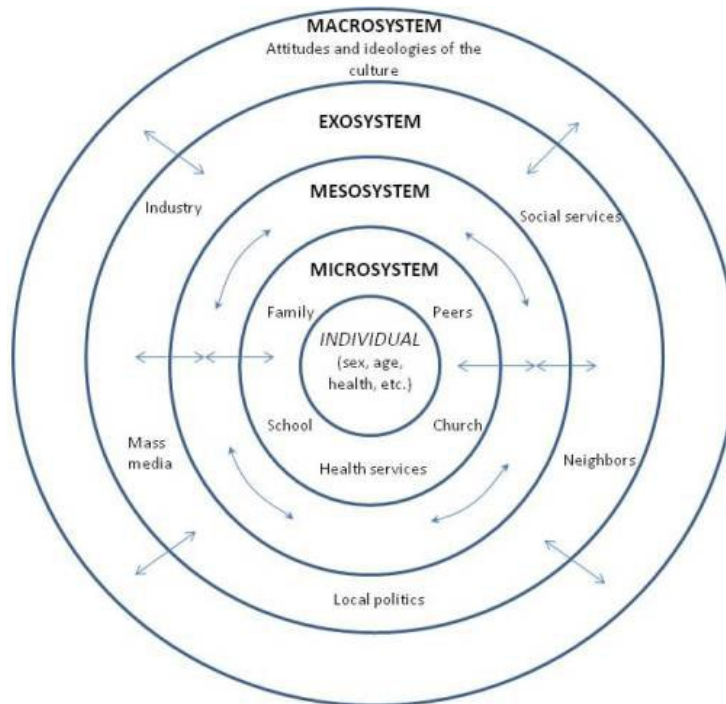
Consequences for the project and the reference to the social ecological model of Uri Bronfenbrenner

The project initially aimed to analyze international, national, and regional publications on Education for Sustainable Development (ESD) to identify specific goals for the competence framework, with a focus on regional differentiation. This approach was aligned with the UNESCO's roadmap for ESD implementation (2020), emphasizing efforts at the local level using a whole-institution approach (p. 16, also p. 22).

However, it became apparent that this intention could not be realized due to the fact that publications at the national and regional levels all referenced the central publications of the UNESCO. Consequently, a decision was made to analyze concrete initiatives and projects undertaken in the countries of the project members.

While the analysis of developmental tasks could be conducted using project descriptions, it posed a challenge to draw from those descriptions a direct line to the regional level, since projects could operate at regional, national, or international levels.

Given the importance attributed to the regional level by UNESCO (2020), reference was made to Bronfenbrenner's social ecological model (1981). This model categorizes various ecological systems with different influences on the cognitive and social development of individuals, particularly children. The graphical illustration of the model is one of many, depicting the interconnectedness of these systems.



Source: [https://en.wikipedia.org/wiki/Ecological_systems_theory#/media/File:Bronfenbrenner's Ecological Theory of Development \(English\).jpg](https://en.wikipedia.org/wiki/Ecological_systems_theory#/media/File:Bronfenbrenner's_Ecological_Theory_of_Development_(English).jpg)

Adapting the model to meet the project's requirements, we considered the following distinctions regarding developmental tasks at different levels (systems):

- **Micro-level** (Individual and Direct Contacts):
Developmental tasks related to actions directly connected to the person or those in direct contact with them.
- **Meso-level** (Personal Environment):
Developmental tasks targeting the personal environment of an individual, encompassing relationships with closely connected individuals like family or close friends.
- **Exo-level** (Groups or Events in Direct Environment):
Developmental tasks referring to groups or events in the immediate environment of a person, wherein the person is not a member

but the environment significantly influences possibilities of action, such as changes for sustainable consumption or energy usage.

- **Macro-level (Societal Aspects):**

Developmental tasks focusing on aspects connected with the entire society, such as values, conventions, traditions, rules and regulations, laws, or ideologies.

Consequently, the analysis aims to culminate in a competence framework for sustainable development within the realm of lifelong learning. However, it's crucial to note that this framework, being grounded in empirical analysis rather than theoretical considerations, may not encompass the complete spectrum of competences required to comprehensively support sustainable development in all its facets. To address this, the empirical framework is juxtaposed with a well-established theoretical framework from other contexts that can be adapted. The chosen theoretical framework is the competence atlas by Heyse & Erpenbeck (2017). The rationale behind this choice will be elucidated in the subsequent discussion, which explores various conceptualizations of the term 'competence.'

