

Developing Competences for Sustainable Futures

A Competence Model and Design Recommendations for Learning Environments

Tatjana Reiber



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Abstract

Preparing individuals to contribute to sustainability transformations has become an increasingly important challenge for higher education, professional training and leadership development. While research has identified a wide range of sustainability competences, comparatively less attention has been paid to how these competences can be fostered through purposefully designed learning environments. Drawing on nearly 20 years of experience with the Managing Global Governance (MGG) Academy of the German Institute of Development and Sustainability (IDOS), this paper offers a practice-informed perspective on competence development for future changemakers.

The paper addresses two questions: what competences are particularly relevant for individuals seeking to contribute to sustainability transformations and global cooperation, and how can learning environments be designed to strengthen these competences? Building on experience from the MGG Academy and relating it to literature on sustainability competences, transformative learning and adult education, the paper develops a competence model organised around three complementary dimensions – sense-making, cooperation and transformation – and operationalises 11 competences by distinguishing the knowledge, skills and attitudinal components associated with them. The paper further derives six recommendations for learning design: intentionally curating diversity, fostering trust and psychological safety, enabling mutual learning, aligning learning activities with the intended competence development, creating structured opportunities for reflection, and designing learning for transfer to professional practice.

Rather than proposing a universal blueprint, the paper demonstrates how competence models can provide orientation for coherent programme design and how learning theory can be translated into practical educational approaches. It concludes that competence development constitutes an important contribution to sustainability transformations, while recognising that impact also depends on supportive organisational environments, professional networks and broader institutional conditions. By connecting theoretical insights with nearly two decades of practical experience, the paper contributes to the growing discussion on how learning and dialogue programmes can strengthen the people and relationships through which transformative change becomes possible.

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Executive summary

Contemporary global politics is characterised by interconnected crises that transcend national borders and policy sectors. Climate change, geopolitical tensions, growing inequalities and technological disruption require far-reaching societal transformations, yet governance responses often remain fragmented and constrained. While much attention is devoted to institutions, policies and technologies, less emphasis is placed on the people who initiate, facilitate and sustain transformative change. Preparing such changemakers therefore becomes an important yet often overlooked contribution to sustainability transformations.

Drawing on nearly 20 years of experience with the Managing Global Governance (MGG) Academy of the German Institute of Development and Sustainability (IDOS), this paper explores how learning and dialogue programmes can strengthen the competences required for transformative action. It offers a practice-informed framework that links experience from the MGG Academy with insights from research on sustainability competences, transformative learning and adult education.

The paper addresses two questions:

- What competences are particularly relevant for future changemakers?
- How can learning environments be designed to support their development?

A competence model for future changemakers

The paper develops a competence model organised around three complementary dimensions:

- *Sense-making competences* enable participants to understand complexity, critically analyse information and anticipate future developments.
- *Cooperation competences* strengthen the ability to communicate across differences, leverage diversity, engage in dialogue and transform conflict constructively.
- *Transformation competences* support participants in translating understanding into action through strategic action, creativity and reflexivity.

The model operationalises these competences by distinguishing the knowledge, skills and attitudinal dimensions associated with them and illustrates them using examples from the MGG Academy. Rather than prescribing a universal set of competences, it provides an orientation framework that can support programme designers in defining learning objectives and creating coherent learning programmes.

Six recommendations for learning design

The paper further argues that the development of competences depends on *how* learning is organised. Drawing on experience from the MGG Academy, it identifies six practice-informed design recommendations:

1. Curate diversity intentionally by bringing together participants with different disciplinary, professional, institutional and cultural backgrounds and integrating diverse perspectives throughout the programme
2. Create trust and psychological safety so that participants are willing to share experiences, question assumptions and engage with disagreement

3. Design for mutual learning and co-creation by recognising participants as knowledge holders and creating opportunities for collaborative learning
4. Align learning activities with the intended competence development by selecting methods that deliberately address the knowledge, skills and attitudes associated with each competence
5. Create space for reflection throughout the learning journey to consolidate learning, integrate experiences and gradually foster reflexivity
6. Design for transfer and application by connecting learning to participants' professional realities and supporting the transfer of new insights into practice

Together, these recommendations demonstrate how insights from learning theory can be translated into practical design principles for leadership programmes, higher education and professional training.

Implications

The paper argues that competence models should not be understood as fixed blueprints but as orientation frameworks that help programmes make deliberate choices according to their objectives, target groups and institutional contexts. Equally, learning design should be regarded as an integral component of competence development rather than an implementation detail.

At the same time, the paper recognises that competence development alone cannot explain transformative impact. Participants' ability to initiate change also depends on supportive organisational environments, professional networks and broader institutional conditions.

Experience from the MGG Academy therefore suggests that investing in learning and dialogue programmes makes a meaningful contribution to sustainability transformations. Such programmes strengthen the competences, relationships and agency that enable individuals to navigate complexity, work across differences and contribute to transformative change within their own spheres of influence.

1 Introduction: preparing future changemakers to shape sustainable futures

Contemporary global politics is shaped by interconnected and mutually reinforcing crises – from the climate crisis and geopolitical conflict to deepening inequality and technological disruption. While the scale and urgency of these challenges demand far-reaching transformation, political responses remain fragmented, incremental and constrained by polarisation and a crisis of multilateralism (Börzel & Zürn, 2021; Hale et al., 2013; WEF [World Economic Forum], 2026). The gap between problem complexity and existing governance capacities points not only to institutional deficits, but also to limitations in transformative agency (Westley et al., 2013).

Addressing global challenges and enabling sustainability transformations¹ therefore requires more than just effective institutions or appropriate policies. It also depends on people who are able to understand complexity, cooperate across differences and initiate change within their respective spheres of influence. Throughout this paper, these individuals are referred to as changemakers. They may or may not hold formal leadership positions, but they share the ability to mobilise others, build coalitions and translate ideas into collective action (Göpel, 2016; Loorbach, 2010; WBGU [German Advisory Council on Global Change], 2011; Westley et al., 2013).

If transformative change depends on such individuals, investing in their development becomes an important yet often overlooked dimension of sustainability transformations and global cooperation. While a growing body of literature discusses transformative leadership and sustainability competences (Brundiers et al., 2020; Kuenkel & Ragnarsdottir, 2022; Wiek et al., 2011), comparatively less attention has been paid to how these competences can be cultivated in practice through purposefully designed learning environments.

Drawing on nearly 20 years of experience with the Managing Global Governance (MGG) Academy of the German Institute of Development and Sustainability (IDOS), this paper offers a practice-informed perspective on competence development for future changemakers. It asks two main questions: what competences are particularly relevant for future changemakers, and how can learning environments be designed to strengthen them? The paper synthesises lessons from the design, facilitation and evaluation of the MGG Academy and relates these experiences to relevant literature on sustainability competences, transformative learning and adult education.

Following an introduction to the MGG Academy and its operational logic and theory of change (Section 2), Section 3 presents the Academy's competence model organised around the dimensions of sense-making, cooperation and transformation. The section includes an explanation of the rationale and operationalisation of the individual competences. Section 4 examines how learning environments can support competence development and derives six practice-informed recommendations for learning design. The paper concludes by reflecting on the contribution and limitations of competence development and by discussing the broader conditions under which future changemakers can contribute to sustainability transformations.

1 Transformation may refer to any process of deep, structural and systemic change. In this paper, sustainability transformations refer to processes of change oriented towards securing the conditions that sustain life and well-being for current and future generations, including human and non-human beings and the planet. Sustainable futures constitute the normative horizon towards which such transformations are directed. Moving towards them requires profound changes in social, political and economic systems.

