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БОЛОВСРОЛЫН ЯАМ

ЗАСГИЙН ГАЗРЫН ХЭРЭГЖҮҮЛЭГЧ АГЕНТЛАГ БОЛОВСРОЛЫН ЕРӨНХИЙ ГАЗАР

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SPPEFF PSYCHOLOGICAL, EDUCATIONAL AND HUMAN MOVEMENT SCIENCES

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Erasmus+ programme "Reforming teacher education towards green and digital transition in Mongolia" project - RETEACH

Framework for Teachers' Green and Digital Competencies/benchmark

(Version of piloting)

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Content

Abbreviations

Abbreviation	*Meaning*
MES	Ministry of Education and Science
GAE	General Authority for Education
TDC	Teacher Development Center
SS	Secondary School
ICT	Information and Communication Technology
UN	United Nations
NSO	National Statistics Office
OTU	Otgontenger University
MSUE	Mongolian State University of Education
NUM	National University of Mongolia
MNCEA	Mongolian National Council for Education Accreditation
HEI	Higher Education Institution
HE	Higher Education
UI	University and Institute
MEDLE	An Electronic Learning Platform Developed by Mongolia (Medle.mn)
STE(A)M	Science, Technology, Engineering, Arts, and Mathematics
ESD	Education for Sustainable Development
PEO	Program Educational Objective (Хөтөлбөрийн сургалтын зорилго, зорилт)
PLO	Program Learning Outcome (Хөтөлбөрөөр эзэмших мэдлэг, ур чадвар)
CLO	Ccourse Learning Outcome (Хичээлээр эзэмших мэдлэг, ур чадвар)
GreenComp	EU Green Competence Framework (EU Green Competence Framework)
DigCompEdu	European Framework for Digital Competences for Teachers

GLOSSARY

Terms	Definition
Green Education	Teaching and learning focused on sustainability, climate change, and environmental responsibility.
Digital Pedagogy	The use of digital tools and technologies to enhance teaching, learning, and assessment.
Sustainability Competence	The ability to understand, evaluate, and act on environmental, social, and economic challenges related to sustainability.
Climate Literacy	The knowledge, skills, and attitudes needed to understand climate change and its implications for the environment and society.
Digital Citizenship	The responsible and ethical use of digital technology, including the understanding of issues like privacy, security, and digital rights.
Inquiry-Based Learning	A student-centered approach where learners investigate real-world problems through questioning, research, and collaborative solutions.
Digital Competences	A set of skills, knowledge, and attitudes related to using digital technology to solve problems, communicate, collaborate, and produce content.
Green competences	Green competences refer to the knowledge, skills, attitudes, and values needed to support sustainability. They enable learners to understand complex environmental, social, and economic challenges, adopt responsible behaviours, and contribute actively to a sustainable future.
GreenComp	The European sustainability competence framework that defines competences for addressing climate change and sustainability in various educational contexts.
DigCompEdu	The European Framework for Digital Competence of Educators, which outlines digital skills required for effective teaching and learning in the digital era.

Introduction

Worldwide, teacher education systems are facing the need to be reformed and aligned with socio-economic changes, rapid technological advancements, and sustainable development goals. The widespread use of artificial intelligence and digital learning ecosystems, along with new educational objectives related to climate change, are demanding changes at all levels—from curriculum content, methodology, and assessment to models of teachers' professional growth. Consequently, many countries are adopting comprehensive reform trends aimed at improving the quality, accessibility, and coherence of teacher education systems while strengthening innovation- and evidence-based policies.

The RETEACH project – “Reforming teacher education towards green and digital transition in Mongolia” – is an Erasmus+ initiative funded by the European Union. It aims to analyze emerging trends in teacher education in Mongolia, develop and pilot a competency-based teacher education model focused on green and digital skills, and support the gradual reform and implementation of updated teacher education programs.

At the national level in Mongolia, the "Conceptual Framework for Teacher Preparation Programs" (2023) and the "Framework (Standard) for Beginning Teachers' Competencies" (2024) are key documents that define the reform of teacher education in Mongolia by aligning strategic and implementation levels. They set forth the goal of preparing knowledgeable, humane, and change-creating teachers capable of thriving in the conditions of 21st-century socio-technological changes, as well as digital and green transitions.