How the concept of competence is understood in this project

The term 'competence' has been employed in various pedagogical contexts over recent decades. Depending on the context—whether in vocational education, assessing literacy in schools, or establishing a shared understanding of basic skills in EU countries—divergent interpretations of the term 'competences' emerge. A widely accepted perspective views competences as cognitive skills and proficiency that are both attainable and teachable. These encompass a person's ability to solve problems, along with the motivational, volitional, and social readiness and capabilities to address these solutions successfully and responsibly (see

Weinert, 2002, p. 27). Meigel (2022) categorizes the differences in understanding into three groups:

- 1. Generalized Capacities (OECD):** This interpretation of the term 'competences' aligns with the German Qualification Reference Framework (DQR), rooted in the European Qualification Framework (EQF). Similar to the EQF, the DQR features eight levels with a distinct structure. The DQR, however, refines and specifies the EQF by expanding on its categories and competence descriptions in more explicit terms. While the EQF comprises three categories (1. Knowledge, 2. Skills, and 3. Responsibility and Autonomy), the DQR introduces four categories (1. Knowledge, 2. Skills, equivalent to professional competence, 3. Social competences, and 4. Independence, akin to personal competence) (BMBF, 2011). This underscores the German education system's commitment to a holistic understanding of competence. The four-category structure was chosen to effectively articulate a comprehensive ability to act in all its facets. Both the EQF and DQR view competences as learning outcomes, rooted in the idea that there is alignment between (professional) activities and the requisite competences.
- 2. Definitions for Cognitive Skills (PISA, PIRLS, PIAAC):** Another perspective on competences is evident in international studies such as PISA, PIRLS, or PIAAC. In these studies, there is a clear distinction between cognitive and motivational components of competences. The focus in competence descriptions is primarily on the cognitive elements that can be taught in schools or other formal and non-formal learning institutions. Consequently, this viewpoint leads to a more precise understanding of competences concentrated on specific domains or situations (Klieme & Hartig, 2007). Competences, in this context, are seen as functional, facilitating a clear differentiation from more general terms like intelligence or talent.

3. Competences as Dispositions for Self-Organization: In this interpretation, competences are viewed as a person's ability to successfully navigate open, incalculable, complex, and dynamic situations through self-organization (Heyse & Erpenbeck, 2004). In simpler terms, competences represent the predisposition to organize oneself, enabling individuals to adapt to concrete situations and changing conditions by adjusting their behavioral strategies effectively (Heyse & Erpenbeck, 2004). This understanding aligns well with the concept of informal learning, emphasizing that individuals define their learning goals independently. Similar to informal learning, competences are rooted in self-determination. Key principles include their non-linear development, self-reinforcement, as competences lead to the development of new ones through new experiences. Additionally, competences depend on factors within individuals, not external elements (environment), and are influenced by internalized values, personal development, and individual history.

As demonstrated, the concept of competences as dispositions for self-organization aligns well with the notion of informal learning. In a cyclical process, it influences (and is influenced by) mental actions, such as problem-solving or assessment, physical actions like working or manufacturing, communicative actions, and reflexive actions like self-assessment. These competences prove especially crucial in situations where established routines are unavailable. Consequently, self-organized actions have a reflexive impact on the individual (personal competence), the social environment (social and communicative competence), the objective environment (domain and method-related competence), and one's motivation and endurance (activation and action competences).