2 MGG Academy: training, dialogue and networking

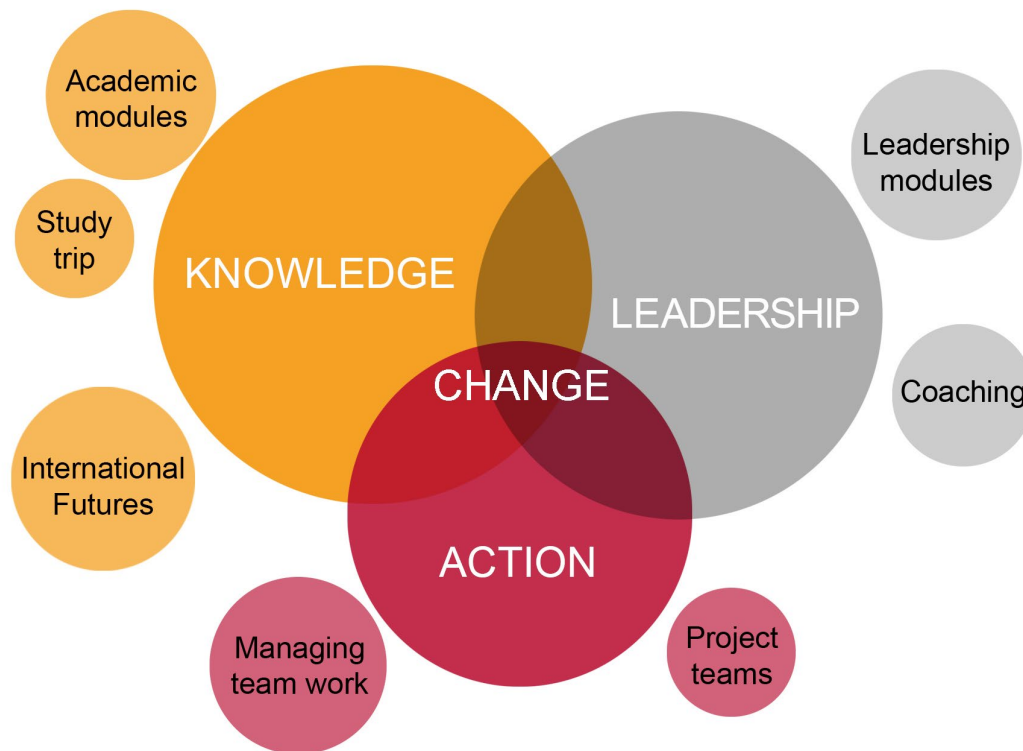
The MGG Academy is a three-month learning and dialogue format for early- to mid-career professionals from rising powers (Brazil, China, India, Indonesia, Mexico, South Africa) and Europe and forms a core element of the MGG programme.² Addressing global challenges and shaping sustainability transformations are topical key reference points in the design of the Academy. The MGG Academy is characterised by its diverse composition, bringing together experts with various disciplinary backgrounds from governmental institutions, research institutions and think tanks, civil society and the private sector.

Individuals are selected for the MGG Academy on the basis of their potential as (future) changemakers who assume leading roles in the global transformation towards more sustainable and just societies. Participating in the MGG Academy is a key entry point to the transnational MGG network, which brings together over 500 experts and more than 100 organisations; these two elements together constitute the MGG programme.

The design of the MGG Academy integrates knowledge-based learning with leadership development and practical application. The structure of the programme consists of three interconnected dimensions: knowledge, leadership and action (Figure 1). Participants begin by developing a solid understanding of global challenges and learn to analyse complex interdependencies shaping today's world (knowledge dimension). This includes academic modules, a visit to Brussels and a module integrating diplomats into the discussion (International Futures, implemented jointly with the Federal Foreign Office). Participants subsequently strengthen personal and social competences in dedicated leadership modules and through individual coaching. The focus here is on self-leadership as a foundation for leading with others (leadership dimension). Finally, participants move from knowledge to action by developing a concrete sustainability project in project teams (action dimension), thereby strengthening their transformative competences.

² The MGG programme aims at joint development and implementation of contributions to address global sustainability challenges. It is a transnational and transdisciplinary network that brings together individuals and institutions from countries with wide global reach. Activities include training and dialogue (the MGG Academy), knowledge cooperation and policy dialogue.

Figure 1: Core elements of the MGG Academy



Source: Author

MGG Academy theory of change: three pathways to strengthen transformative changemakers

IDOS has been running the MGG Academy since 2007 and has continually revised and developed the format in order to increase its impact. In essence, there are three main pathways by which the MGG Academy contributes to the development of transformative changemakers (Reiber & Eberz, 2024):

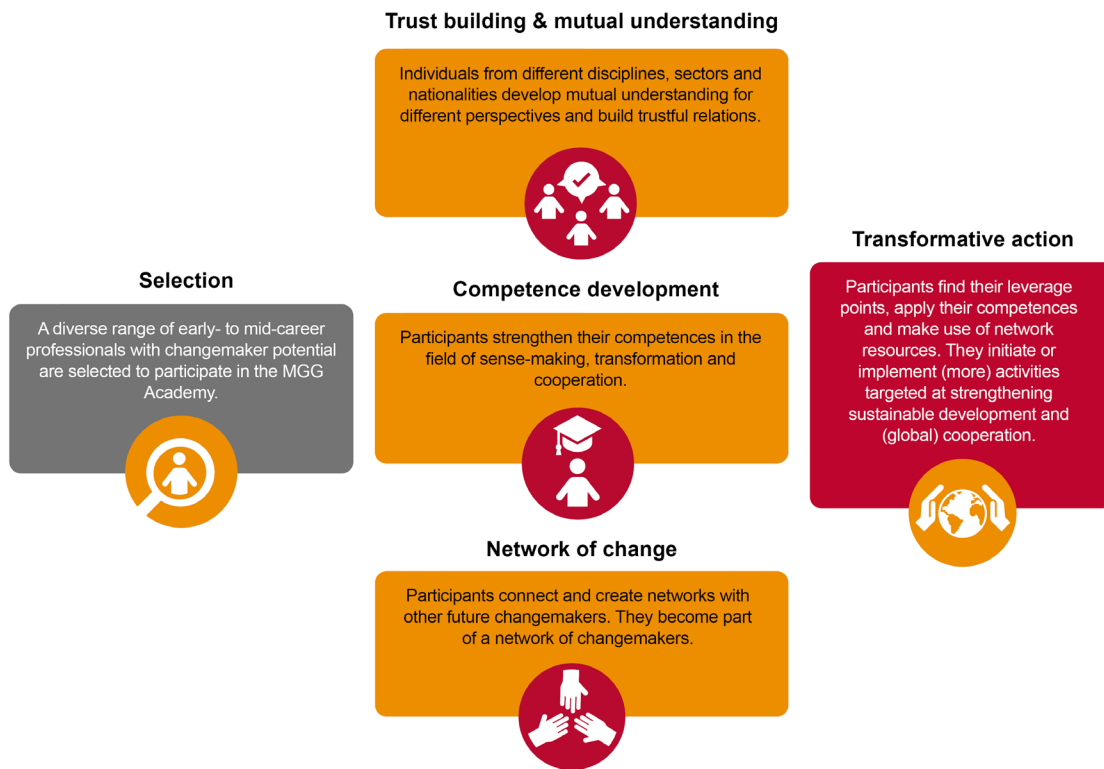
1. *Building trust and mutual understanding:* The MGG Academy provides a platform for dialogue between individuals from different disciplines, sectors and nationalities. It thereby establishes channels of communication to overcome fragmentation, create trust, foster mutual understanding and develop a joint vision of sustainable futures.
2. *Developing key competences³ for sustainability transformations:* Learning and dialogue activities at the MGG Academy strengthen participants' key competences in the dimensions of sense-making, cooperation and transformation. This includes supporting agency and role clarity by helping participants to gain self-awareness about personal leverage points.
3. *Creating transnational networks of changemakers:* The MGG Academy and the MGG network connect changemakers from various professional sectors, countries and academic disciplines, creating a transnational and transdisciplinary network in which members find role models, supporters, allies and cooperation partners.