While the 2023 Conceptual Framework outlines directions for renewing program content, methodology, and assessment, the 2024 Beginning Teacher Standard establishes mechanisms for achieving this goal through the 9 competencies that graduates must acquire, along with their detailed criteria. This lays the foundation for ensuring quality, coherence, and performance accountability in teacher education.

This benchmark will not only define a general framework for green and digital competencies, but will also serve as an operational tool for systematically revising teacher education program objectives, learning outcomes, content, teaching methodologies, assessment, practice\practicum, learning environments and quality assurance.

It will also serve as a "bridging mechanism" to ensure consistency between the general requirements for higher education programs and the National Qualifications Framework, and will focus on developing teacher preparation programs in a unified and coordinated manner.

This aims to address issues such as the gap\inconsistencies of green and digital content, differences in program quality, and the lack of a unified guiding framework, which were identified in the Fact Finding Analysis on the situation of the teacher education policy and programs in Mongolia. Therefore, in order to systematically address these issues, we have developed benchmarks for integrating and revising green and digital competencies into teacher preparation programs, based on the six areas of digital competence recommended in the European Digital Competence Framework for Educators (DigCompEdu) and the four areas of green competence in the European Sustainability Competence Framework (GreenComp/ESCF), mapped across proficiency levels from A1 to C2.
As specified in the project proposal, this benchmark is also aligned with the goal of developing **a** Benchmark for Teacher Education (BTEM), which covers undergraduate, graduate, and in-service programs.

This benchmark will be utilized\employed by universities - teacher education providers and other organizations including policymakers, institutions in charge of quality assurance and teacher professional development as well.

Concept and Policy Framework in Mongolia

The reform of teacher education programs is being implemented in line with the goals and directions set out in relevant policy documents in the education sector in Mongolia. For instance, the “Conceptual Framework for Teacher Preparation Programs” (2023) defines the direction of reform in the content, methodology, and assessment of teacher education programs, and sets out the goal of supporting the development of competency-based programs. In addition, the “Framework (Standard) for Beginning Teachers' Competencies”, which was approved in 2024 by the rector’s order of MNUE No. A/349, defines the knowledge, skills, and attitudes that graduates (new teachers) should possess, and establishes criteria and performance indicators for assessing the professional preparation of teachers.

Furthermore, the “Vision 2050” Mongolia’s long-term development policy and main policy documents in the education sector include\state the goals of preparing teachers for the digital transition and introducing education for sustainable development at all levels. However, there is a lack of a unified methodology and guiding framework for systematically implementing\incorporating these policy goals in teacher education programs. Therefore, there is a need for a unified standard that can be used to align the content, structure, and implementation of teacher education\training programs with policy goals and to integrate green and digital skills into the teacher education curricula.

European Union Experience

The European Union, in aligning teacher education reforms with the green and digital transitions, utilizes **GreenComp** (European Sustainability Competence Framework) and **DigCompEdu** (European Framework for the Digital Competence of Educators) not merely at the conceptual level, but as practical tools for benchmarks, assessment, and self-evaluation.
These frameworks are systematically employed to renew teacher education curricula, define learning outcomes, evaluate institutional capacities, and plan teachers' professional development—forming a common European practice in this area.

Experiences of Using GreenComp as a Benchmark

GreenComp is the official European Sustainability Competence Framework developed in 2022 by the Joint Research Centre of the European Commission. It defines four main areas and 12 competencies for sustainable development. This framework is designed to develop competencies across all levels of education in understanding sustainability values, developing systems thinking, envisioning sustainable futures, and taking concrete action.

In EU countries, GreenComp is widely used in the curriculum redesign of teacher education programs. For example, in Finland and Spain, the learning objectives and program outcomes of teacher preparation programs are directly aligned with GreenComp competencies, with "sustainability learning outcomes" systematically identified and structured separately.
A key feature in these cases is that each GreenComp competency is linked to specific modules, courses, or practicum outcomes in the curriculum, and subsequently transformed into assessment criteria (rubrics).