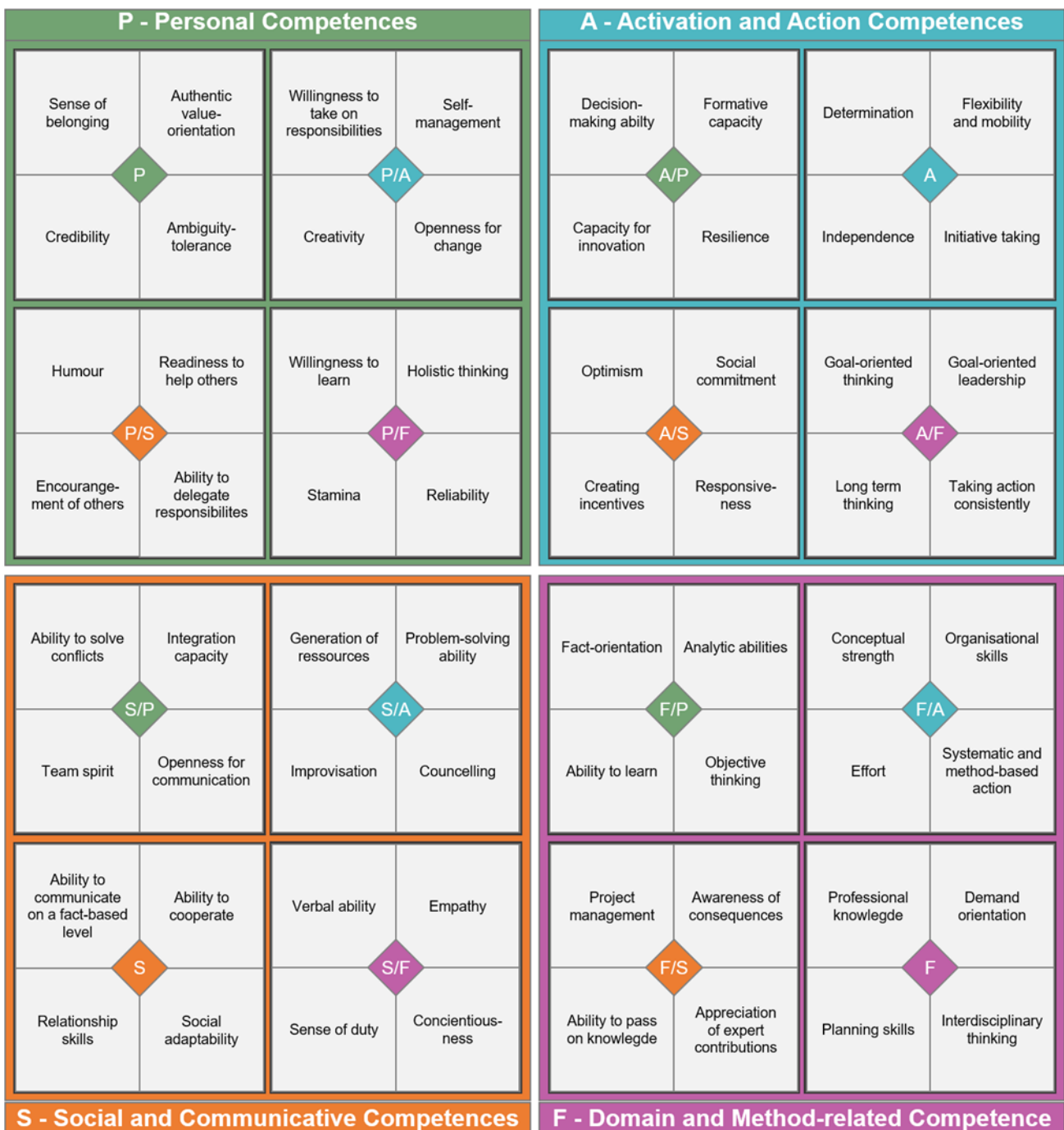
- **Personal Competences (P):** These are dispositions within the individual that lead to self-organized action. They encompass the

ability to assess oneself, reflect on one's identity, and develop individual values, motivation, creativity, and learning. This also influences one's emotional intelligence, motivation, creativity, and learning.

- **Social and Communicative Competences (S):** These competences involve dispositions for collaborative, self-organized, cooperative, and communicative interactions. Individuals with strong social and communicative competences orient their behavior towards groups and relationships, fostering the creation of shared action plans, joint tasks, and objectives. These competences are crucial for establishing coordinated actions on a stable foundation.
- **Domain and Method Related Competences (F):** These dispositions are the prerequisites for self-organized, accurate, objective, and domain-based problem-solving. They depend on professional and methodological knowledge and the ability to creatively develop and expand this knowledge.
- **Activation and Action Competences (A):** These competences involve dispositions to translate other competences into action. This means integrating a person's personal, social-communicative, and domain-related competences into their personal motives and endurance.

The categorization of competences into these four sub-categories aligns well with the four categories of the DQR, despite the use of different terms. They also correspond to the developmental tasks explained earlier. Heyse and Erpenbeck (2017) have identified 64 aspects within the four sub-categories of competences and systematically summarized them in their competence atlas. What makes this atlas pertinent to this project, beyond the previously mentioned topics, is its adaptability to

different subjects. The graphic below outlines the personal competences, social-communicative competences, domain and method-related competences, and action competences of the competence atlas, utilizing our adaptation tailored to the characteristics of informal learning and education for sustainable development. In our adaptation of the model from Heyse and Erpenbeck (2017), the following matrix (competence atlas) can be formulated:



In the next step, the three above mentioned developmental tasks (material resources, social cohesion / justice / social fairness, self-efficacy; see also the definitions above) will be integrated into the model. Again, the mapping cannot be done clearly and unambiguously, but it is plausible.

The coding of the projects is described in a separate publication, which gives a detailed overview of the elements and features of the 5P competence framework.

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