These three dimensions form the core pathways of the MGG Academy theory of change (Figure 2). Trust and mutual understanding, competence development and a meaningful

³ See Section 3 for a definition of competences as a set of knowledge, skills and attitudes.

network empower individuals to initiate and implement transformative actions in a more focused and ambitious way. Depending on the target level of these actions, change towards sustainability transformation can occur on an individual, organisational or systemic level. For the MGG network, a recent study by Vogel and Reiners (2025) explores how transformative action can lead to impact on these different levels.

Figure 2: MGG Academy theory of change



Source: Author

While the theory of change presents a somewhat linear development, it should be noted that realities rarely follow linear pathways. Bringing together highly qualified individuals from diverse backgrounds does not guarantee trust building, competence development or meaningful networking. Likewise, research on learning and competence development highlights the fact that increased knowledge and competences do not necessarily translate into behavioural change or societal impact (Barth et al., 2023). To increase both conceptual clarity and practical relevance, it is important to understand under what conditions the different desired effects are likely to occur. While all pathways and impact dimensions are important for the intended effects, not all of them can be discussed here. In this paper, the focus lies on the question of competence development and learning design as the intentional structuring of learning environments, processes and activities.

3 What competences are relevant for sustainability changemakers?

This section focuses on the question of *what* individuals should learn in order to become changemakers for sustainability transformations. It examines the set of competences the MGG Academy aims to strengthen, explains why these competences are relevant, and outlines how they can enable individuals to contribute to transformative change. The analysis draws on long-term experience with the MGG Academy⁴ and on insights from the literature on (higher) education for sustainable development, sustainability transformations and transformative leadership.

Box 1: Definition of competences

Competences can be understood as the capacity to respond appropriately and effectively to different situations and contexts. They encompass a combination of knowledge, skills and attitudes (Rieckmann, 2012; Weinert, 2001). Knowledge refers to the cognitive dimension, including facts, theories, concepts, procedures and the ability to analyse and interpret information. Skills refer to the ability to apply knowledge in practice, for example by using appropriate techniques, methods or tools in a given situation. Attitudes encompass values, beliefs, motivations and dispositions that shape how individuals perceive, approach and respond to situations (Leurs & Roberts, 2018). Competences therefore involve not only possessing these resources, but also being able to mobilise and integrate them appropriately in response to complex situations.

3.1 MGG Academy competence model

The MGG Academy is built on the premise that future changemakers need three complementary qualities: the ability to understand complex sustainability challenges, the ability to collaborate across differences (ranging from personalities and interests through to values and worldviews), and the ability to translate knowledge into action. To support their systematic development, these qualities need to be translated into more specific learning objectives and competence dimensions. The MGG Academy competence model (Figure 3) provides a framework for making transformative leadership more concrete and operationalisable. It helps to identify what knowledge, skills and attitudes are particularly relevant and provides orientation for the design of learning activities and learning outcomes.

The competence model developed for the MGG Academy draws on insights from different strands of literature, mainly (higher) education for sustainable development, research on sustainability transformations and transformative leadership. While these fields differ in their primary focus, they provide complementary perspectives on the competences required to understand complexity, work across differences and contribute to transformative change. The MGG model integrates these perspectives into a framework tailored to the profile of IDOS and its target group.

4 I have served as Head of the MGG Academy since 2012 and have been closely involved in its strategic and teaching-related development. The analysis therefore reflects an insider perspective shaped by long-term engagement with the programme.

Figure 3: MGG Academy competence model

Source: Author

The model is organised around three complementary clusters of competences. *Sense-making competences* support the analysis of complexity and interconnected challenges. *Cooperation competences* enable individuals to work constructively across differences in perspectives, interests and backgrounds. *Transformation competences* strengthen the ability to initiate and support change processes and to move from understanding to action.

As a scientific institute, IDOS places particular emphasis on sense-making competences. The gathering and analysis of data is deeply engrained in its “DNA”, and basing recommendations on evidence is core to its self-understanding. This focus is particularly reflected in the literature on (higher) education for sustainable development, where systems thinking, anticipatory thinking, normative competence and critical thinking are regarded as key capacities for understanding sustainability challenges and identifying desirable futures (Brundiers et al., 2020; UNESCO, 2020; Wiek et al., 2011). Likewise, research on sustainability transformations acknowledges the importance of systemic understanding (Kristof, 2022; Kuenkel & Ragnarsdottir, 2022; Schneidewind, 2013).

Cooperation competences are central because sustainability transformations depend on the ability of actors to work across institutional, disciplinary, national and political boundaries. At the same time, contemporary global politics is increasingly characterised by geopolitical tensions, societal polarisation, competing interests and a crisis of multilateralism. Emphasis seems to be more often than not on difference rather than communalities. The ability to engage constructively with difference has therefore become more important than ever. Both the sustainability and leadership literature emphasise dialogue, trust-building, perspective-taking, conflict transformation and collaboration as essential capacities for addressing complex societal challenges and fostering collective action (Inner Development Goals, n.d.; Kafka et al., 2014; Kuenkel et al., 2021).

The focus on transformation competences is a response to the widely recognised knowledge–action gap. Although substantial knowledge exists on sustainability challenges and possible solutions, the process of taking action and implementing solutions often remains insufficient and delayed (Loorbach, 2022). Concepts such as transformative literacy (Schneidewind, 2013) and transformation literacy (Kuenkel & Ragnarsdottir, 2022) highlight the importance of understanding interactions across ecological, economic, political and cultural systems as a precondition for getting involved and steering transformation processes. In addition to the

emphasis on strategic action, agency and process competence, research on transformative leadership highlights creativity and the ability to navigate uncertainty as important qualities (Heifetz et al., 2009; Kafka et al., 2014; Kuenkel et al., 2021; Kuenkel & Ragnarsdottir, 2022; Wheatley & Frieze, 2011).

Underlying all three competence clusters is reflexivity. Relevant literature on transformative leadership and sustainability transformations regards self-awareness, critical reflection and the ability to question assumptions as essential capacities for navigating complexity, engaging constructively with others and enabling transformative change (Heifetz et al., 2009; Inner Development Goals, n.d.; Kuenkel & Ragnarsdottir, 2022; Singer-Brodowski, 2016; Wamsler, 2020; Wheatley & Frieze, 2011; Woiwode et al., 2021). In the competence model, reflexivity occupies a central position because it underpins and connects many other competences. Whether analysing complex problems, engaging with different perspectives, navigating conflict or supporting transformation processes, the ability to reflect critically on one's own assumptions and actions is a key prerequisite for (un-)learning and change.

Taken together, the relevance of the selected competences is not only reflected in the literature, but also in participants' own accounts of how these competences shape their professional practice. In annual tracer studies⁵ conducted between 2019 and 2024 (uzbonn, 2019, 2020, 2021, 2022, 2023, 2024), participants indicated that they had strengthened their competences in systems thinking (82 per cent), communication skills (85 per cent), strategic thinking (88 per cent), reflexivity (79 per cent), and diversity and intercultural understanding (89 per cent). A total of 71 per cent responded that these competences are useful in their daily working life.

Voices from participants illustrate how they apply what they have learnt:

My training in systems thinking and conflict management allows me to better evaluate social and sustainable projects, as well as mediate interactions between international financial institutions and local governments. These projects must be aligned with the 2030 Agenda and aim to meet the needs of local governments. (uzbonn, 2024)

Leadership competencies have proven invaluable in my ability to provide clear guidance and confidently address workplace injustices. Systems thinking has further enhanced my approach, enabling me to seek input from a wide range of professionals. By recognizing the complexities of community development, I am able to assemble the right experts to design sustainable, well-considered solutions for communities in need. Additionally, I advise senior leadership on these decisions, contributing to more effective and impactful outcomes. (uzbonn, 2023).