There are also real examples of using GreenComp as an assessment and self-assessment tool. In some European studies, the 12 competencies of GreenComp have been operationalized as benchmark indicators to measure teachers' readiness, attitudes, and abilities for sustainable development, and transformed into questionnaire formats. In these cases, each competency becomes a measurable indicator expressed through specific behaviors and activities, enabling the differentiation and evaluation of teachers' competencies at beginner, intermediate, and advanced levels.

Furthermore, the **GreenComp case study compendium**, developed on commission from the European Commission, compiles and presents experiences of applying GreenComp at the institutional level. In these cases, GreenComp has been used as a tool for:

- institutional self-assessment,
- quality assurance of curricula,
- identifying teachers' professional development needs

providing experiences that are directly applicable for developing benchmarks in the Mongolian context.

Experiences of Using DigCompEdu as a Benchmark

DigCompEdu is the European Framework for the Digital Competence of Educators, developed by the Joint Research Centre of the European Commission. It is highly suitable for use as a benchmark due to its structure, which includes 6 competence areas, 22 competencies, and a progressive proficiency logic ranging from A1 to C2 levels.

This framework comprehensively covers all core aspects, including teachers' professional engagement with digital technologies, use of digital resources, teaching and learning processes, assessment, empowering learners, and facilitating learners' digital competence development.

The most common examples of directly using DigCompEdu as a benchmark tool in the European Union are **DigCompEdu Check-In** and **SELFIEforTEACHERS**. These tools transform the 22 competencies of DigCompEdu into measurable statements, enabling teachers to self-assess and allowing aggregated analysis at the institutional level.

As a result, they provide opportunities to:

- determine teachers' digital competence levels,
- establish benchmarks for the digital capacity of educational institutions,
- develop targeted professional development plans.

Furthermore, countries such as Spain, Portugal, and Italy have developed **national teacher standards** and **assessment criteria** based on DigCompEdu, which are officially used as formal benchmarks to measure teachers' performance and professional progression.

A distinctive feature of these experiences is that each DigCompEdu competency is linked to concrete evidence (e.g., lesson plans, digital artefacts, LMS data, assessment records), thereby implementing the benchmarks in a genuinely **data- and evidence-based** manner.

Common European Model for Using GreenComp and DigCompEdu Together

In Erasmus+ projects focused on teacher education reform, a common logic for jointly applying GreenComp and DigCompEdu has emerged as follows:

- GreenComp → *what to teach* (which sustainability competencies to develop in learners),

- DigCompEdu → *how to teach and assess* (which digital methodologies and assessment approaches to use for implementation)

These frameworks are distinguished in this way and employed as benchmarks at the strategic level.

This model transforms the benchmarks from mere tools for assessing individual teachers' competencies into foundational mechanisms for curriculum renewal, institutional development, and policy monitoring.

The EU's green and digital policies require shifting teacher education toward an integrated, innovative, and practice-based system grounded in sustainability competencies (GreenComp) and digital competencies (DigCompEdu). In connection with this, the relevant policy and other documents that have emerged are grouped as follows.

Table 1. Overview of the EU's Green and Digital Policy Documents

№	Policy / Framework	Goals	Impact on Teacher Education
1	European Green Deal	Achieving carbon neutrality by 2050	Integrating knowledge, skills, and values of sustainable development across all levels of education
2	EU Council Recommendation (2022)	Unified ESD implementation	Integrating sustainability competencies into curricula, assessment, and practicum; sustainable campus models; new methodologies
3	GreenComp	The Sustainability Competence Framework (GreenComp) consisting of 12 competencies organized into 4 areas	Using in program development, assessment, and professional development training
4	DEAP 2021–2027	Building digital ecosystems, developing digital competencies	Integrating digital pedagogy, digital assessment, AI/VR, and cybersecurity into teaching and learning
5	DigCompEdu	22 teachers' digital competencies	Developing competencies for teaching, assessing, and empowering/supporting learners in digital environments
6	Digital Decade 2030	The EU's 2030 Digital Targets	Integrating the foundations of AI and data education, as well as digital citizenship, into teacher education

Benchmarks for Integrating and Updating Green and Digital Competencies into Teacher Preparation Programs

The benchmark for green and digital competencies in undergraduate, graduate, and in-service/short teacher education programs is intended to define the green and digital competencies that learners are expected to acquire through the program.