3.2 Sense-making, cooperation and transformation competences

In the following, the 11 competences of the IDOS model will be introduced in more detail. This includes a description of each competence as well as the explanation why it is important. In addition, some examples from the MGG Academy and reflections by participants will be used to illustrate the competences. They outline learning activities to develop the competences,

⁵ The tracer studies are surveys carried out among MGG Academy graduates a year after completion of the programme. The anonymous survey is conducted by an external independent survey institution (uzbonn) in order to provide insights into the relevance of the Academy in terms of competence development, networking, career development and concrete collaboration projects.

exemplify the relevance that participants attribute to them and show how the competences are applied in practice.

3.2.1 Critical thinking

Critical thinking is the ability to gather, assess and use different forms of data, information and knowledge in a systematic and evidence-based way. It includes asking relevant questions, evaluating the credibility of sources, recognising assumptions and biases, examining alternative approaches and drawing well-founded conclusions (Leurs & Roberts, 2018; Schwendinger et al., 2022; Wals, 2011).

For changemakers, critical thinking is essential for understanding new and complex issues, distinguishing between facts and opinions, and making informed decisions in situations characterised by uncertainty and competing narratives.

Feedback from participants illustrates how important critical thinking is in professional contexts where evidence needs to be assessed, interpreted and translated into action. One participant working in Indonesia's national planning agency explained that advancing the Sustainable Development Goals (SDGs) requires "translating empirical research and evidence-based analysis into actionable policy recommendations" and integrating them into planning, budgeting and monitoring systems (uzbonn & IDOS, 2026). The account highlights the fact that critical thinking extends beyond the analysis of information itself. It also involves evaluating evidence, connecting different forms of knowledge and using them to inform decision-making and public policy.

3.2.2 Systems thinking

Systems thinking is the ability to understand complex issues as part of interconnected systems rather than as isolated problems. It includes identifying relationships, feedback loops, underlying structures and dynamics, as well as recognising how actions in one part of a system can create intended or unintended effects elsewhere (Meadows, 2008; Senge, 1990).

Systems thinking helps individuals move beyond linear cause-and-effect explanations and develop a more holistic understanding of challenges and opportunities. By identifying patterns, interconnections and potential leverage points for change, it supports the design of interventions that address root causes rather than symptoms (Senge, 1990).

It is not only a set of analytical methods, but also a way of perceiving and interpreting reality. Learning activities at the MGG Academy therefore seek to strengthen both its analytical and mindset dimensions. There are numerous ways to practice systems thinking, ranging from embodiment exercises to analytical mapping (Sweeney & Meadows 2010). In leadership modules at the MGG Academy, participants create visual representations of the systems in which they operate using Lego bricks and other materials. This helps them identify interconnections and dynamics and experiment with potential changes, for example by exploring how the removal or modification of one element affects the system as a whole.

Participants often describe systems thinking as a shift in perspective. One participant reflected that the MGG Academy transformed him "from a national professional to a strategic thinker on a global scale" and widened his focus "from national issues to systemic change at the global level" (uzbonn & IDOS, 2026). His comments suggest a redefinition of the boundaries through which he interpreted his professional role. Rather than focusing primarily on individual problems within a national context, he began to situate these challenges within broader global systems and transformation processes. Such perspective shifts are frequently described by participants as an important learning outcome of the Academy.

3.2.3 Normative competence

Normative competence is the ability to recognise, articulate and critically reflect on the values, norms and assumptions that shape individual and collective objectives and actions. It includes understanding how different values influence perceptions of problems and solutions, identifying tensions and trade-offs, and engaging constructively with normative differences.

Normative competence is particularly relevant in the context of sustainability transformations because decisions about climate action, economic development, social justice or resource use are never purely technical. They involve competing values and visions of desirable futures. The ability to make these normative dimensions explicit, reflect on trade-offs and engage constructively with differing perspectives is therefore essential for dialogue, cooperation and collective action (Sandel, 2010; Wiek et al., 2011).

At the MGG Academy, normative competence is frequently developed through discussions on contested sustainability issues in which participants encounter fundamentally different conceptions of what constitutes a desirable and just future. To provide an example, one debate concerned the question of intergenerational justice: should the interests of future generations be prioritised even when many people today continue to live in poverty and insecurity? Participants initially expressed strongly opposing views, with a tendency to judge the positions of others as unjust and ethically questionable. When participants were asked to share the experiences and values that shaped their position, the quality of the exchange changed. Some emphasised responsibility towards future generations and long-term planetary stewardship, while others drew on experiences of poverty and social exclusion in their home countries and felt a profound moral obligation to prioritise those who are suffering today. Making these underlying values explicit enabled participants to understand that sustainability challenges often involve legitimate but competing normative claims rather than a simple divide between right and wrong. In this way, the discussion shifted from defending positions to engaging more constructively with normative differences and the trade-offs they entail.

Participants' reflections also illustrate that normative competence is not only about understanding societal values and trade-offs, but also about critically examining and, where appropriate, revising one's own normative orientations. Several participants reported that engagement with sustainability issues and diverse perspectives at the MGG Academy influenced how they viewed their professional responsibilities and role in society. As one participant expressed, sustainability changed "from being a distant notion [to] a way of life and professional goal" (uzbonn & IDOS, 2026).

3.2.4 Communication and dialogue competence

Communication and dialogue competence is the ability to communicate clearly, listen actively and engage constructively with people holding different perspectives. It includes expressing ideas in a compelling and accessible way, asking meaningful questions, facilitating dialogue and creating shared understanding across differences (Bohm, 2004; Ganz, 2011; Isaacs, 1999; Kafka et al., 2014; Kuenkel et al., 2021).

This competence is particularly important in situations characterised by complexity and interdependence, where actors need to build common ground and motivate collective action. Effective communication and dialogue help build trust, foster mutual understanding and enable collaboration and action among actors with different perspectives, interests and experiences. They are therefore essential for collective learning and coordinated action.

Reviewing participants' reflections, it is striking how frequently dialogue and listening practices are described as deep learning experiences. Rather than focusing primarily on how to communicate their own views more effectively, many participants emphasised the importance

of listening as a prerequisite for understanding others and building shared meaning. As one participant advised: “[...] push [back] your intention to talk more and instead increase your level of listening” (MGG Academy, 2023).

3.2.5 Leveraging diversity

Leveraging diversity is the ability to recognise, value and make constructive use of differences in perspectives, experiences, knowledge, identities and backgrounds (Kafka et al., 2014). It includes creating inclusive environments, ensuring that diverse voices are heard, and facilitating cooperation and learning across differences.

Changemakers who can leverage diversity draw on a broader range of perspectives, experiences and forms of knowledge when analysing problems, designing interventions and making decisions. Rather than seeking to minimise differences, they recognise diversity as a strategic resource for learning, innovation and collective problem-solving. By expanding the range of perspectives on complex challenges, diversity can lead to more comprehensive analyses and more robust responses (Page, 2007). At the same time, research consistently shows that diversity does not automatically lead to better outcomes. It requires inclusive environments in which different voices are recognised, power asymmetries are addressed and participants feel safe to contribute their perspectives (Edmondson, 2019). Leveraging diversity therefore includes an awareness of power dynamics, privilege and structural discrimination, as well as the ability to create conditions in which diversity becomes a source of learning and innovation rather than division or exclusion.

Participants frequently report that exposure to diverse perspectives broadens their understanding of complex challenges and influences their professional practice. One alumnus describes how his experience at the MGG Academy shaped the design of the climate scanner initiative,⁶ a global effort to assess government responses to climate change. Drawing on his experiences at the Academy, he deliberately sought to include countries of different sizes, levels of wealth, geographic regions and climate vulnerabilities, with particular attention to representation from Asia and the Global South (Lustosa, 2023). He thereby ensured that different regional experiences, institutional contexts and climate realities informed the assessment framework. In doing so, he transformed diversity into a resource for collective problem-solving. The assessment tool was ultimately designed by 18 countries and is expected to be implemented by more than 100 national audit institutions worldwide.

3.2.6 Conflict transformation

Conflict transformation is the ability to address conflicts arising from incompatible behaviours, interests, needs, values or goals, while taking into account the underlying relationships and structures that shape and sustain them. It involves recognising emerging conflicts, distinguishing positions from underlying interests and needs, managing one’s own emotions and those of others, and facilitating dialogue that enables mutual understanding and collaborative problem-solving (Fisher et al., 2011; Lederach, 2003; Rosenberg, 2015). Rather than seeking to avoid or eliminate conflict, it views conflict as a normal feature of social change and as a potential opportunity for learning, mutual understanding and development.

Sustainability transformations inevitably involve competing interests, values and visions of desirable futures. As a result, conflict is not an exception but a normal feature of transformation processes. The ability to engage constructively with disagreement is therefore essential for maintaining cooperation and enabling collective action.

6 <https://climatescanner.org>

During the MGG Academy, participants occasionally experience conflicts themselves. While such situations can be demanding and uncomfortable for participants and hosts, they are also important moments of learning and growth that provide deeper insights:

I learned a lot during this phase. This was the first time that I really struggled within such a diverse team. [...] it was very challenging for me and helped me to improve my listening skills, my patience, my tolerance, my attitude, my optimism and my empathy. (MGG Academy, 2018).

Reflecting on conflict experiences, participants stress the importance of self-awareness, emotional regulation and empathy. One participant reported becoming “more comfortable navigating diverse perspectives and disagreements” (MGG Academy, 2025). Such accounts suggest that one of the key learnings is a shift from understanding conflict transformation primarily as a set of methods and techniques towards seeing it as a practice grounded in inner capacities and attitudes.

3.2.7 Futures thinking

Futures thinking is the ability to anticipate, imagine and critically explore multiple possible futures and to use these insights to inform present action. It includes analysing trends and uncertainties, developing future scenarios, questioning assumptions about the future and creating shared visions of sustainable futures (Miller, 2018; Wiek et al., 2011).

By broadening perspectives beyond short-term concerns, futures thinking helps individuals and organisations identify opportunities for action and orient transformation processes towards long-term goals.

At the MGG Academy, futures thinking is developed through exercises that encourage participants to move beyond present realities and imagine alternative futures. One example is a scenario workshop on the future of labour, in which participants explore how trends such as digitalisation and artificial intelligence could shape employment under different future conditions. By examining multiple possible futures rather than predicting a single outcome, participants learn to deal with uncertainty and consider the long-term implications of current decisions.

A second example involves arts-based exercises on the future of sustainable cities. Participants are invited to develop visual representations and narratives of desirable urban futures and subsequently reflect on the pathways that could lead towards them. Such exercises help participants move beyond analysing challenges towards envisioning positive alternatives and shared aspirations, thereby strengthening their capacity to connect imagination, strategic thinking and transformative action.

3.2.8 Navigating uncertainty

Navigating uncertainty is the ability to remain capable of action in situations characterised by high uncertainty, when information is incomplete and developments are difficult to predict. It includes not only tolerating ambiguity, but also embracing it as an opportunity for creative action. This competence requires the willingness to experiment, learn from experience and adjust course when needed (Kafka et al., 2014; Scharmer, 2009; Tauritz, 2016; Wals, 2011). Rather than seeking certainty where none exists, this competence allows individuals to work productively with complexity and with not knowing.

Navigating uncertainty is particularly relevant in the context of systemic ruptures and sustainability transformations, which are characterised by uncertainty, complexity and open-

ended change processes. Effective changemakers need to be able to move forward even when no clear roadmap exists.

The experience of navigating uncertainty is an integral part of the learning process at the MGG Academy. Participants repeatedly face situations in which outcomes are not predetermined and where no single correct answer exists. Reflective dialogue formats (Bohm, 2004) invite participants to jointly explore complex questions or contested issues⁷ without aiming for immediate conclusions or consensus, for example. The absence of clear conclusions can initially be frustrating for participants who are accustomed to solution-oriented discussions and concrete outputs. Over time, however, participants often become more comfortable with ambiguity and learn to appreciate open-ended processes of collective inquiry. Another example is project work, where participants must learn to act under conditions of uncertainty. Participants often begin without a shared understanding of the problem, without a predefined pathway and without knowing what the final output will look like. This requires them to make sense of ambiguity, negotiate direction collectively and remain capable of action despite the absence of clear answers. In this way, uncertainty becomes a central element of the learning experience rather than a challenge that needs to be eliminated.

3.2.9 Creativity

Creativity is the ability to generate, combine and develop ideas in novel ways. It includes questioning established assumptions, exploring alternative perspectives and imagining possibilities that go beyond existing approaches and routines. Creativity also involves creating spaces in which new ideas can be explored, tested and refined (Amabile, 1996; Brown, 2009).

Creativity plays an important role in situations where familiar solutions no longer provide adequate answers to emerging challenges. By enabling experimentation and recombination of ideas and the exploration of alternative pathways, it supports innovation and helps individuals and groups develop novel approaches for complex sustainability challenges.

At the MGG Academy, the design thinking methodology used for the project teams exposes participants to creative methods and provides opportunities to develop a creative mindset. For many participants, this approach initially feels unfamiliar. They are often more accustomed to providing clear answers than generating unconventional ideas and tend to associate professional competence with careful planning rather than experimentation. Design thinking challenges these assumptions by encouraging participants to develop multiple possibilities, tolerate ambiguity and learn through iteration.

Participants' reflections suggest that creativity is increasingly understood not as an individual talent but as a competence that can be cultivated. As one participant observed, "[w]e can all be creative; it is a process, not a gift for a few" (MGG Academy 2023). Others emphasised the importance of timing and context, reflecting on "how to use creativity at the right time", or highlighted the value of having "a safe space to test out new ways of seeing challenges" (MGG Academy, 2018). These reflections point to an important insight for sustainability transformations: creativity is not primarily about generating novel ideas for their own sake, but

⁷ A dialogue on complex and contested topics works best when the guiding question involves a dilemma or it is difficult to find a straightforward answer. To illustrate this, here are some examples related to 1) global governance, 2) environmental policy and 3) artificial intelligence: 1) What matters more in global governance: the legitimacy of giving all states a voice, or the effectiveness of enabling smaller groups of powerful actors to make and implement decisions? 2) How should we respond when what is environmentally necessary is politically unpopular? 3) Who should decide which risks from AI are acceptable, and on what basis?

about creating the conditions in which alternative futures and innovative solutions can emerge and be explored.

3.2.10 Strategic action

Strategic action is the ability to translate ideas and objectives into effective interventions for change. It includes identifying opportunities, building alliances, mobilising resources and selecting appropriate strategies to advance a desired goal (Wiek et al., 2011).

This competence helps bridge the gap between knowledge and action by enabling change-makers to move from analysis and visioning to implementation. In the context of sustainability transformations, strategic action often requires identifying leverage points within existing systems and recognising where relatively small interventions can trigger broader change processes.

The experience of one MGG alumnus from Brazil illustrates this dynamic. In the course of his participation in the Academy, he realised that the 2030 Agenda was largely absent from the curriculum of his institution, the public school of administration. Recognising this gap as a strategic opportunity for change, he first secured support from the institution's leadership and then mobilised the MGG network to organise an international conference on the role of public servants in implementing the 2030 Agenda. The initiative helped raise awareness for the topic and contributed to placing sustainability on the institutional agenda. Today, sustainability has become an integral part of the institution's work, also due to the contributions of another alumnus (Domingues, 2022). The example highlights how strategic action involves not only having a vision for change, but also identifying opportunities, mobilising support and translating ideas into institutional processes that can generate lasting impact.