1. **Incorporating\using the benchmark for curriculum reform**

Universities and institutions authorized to conduct pre-service and in-service teacher (professional development) training and activities will apply benchmarks for curriculum reform in line with the characteristics of their own programs in the following order.

2. **Incorporate the benchmark when evaluating currently implemented\effective programs.**

The current status of the program's objectives, learning outcomes (PLO), content, teaching methodologies, assessment, practices\practicum, learning environments, and quality assurance is analyzed against this benchmark, and subsequently strengths, gaps, and areas for improvement will be identified.

3. **Determine the direction of program reform**

Based on the results of the assessment\analysis, determine the needs of green and digital competencies, where and at what level these competencies ought to be incorporated into the curricula\program, and define the priorities and scope of program reform.

4. **Align benchmarks with program components (such as course objectives, goals, content, methodology, materials and assessment).**

The competencies, criteria, and learning outcomes included in the program components will be improved by incorporating them in program objectives, PLOs, syllabus, teaching methodologies, materials, assessment, practices\practicum, learning environments and quality assurance criteria.

5. **Piloting the revised program**

The revised curriculum, syllabus, assessment tools, and practice\practicum guidelines incorporated the benchmark will be piloted and implemented in the selected\targeted level, program, or subject area.

6. **Evaluate\monitor implementation process and improve the program**

The program will be improved\refined further based on pilot results, feedback and evidence from teachers, students, internship\practicum schools and other stakeholders.

The general framework for green and digital competencies for undergraduate, graduate, and in-service/short teacher education programs is structured with digital and green competencies in the table rows and three main levels in the columns: A - novice learner, B - expert, and C - leader.

This serves as an overall framework for planning, developing, testing, and improving the integration of green and digital competencies into selected teacher education programs:

- The digital competence areas are: Professional Engagement, Digital Resources, Teaching and Learning, Assessment, Empowering Learners, and Facilitating Learners' Digital Competence.
- The green competence areas are: Embodying Sustainability Values, Embracing Complexity in Sustainability, Envisioning Sustainable Futures, and Acting for Sustainability.

Table 2. General Framework of Green and Digital Competencies for Undergraduate, Graduate, and In-service/Short Teacher Education Programs

Competence Framework	A: Initial teacher preparation	B: Advanced / graduate preparation	C: Professional / in-service extension or leadership
Digital: Teaching (6 areas)	Knows about digital tools and how to use them, but uses only a few.	Uses digital tools effectively in teaching activities.	Uses and evaluates digital teaching methodologies.
Green: Action (4 areas)	Is aware of their own impact on the environment, shows concern, but does not take corrective action.	Collaborates with others to address local and environmentally sustainable development issues.	Politics directs the stakeholders and the public when systemic change is required.

Table 3. Criteria for Green and Digital Competencies Integrated into Program Elements

Program Element	Criteria	Evidence (a147)
Program Objectives, Goals, and Content	D2A; G1A, G1B D2B; G3A, G3B	Program Objectives and Goals Formulation Course Syllabus
Context/Situation, Resources/Materials	D5A; G2A, G2B D5B; G1A, G1B	Program Learning Environment and Materials/Resources
Teaching and Learning Activities	D1A; G3A, G3B D1B; G2A, G2B D6A D6B	Lesson Processes and Methodologies Student-Centered Activities
Teaching Human Resources and Development	D3A; G2A, G2B D3B; G4A, G4B	Teaching Human Resources, Teachers' Work Plans, and Methodologies
Quality Assurance	D4A; G1A, G1B D4B; G4A, G4B	Quality Assurance System and Quality Assurance Activities
Teaching Practicum	D1A; G3A, G3B D1B; G2A, G2B D6A; G3B	Development, Planning, and Implementation of Practicum Logbooks/Journals

The levels of green and digital competencies of students and graduates in teacher preparation programs are defined as: Initial teacher preparation (A), Advanced / graduate preparation (B), and Professional / in-service extension or leadership (C).