3.2.11 Reflexivity as a cross-cutting competence

Reflexivity is the ability to critically examine one's own assumptions, values, behaviours and ways of knowing and the habit of doing so. It includes reflecting on how personal experiences, beliefs and positions shape perceptions, decisions and interactions with others and consciously adapting one's understanding and actions in response to new experiences and perspectives.

Reflexivity is important because it enables individuals to question established patterns of thinking and acting, recognise blind spots and remain open to learning and change (Bolton & Delderfield, 2018). In situations characterised by complexity, uncertainty and diverse perspectives, it helps individuals to avoid premature conclusions and develop a deeper understanding of themselves, others and the systems in which they operate. From the perspective of transformative learning theory, reflexivity also provides an important mechanism for perspective transformation. Mezirow (1990) argues that transformative learning occurs when individuals critically examine and revise their habitual frames of reference in response to new experiences. Reflexivity enables precisely this process by supporting the critical examination of assumptions and the conscious revision of one's perspectives and actions.

The importance of reflexivity is also increasingly recognised in the literature on sustainability transformations. Building on Meadows' (1999) concept of leverage points, several authors argue that lasting transformations require not only technological, economic and institutional change but also shifts in the underlying values, assumptions and mindsets that shape human action (Göpel, 2016; Wamsler et al., 2020). Reflexivity provides an important competence for such processes because it enables individuals to recognise, question and consciously revise the mental models through which they interpret complex sustainability challenges.

Participants frequently describe reflexivity as one of the most significant and lasting outcomes of the programme. As one participant reflected:

I believe one of the most important impacts of the programme is that it helps create a shift in mindset and perspective. For me that personal transformation later translated into professional decisions, collaborations and projects focused on sustainability, public policy and systems change. (uzbonn & IDOS, 2026)

Others emphasised that this transformation was supported through an ongoing practice of critical self-reflection and openness to learning. One participant identified “self-reflection on daily actions” and “living for transformative change” (uzbonn, 2018) among the programme’s most important learnings, while another highlighted the importance of remaining “humble to always stay teachable” and open to different ways of thinking (MGG Academy, 2023). Together, these reflections show how reflexivity extends beyond occasional moments of self-awareness and becomes an enduring disposition to remain open to learning and question one’s own assumptions.

3.3 Overview of competences and the related knowledge, skills and attitudes

Competences are a combination of knowledge (the understanding and cognitive abilities a person holds), skills (the tools, methods and approaches a person can apply) and attitudes (how a person approaches a situation) (see Section 3 for a definition of competences). The knowledge, skills and attitudes that belong to a competence often remain vague. This in turn makes it much more difficult to formulate targeted learning objectives and to purposefully design learning environments. Table 1 aims to address this gap, breaking down the relevant knowledge, skills and attitudes of the 11 proposed competences.

Table 1: Knowledge, skills and attitudes associated with the competences in the MGG Academy competence model

COMPETENCE	CORE KNOWLEDGE	CORE SKILLS	CORE ATTITUDES
CRITICAL THINKING	Assessing evidence, knowledge systems and cognitive biases	Assessing information and asking critical questions	Intellectual curiosity, constructive scepticism and willingness to question assumptions, eagerness to learn
SYSTEMS THINKING	Analysing interdependencies and systemic dynamics	Mapping systems and identifying leverage points	Feeling comfortable with complexity and multiple perspectives, holistic mindset
NORMATIVE COMPETENCE	Identifying values, trade-offs and normative dimensions of sustainability	Articulating and engaging with normative differences	Integrity, willingness to examine values and engage with normative dilemmas
COMMUNICATION & DIALOGUE	Analysing communication processes, narratives and audience profiles	Listening, inquiry and storytelling	Empathy, respect and curiosity
CONFLICT TRANSFORMATION	Recognising conflict dynamics and understanding transformation approaches	Managing emotions and facilitating constructive exchange	Courage, empathy and willingness to learn from conflict
LEVERAGING DIVERSITY	Understanding diversity, power and inclusion	Enabling participation and collective sense-making	Appreciation of diversity and commitment to equity
FUTURES THINKING	Exploring alternative futures and assessing pathways of change	Visioning, foresight and scenario development	Hope, imagination and openness to possibility
NAVIGATING UNCERTAINTY	Interpreting complexity, emergence and limits of prediction and foresight	Experimenting, adapting and deciding under uncertainty	Courage, flexibility and feeling comfortable with ambiguity
CREATIVITY	Recognising conditions that foster innovation and creative problem-solving	Reframing problems, generating ideas and applying creative methods	Playfulness, curiosity, openness to experimentation
STRATEGIC ACTION	Assessing pathways for change, leverage points and intervention options	Prioritising actions, building alliances and mobilising support	Initiative, persistence and adaptability
REFLEXIVITY	Recognising how assumptions, values and experiences shape perceptions and actions	Applying reflective practices and creating spaces for reflection	Curiosity, openness, willingness to question oneself

Source: Author

4 The design and facilitation of learning spaces

Identifying relevant competences is only one part of the challenge. Equally important is the question of how learning environments can be designed to foster these competences. Competence development and networking do not happen automatically simply because a group of highly qualified and motivated professionals come together. Rather, the quality of learning depends on how interactions are facilitated, how experiences are structured and how participants are supported in their competence development.

The following section first introduces key insights from learning theories before presenting six recommendations for designing and facilitating transformative learning environments. These recommendations emerged from practical experience at the MGG Academy and are interpreted through the lens of learning theories. By connecting theoretical concepts with hands-on practice, the paper seeks to illustrate how competence development can be intentionally fostered in leadership and dialogue programmes.

4.1 How learning happens: some insights from learning theories

Constructivist, adult and transformative learning theories provide important insights into how learning environments can support competence development and transformative change. These approaches share several core assumptions that are particularly relevant to programmes such as the MGG Academy.

Firstly, constructivist learning theories understand learning as an active process of meaning-making rather than the passive transfer of knowledge. Learners construct knowledge by connecting new information to their existing experiences, assumptions and knowledge structures (Siebert, 1998; Winteler, 2002). Learning happens through cycles of concrete experience, observation, conceptualisation and adaption (Kolb, 1984). Learning is therefore most effective when participants are actively engaged and can relate and apply new insights to their own contexts and challenges.

Secondly, learning is inherently social. Knowledge is shaped through interaction, observation and exchange with others. Exposure to different perspectives can challenge existing assumptions and stimulate deeper learning processes. Research also highlights the importance of emotions for learning. People learn more effectively when they feel psychologically safe, connected to others and emotionally engaged in the learning process (Immordino-Yang & Damasio, 2007; Neubert et al., 2001; Siebert, 2004).

Thirdly, research on adult learning emphasises the importance of experience and relevance (Knowles, 1984). Adult learners bring substantial professional and personal experience that can serve as a valuable resource for mutual learning (Donnelly-Smith, 2011; OECD [Organisation for Economic Co-operation and Development], 2007). They are also strongly motivated by practical applicability and tend to learn most effectively through experience, problem-solving and reflection on practice (Clardy, 2018).

Finally, transformative learning theory highlights the fact that learning can go beyond acquiring knowledge and skills. Through critical reflection, dialogue, perspective-taking and encounters with unfamiliar or challenging experiences, learners may question established assumptions and revise previously held frames of reference (Cranton, 2010; Mezirow, 1990; Southworth, 2022). Such processes are particularly relevant in the context of sustainability transformations, where the ability to critically examine existing beliefs, norms and ways of acting is an important precondition for change (Wamsler, 2020).

In essence, the literature suggests that competence development requires more than the transmission of knowledge. It calls for learning environments that actively engage participants, create experiences, enable interaction across diverse perspectives, provide spaces for reflection and connect learning to prior knowledge and real-world challenges. The literature also highlights the importance of aligning learning activities with intended learning outcomes. As emphasised by the concept of constructive alignment (Biggs, 2003), competences can only be developed if participants are given opportunities to practise them and if learning activities and assessment methods are consistent with the intended learning objectives.

4.2 Six recommendations from the MGG Academy

The six recommendations presented below emerged from the practical experience of designing and facilitating the MGG Academy over many years. These experiences were systematically reflected upon and interpreted in the light of learning theories. The resulting recommendations should therefore be understood as practice-informed design principles that are theoretically grounded. Each recommendation is first illustrated by experiences from the Academy and subsequently related to relevant insights from the literature.

4.2.1 Recommendation 1: Intentionally curate diversity

One of the defining characteristics of the MGG Academy is the deliberately diverse composition of the group. Professionals from different sectors, disciplines, countries and cultural backgrounds come together for three months to learn and work on global challenges. The programme organisers furthermore integrate diverse perspectives into the Academy design by engaging facilitators, coaches and speakers from different backgrounds.

Over the years, participant feedback has consistently highlighted this diversity as one of the Academy's greatest strengths. In the final evaluations between 2018 and 2025, on average more than 90 per cent of participants assessed diversity as a major opportunity for learning (MGG Academy, 2018-2025). As one participant noted: "The best learning came from discussions about the topic. The perspectives from different parts of the world are invaluable."

Therefore, the first recommendation is to intentionally curate diversity as part of the learning environment so that diversity becomes a learning resource.⁸ Bringing together participants with different professional, disciplinary, sectoral, cultural and national backgrounds creates opportunities to encounter different ways of thinking, challenge assumptions and jointly develop a more comprehensive understanding of complex sustainability challenges.

The importance of diversity for transformative learning is also emphasised in literature on sustainability transitions and transformative learning (Southworth, 2022; Wals, 2011). Exposure to unfamiliar perspectives can reveal blind spots, challenge established frames of reference and stimulate critical reflection. Rather than reinforcing existing viewpoints, encounters with difference encourage learners to reconsider assumptions, overcome silo

⁸ The argument presented here is primarily a didactic one. Beyond this functional perspective, there are important normative reasons for promoting diversity in leadership programmes. Such programmes should seek to bring together participants whose backgrounds and experiences reflect the diversity of the societies they serve rather than drawing predominantly on members of already privileged or dominant groups. Greater diversity is thus not only a pedagogical resource but also contributes to more representative leadership and is associated with fairer and more effective decision-making and outcomes (Andrade, 2025).

thinking and develop a more holistic understanding. Diversity thus becomes a catalyst for learning, innovation and perspective transformation.

However, diversity alone is not sufficient. Differences in perspectives, communication styles, status or power can also lead to misunderstanding, exclusion or conflict. Designing for diversity therefore requires careful facilitation and inclusive learning settings. This begins with participant selection to ensure a balanced mix of backgrounds and experiences, but equally includes creating spaces where different forms of knowledge are recognised, power dynamics can be addressed and balanced, and disagreement becomes a source of learning rather than division.

4.2.2 Recommendation 2: Create trust and psychological safety

The MGG Academy puts a strong emphasis on creating conducive conditions for trust building among participants. This includes activities to strengthen personal bonds such as personal storytelling, informal encounters and team-building exercises, but also shared working agreements and regular opportunities to reflect on group dynamics.

Over the course of the Academy, participants develop close personal and professional relationships that often continue well beyond the programme. Tracer studies conducted between 2019 and 2024 show that across cohorts, on average more than 74 per cent of respondents report having developed a strong level of trust towards one another (uzbonn, 2019, 2020, 2021, 2022, 2023, 2024). Participants thereby regard trust as one of the foundations of the learning experience, particularly in a highly diverse group. One participant highlighted the “importance to create a trustful environment to really collaborate as a team formed by people with such different profiles” as a key lesson. Once trust is established, it is not only an important resource for learning but also enables future cooperation. Feedback from participants illustrates the lasting effects of trust: “MGG cultivated an environment of trust [...] This trust extended beyond the programme and influenced how I approached partnerships and collaborations.”

These experiences give rise to a second recommendation: deliberately create conditions that foster trust and psychological safety. Profound learning requires participants to question assumptions, engage with unfamiliar perspectives, discuss controversial issues and acknowledge uncertainty. Such learning processes are only possible when participants feel safe enough to express doubts, share personal experiences, make mistakes and engage in respectful disagreement.

The importance of trust and psychological safety is also highlighted in research on learning and group dynamics. Learning is supported by positive social relationships in which people feel respected and able to contribute without fear of embarrassment or exclusion (Edmondson, 1999; Immordino-Yang & Damasio, 2007). This is particularly relevant for sustainability transformations, which require collaboration among people with diverse backgrounds, perspectives and interests. In this context, reflexive learning and joint action are closely interrelated with the level of trust that actors develop through their interactions (Koole, 2020). Psychological safety can foster openness, honest dialogue and constructive engagement with disagreement, while trust can support cooperation beyond the immediate learning environment by providing a basis for sustained professional relationships.

4.2.3 Recommendation 3: Enhance mutual learning

Throughout the MGG Academy, participants are encouraged to contribute their own professional experiences, perspectives and expertise to the learning process. Rather than being regarded as passive recipients of knowledge, they are invited to be active contributors

and co-creators. This understanding is communicated from the outset of the programme and is reflected in participatory formats such as peer-learning, open-space sessions, collaborative group work and participant-led discussions and dialogues. It also requires flexibility in the programme design, allowing facilitators to respond to participants' interests, experiences and emerging learning needs.

The effects of this approach extend well beyond the duration of the programme. In recent years, alumni have initiated their own formats for continued mutual learning, including self-organised accountability circles, peer coaching and regular online exchange formats. Others have translated the relationships developed during the Academy into concrete collaborations, for example through joint publications, collaborative research projects, workshops or even the establishment of a transnational consulting business (uzbonn & IDOS, 2026). In the most recent network-wide survey, 59 per cent of respondents stated that the MGG network is important or very important for expanding their opportunities to contribute to implementing the 2030 Agenda (uzbonn & IDOS, 2026). This shows how mutual learning not only enriches the learning process itself but also lays the foundation for lasting communities of practice that continue to generate knowledge, cooperation and collective action long after the programme has ended.

This points to a third recommendation: design learning environments that foster mutual learning and co-creation. Learning programmes for future changemakers should recognise participants as carriers of valuable knowledge, experiences and perspectives. Particularly in programmes that bring together experienced professionals from different sectors, disciplines and regions, participants collectively possess a breadth of practical expertise that no single speaker, facilitator or institution could provide. Mutual learning therefore serves not merely to activate participants but to mobilise and integrate distributed knowledge.

This understanding is consistent with constructivist and adult learning theories, which view learning as an active process of jointly constructing meaning rather than passively receiving knowledge (Knowles, 1984; Winteler, 2002). Adults learn most effectively when they can relate new insights to their own experiences while engaging with the experiences of others. Facilitators therefore take on a different role: rather than acting primarily as experts who transmit knowledge, they become hosts, curators and process facilitators who create the conditions for dialogue, collaboration and the co-construction of knowledge.

4.2.4 Recommendation 4: Design learning activities for holistic competence development

Competence development at the MGG Academy is fostered through a deliberate combination of complementary learning activities. Two aspects guide their design. Firstly, learning activities are aligned with the competences they are intended to strengthen. For example, role plays provide opportunities to develop conflict transformation competences, whereas futures thinking can be fostered through creative visioning and scenario exercises. Secondly, because competences comprise knowledge, skills and attitudes, learning activities need to address all three dimensions. Following Sipos et al. (2008), this means engaging the "head, hands and heart" of learners. Competence development therefore requires complementary learning experiences that enable participants to build conceptual understanding, practice new behaviours, critically reflect on assumptions and values, and apply their learning in authentic contexts. Accordingly, the MGG Academy draws on a broad repertoire of methods, ranging from expert inputs, discussions and field visits to simulations, journaling and embodiment exercises.