Table 4. Benchmark for Green and Digital Competencies in Undergraduate, Graduate, and In-service/Short Teacher Education Programs

Competence Framework	A: Undergraduate + short programs (45 days)	B: Graduate	C: In-service/short programs
D1: Professional involvement, collaboration	Uses professional digital sources, websites, resources, and digital tools in communication and collaboration. (number of digital sources, websites, resources used, and duration of use)	Creates a collaborative development environment in the digital space and seeks opportunities for peer learning and online professional development.	Collaborates with and supports other teachers in developing their digital skills.
D2: Digital resources	Can use safe digital resources.	Can process data and information using digital technologies and present them visually.	Assesses risks related to cyber and information security and the ethics of digital communication, and operates professionally in the digital environment.
D3: Teaching and learning	Uses digital devices and technical tools in teaching.	Uses digital tools in independent and collaborative digital learning aligned with instructional objectives.	Organizes, evaluates, and improves digital activities in alignment with recent research, advances, and results.
D4: Assessment	Uses digital tools when assessing student progress.	Uses digital assessment tools, creates digital databases, conducts analysis, and establishes feedback in digital environments.	Analyzes the appropriateness of digital assessment and develops learning plans tailored to each learner's characteristics.
D5: Supporting the learner	When supporting learners' use of digital tools, takes into account	Supports learners in using digital tools accessibly, taking into account their	Implements, monitors, and improves measures to increase the accessibility of

	the difficulties that may be faced by learners with limited access to technology.	differences and characteristics.	digital tools according to the context.
D6: Developing students' skills	Supports learners' digital literacy and responsible use of technology.	Supports learners in using technology to conduct research, communicate, and create content.	Supports learners' digital well-being and problem-solving abilities, while critically reflecting on and improving their teaching competence.
G1: Reflecting sustainability values	Is oriented toward the values needed to build a just and equitable society for green development.	Clearly articulates and negotiates sustainability values; accepts differing viewpoints; and consistently works to reduce the use of material resources.	Critically analyzes the underlying concepts in policy documents and evidence and evaluates the implications of cultural factors for sustainable development.
G2: Recognizing the holistic nature of sustainability	Knows the basic interconnections but views the components of sustainable development only partially.	Evaluates the interrelationships among the environment, society, and the economy through systems thinking.	Identifies key leverage points in the system and aligns learning activities with sustainability concepts.
G3: Envisioning a sustainable future	Identifies the possibility of changing the future based on eco-anxiety and engagement with future conditions.	Develops possible future scenarios and identifies the steps needed to reach the desired future.	Applies scientifically grounded futures-thinking methods in creative and collaborative ways.
G4: Acting for sustainability	Contributes to solving sustainable development issues.	Initiates, discusses, and participates at the local level in creating green jobs and learning skills to make work environmentally friendly.	Brings stakeholders together to promote ways of living with no ecological footprint and introduces innovative approaches in teaching.

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Appendix 1 - GreenComp competence framework: descriptors and examples of knowledge, skills and attitudes completed by related European sources[1]

Competence area	Competence	Description	Knowledge	Skills	Attitudes
Embodying sustainability values	Valuing sustainability	To reflect on personal values; identify and explain how values vary among people and over time, while critically evaluating how they align with sustainability values.	Knows the main views on sustainability: anthropocentrism, technocentrism and ecocentrism; knows that values and principles influence action that can damage, not harm, restore or regenerate the environment. Knows that sustainability values need to be interpreted in relation to local contexts, everyday choices and institutional practices, not only as abstract principles.	Can articulate and negotiate sustainability values, principles and objectives while recognising different viewpoints. Can compare personal, community and institutional values and discuss where tensions or trade-offs appear in real-life sustainability decisions.	Is prone to acting in line with values and principles for sustainability. Is willing to re-examine personal habits and preferences when they conflict with sustainability goals.
	Supporting fairness	To support equity and justice for current and future generations and learn from previous generations for sustainability.	Knows that ethical concepts and justice for current and future generations are related to protecting nature; knows about environmental justice and the importance of preserving nature for future generations. Knows that the green transition can affect	Can apply equity and justice for current and future generations as criteria for environmental preservation and the use of natural resources; can respect, support and connect with others. Can identify who benefits, who bears the costs,	Is committed to respecting the interests of future generations. Shows concern for inclusive participation and for those most affected by

[11] S1 - Joint Research Centre / Publications Office of the European Union, GreenComp: The European sustainability competence framework and Appendix 2 — https://publications.jrc.ec.europa.eu/repository/handle/JRC128040
S2 - European Commission, Learning for the green transition and sustainable development — https://education.ec.europa.eu/focus-topics/green-education/learning-for-the-green-transition
S3 - Joint Research Centre, From sustainability competences (GreenComp) to sustainable behaviour — https://publications.jrc.ec.europa.eu/repository/handle/JRC130950
S4 - European Commission, Input paper: A whole-school approach to learning for environmental sustainability — https://education.ec.europa.eu/document/input-paper-a-whole-school-approach-to-learning-for-environmental-sustainability

			groups differently and that fairness requires attention to inclusion, participation and unequal exposure to environmental harms.	and whose voices are missing in sustainability-related decisions.	environmental and social inequalities.
	Promoting nature	To acknowledge that humans are part of nature; and to respect the needs and rights of other species and of nature itself in order to restore and regenerate healthy and resilient ecosystems.	Knows the main parts of the natural environment and their interdependence; knows that wellbeing, health and security depend on the wellbeing of nature. Knows that regular contact with nature and meaningful relations with place can support wellbeing, motivation and long-term commitment to sustainability.	Can assess own impact on nature and consider the protection of nature an essential task for every individual. Can connect learning activities with direct observation, care for local environments and restoration-oriented practices.	Cares about a harmonious relationship existing between nature and humans. Feels connected to nature and values protecting it as part of human wellbeing and community resilience.
Embracing complexity in sustainability	Systems thinking	To approach a sustainability problem from all sides; to consider time, space and context in order to understand how elements interact within and between systems.	Knows that every human action has environmental, social, cultural and economic impacts; knows the main concepts of complex systems such as interconnectedness, feedback loops and cascade effects. Knows that sustainability challenges cut across curriculum areas and sectors, and that school, community and policy levels are interconnected.	Can describe sustainability as a holistic concept that includes environmental, economic, social and cultural issues; can think across time and scale. Can map links between environmental, social, economic and institutional factors in a concrete sustainability issue.	Is concerned about the short- and long-term impacts of personal actions on others and the planet. Accepts complexity and avoids reducing sustainability problems to one single cause or one single solution.
	Critical thinking	To assess information and arguments, identify assumptions, challenge the status quo, and reflect on how	Knows that understanding of sustainability evolves; knows that unsupported sustainability claims may be greenwashing; knows that tackling unsustainable patterns requires challenging the status quo. Knows that sustainability	Can analyse and assess arguments, ideas, actions and scenarios to determine whether they are in line with evidence and values in terms of sustainability. Can check the credibility of sustainability claims, compare sources,	Trusts science even when lacking some of the knowledge required to fully understand scientific claims. Is cautious about

		personal, social and cultural backgrounds influence thinking and conclusions.	communication may include misinformation, oversimplification or persuasive framing, especially in digital and public spaces.	and distinguish evidence from opinion or marketing.	easy answers and remains open to revising conclusions when better evidence appears.
	Problem framing	To formulate current or potential challenges as a sustainability problem in terms of difficulty, people involved, time and geographical scope, in order to identify suitable approaches to anticipating and preventing problems, and to mitigating and adapting to already existing problems.	Knows that sustainability problems are often complex and some cannot be solved entirely; knows that action depends on how the problem is framed and from whose perspective. Knows that how a problem is framed influences which solutions are considered legitimate, feasible or urgent.	Can formulate sustainability challenges by considering stakeholders, time, place and complexity; can identify suitable approaches for prevention, mitigation and adaptation. Can define a sustainability problem by clarifying scale, stakeholders, timeframe, uncertainties and possible unintended consequences.	Is committed to presenting sustainability problems carefully and inclusively, without oversimplification. Is willing to question initial assumptions and reframe a problem when new perspectives or evidence emerge.
Envisioning sustainable futures	Futures literacy	To envision alternative sustainable futures by imagining and developing alternative scenarios and identifying the steps needed to achieve a preferred sustainable future.	Knows the difference between expected, preferred and alternative futures; knows that scenario development can support decision-making for a desired sustainable future. Knows that preferred futures are shaped by values, participation and imagination, and that alternative scenarios help guide present action.	Can envisage alternative futures for sustainability grounded in science, creativity and values for sustainability; can identify steps towards a preferred future. Can develop future scenarios and connect them to practical steps, learning goals and collective decisions in the present.	Values long-term thinking in relation to sustainability. Values long-term thinking and remains hopeful that change is possible through informed action.

	Adaptability	To manage transitions and challenges in complex sustainability situations and make decisions related to the future in the face of uncertainty, ambiguity and risk.	Knows that human actions may have unpredictable and complex consequences; knows which aspects of personal lifestyle have higher impacts on sustainability and require adapting. Knows that uncertainty is normal in sustainability transitions and that responses often require learning, adjustment and resilience over time.	Can adapt to different approaches when working on sustainability issues; can manage uncertainty, ambiguity and risk in decision-making. Can adjust plans, roles and methods when sustainability conditions, evidence or community needs change.	Is willing to revise habits and choices in response to sustainability challenges. Remains resilient and constructive when facing uncertainty, ambiguity or setbacks in sustainability work.
	Exploratory thinking	To adopt a relational way of thinking by exploring and linking different disciplines, using creativity and experimentation with novel ideas or methods.	Knows that sustainability problems must be tackled by combining disciplines, knowledge cultures and divergent views; knows the main concepts of a circular economy and society. Knows that innovation for sustainability often emerges from interdisciplinary work, experimentation and combining different forms of knowledge.	Can use evidence and research to better understand, explain, predict and manage change for sustainability; can test and explore innovative solutions. Can test ideas, learn from trial and error, and combine perspectives from different disciplines or actors.	Is open to creativity, experimentation and alternative ways of thinking. Is curious, creative and willing to experiment with unfamiliar approaches to sustainability challenges.
Acting for sustainability	Political agency	To navigate the political system, identify political responsibility and accountability for unsustainable behaviour, and demand effective policies for sustainability.	Knows how political systems should work for sustainability; knows relevant political stakeholders and policies assigning responsibility for environmental damage. Knows that sustainability decisions are shaped by governance processes, public participation, accountability mechanisms and policy choices.	Can analyse how power structures and political systems exert influence; can engage in democratic decision-making and civic activities for sustainable development. Can identify decision-makers, engage in civic processes, and argue for sustainability measures using evidence and public-interest reasoning.	Feels responsible for calling for political accountability on sustainability. Feels responsible for participating in democratic processes linked to sustainability.

	Collective action	To act for change in collaboration with others.	Knows the main sustainability stakeholders in one's own community; knows the importance of empowering individuals and organisations to work collaboratively. Knows that effective sustainability action often depends on collaboration among schools, communities, public authorities and civil society.	Can build diverse coalitions; can create transparent, inclusive and community-driven processes; can work collectively in sustainability change processes. Can work with others to co-design actions, build partnerships and support inclusive participation in sustainability initiatives.	Is willing to cooperate with others for sustainability. Values cooperation and believes collective effort is essential for lasting sustainability change.
	Individual initiative	To identify own potential for sustainability and to actively contribute to improving prospects for the community and the planet.	Knows one's own potential to bring about positive environmental change; knows that inaction is also a choice and that every action has an impact. Knows that personal efficacy matters and that everyday choices can contribute to broader behavioural and cultural change.	Can take personal initiative and persist in achieving sustainability objectives even in contexts of uncertainty; can apply principles of reducing, doing better with fewer resources, and reusing resources. Can turn sustainability intentions into concrete action plans and sustain effort over time.	Believes individual action matters and is ready to act accordingly. Believes that one's own actions matter and is motivated to act even when change seems gradual.