An interesting finding from evaluations of the MGG Academy is that participants often identify the greatest learnings not in the acquisition of new knowledge, but in learning formats that

combine reflection, experience and application. Activities such as reflective dialogues, solo walks in nature, design thinking workshops and coaching sessions are repeatedly described as transformative learning moments. This underlines the fact that competence development requires more than exposure to new content. It depends on opportunities to connect knowledge with personal experience, practice new behaviours and reflect on underlying assumptions, values and roles.

The fourth recommendation is therefore to design learning activities for holistic competence development. Learning activities have to fit the competence they intend to strengthen and should deliberately engage the cognitive, practical and attitudinal dimensions of that competence.

This recommendation builds on the concept of constructive alignment (Biggs, 2003), which emphasises the systematic alignment of intended learning outcomes, learning activities and assessment. Learning activities should therefore be selected because they contribute to the competences a programme seeks to develop rather than for their own sake. Programme designers can draw on a broad repertoire of methods to achieve this. One useful heuristic is provided by Brooks-Harris and Stock-Ward (1999), who distinguish activities for conceptual understanding, reflection, experimentation and preparation for application. Combining these complementary forms of learning helps ensure that competence development addresses not only what participants know, but also what they are able to do and how they approach their professional practice.

4.2.5 Recommendation 5: Create space for reflection

Structured opportunities for reflection are integrated throughout the MGG Academy. Beyond academic discussions and project work, participants repeatedly pause to make sense of their experiences through guided journaling, coaching, reflective dialogues, peer counselling and other methods. Rather than treating reflection as an isolated exercise, it is embedded as a recurring practice accompanying the entire learning journey.

Participants describe these moments as among the most valuable elements of the programme. In the 2025 final evaluation, many identified self-reflection and increased self-awareness as one of their most important learning outcomes. As one participant explained, “[t]he MGG Academy has been a space of both growth and reflection for me. It strengthened my professional direction, while also reminding me of the importance of balance, self-awareness and resilience in leadership” (uzbonn & IDOS, 2026).

Drawing on experience at the MGG Academy, the fifth recommendation is to create spaces for reflection. This recommendation is well supported by experiential learning theory. Kolb (1984) argues that learning does not result automatically from experience but depends on opportunities for reflective observation through which experiences are analysed, interpreted and connected to existing knowledge. Reflection therefore constitutes a crucial step in transforming experience into learning. Similarly, Moon (1999) emphasises that reflection enables learners to integrate new insights with prior knowledge and experiences, thereby promoting deeper forms of learning rather than the superficial accumulation of information. From this perspective, structured reflection is not an optional add-on but an essential component of competence development, as it enables learners to consolidate learning, strengthen transfer to practice and, over time, cultivate reflexivity.

4.2.6 Recommendation 6: Design learning for transfer and applicability

The design of the MGG Academy aims to ensure that learning does not remain confined to the classroom but can be transferred to participants’ professional contexts. Rather than separating

learning from practice, the programme connects both. Participants work in interdisciplinary teams on real-world sustainability challenges, develop prototype solutions for external partner organisations and strengthen practical competences such as facilitation, storytelling and design thinking that can be directly applied in their work. Throughout the programme, they are repeatedly encouraged to reflect on their own professional role, identify realistic leverage points for change and consider how newly acquired competences can be translated into action within their specific institutional context.

Participants' experiences suggest that transfer takes different forms. For some, it means applying specific methods and tools acquired during the programme. As one participant explained: "MGG broadened my perspective and introduced me to practical tools such as design thinking. The leadership modules – especially the communication sessions and interactive activities – were particularly transformative and I have actively applied these participatory approaches in my work" (uzbonn & IDOS, 2026).

For others, transfer extends beyond the application of individual methods and involves redesigning existing programmes and organisational practices. Reflecting on a climate adaptation initiative, one participant described how participation in the Academy led to substantial methodological changes in the next project cycle: "The second edition of the project is taking place at the beginning of 2026, bringing important updates that resulted from my participation in the MGG" (uzbonn & IDOS, 2026).

A third form of transfer concerns shifts in perspective and professional identity. Rather than simply applying new techniques, participants describe approaching their work differently. As one participant reflected: "This career change has allowed me to apply the 'global perspective' gained at MGG to a 'local execution' context" (uzbonn & IDOS, 2026).

The final recommendation is to design learning environments with transfer and applicability in mind. Learning is more likely to contribute to transformative action when it is connected to authentic challenges, participants' professional realities and concrete opportunities for application. This includes creating opportunities to work on real-world problems, strengthening practically relevant competences and supporting participants in identifying where they can create change within their own sphere of influence.

This recommendation is consistent with adult learning theory, which emphasises that learning becomes more meaningful when it is relevant to learners' professional experience and can be directly applied (Knowles, 1984). Practice-oriented approaches such as project-based and problem-based learning further strengthen the connection between knowledge acquisition and action. In the context of sustainability transformations, this is particularly important because the challenge often lies less in generating knowledge than in translating existing knowledge into concrete action.

At the same time, participants' experiences demonstrate that transfer is rarely straightforward. Whether learning ultimately leads to change also depends on the organisational and institutional environments in which participants operate. Many alumni report encountering organisational constraints, competing priorities, limited resources or insufficient institutional support when trying to implement new ideas. Designing for transfer cannot guarantee transformative impact, yet it can increase the likelihood that competences are usable in practice.

5 Conclusion and outlook: competence development as a contribution to sustainability transformations

This paper has explored how the MGG Academy seeks to prepare future changemakers for sustainability transformations and global cooperation and what broader insights these experiences offer for the design of learning and dialogue programmes. The focus is on two key questions: what competences are relevant for transformative change, and how can learning processes support the development of these competences? Based on experience from the MGG Academy, the paper presents the rationale and operationalisation of a competence model that is organised around three complementary dimensions: sense-making, cooperation and transformation. Together, these competences enable individuals to understand complexity, work constructively across differences and translate knowledge into action.

The paper further argues that competence development does not happen automatically, but needs a supportive learning environment. Insights and key learnings from the MGG Academy inform the identification of six design recommendations for learning processes. These recommendations emphasise the importance of aligning learning activities with the intended competence development while creating learning environments characterised by diversity, trust, mutual learning, reflection, practice orientation and opportunities for application.

Beyond the specific case of the MGG Academy, the discussion contributes to a more concrete understanding of competence development in the context of sustainability transformations. While concepts such as transformative leadership, sustainability competences and transformation literacy are widely discussed in the literature, they are relatively abstract. The competence model presented in this paper seeks to operationalise these debates by identifying concrete competence dimensions and by distinguishing between their cognitive, practical and attitudinal components. This can support programme designers in formulating learning objectives and reflecting on the kinds of learning experiences required for competence development. The intention is not to prescribe a universal set of competences, but to demonstrate how a competence model can guide deliberate choices and provide a coherent framework for programme design, ranging from learning objectives and educational methods to facilitation, assessment and evaluation.

Building on this understanding, the paper further argues that competence development is inseparable from learning design. The six recommendations translate insights from learning theory into practical design principles that can inform the development of leadership programmes, professional training formats and higher education initiatives. Rather than proposing a fixed blueprint, they provide orientation for creating learning environments that systematically support competence development.

At the same time, experience from the MGG Academy also demonstrates that competence development alone cannot explain transformative impact. This points to additional factors that deserve greater attention in both research and programme design. While the paper focuses on competence development and learning design, the theory of change presented in Section 2 suggests that impact depends on additional factors. Three dimensions are particularly relevant and deserve further attention: the profile and selection of participants, the role of networks, and the institutional conditions that enable or constrain transformative action, as argued in a different publication (Vogel & Reiners, 2025).

Taken together, experience from the MGG Academy suggests that investing in learning, dialogue and leadership development makes an important contribution to sustainability transformations. Such programmes can strengthen the competences, agency and

relationships that enable individuals to navigate complexity, cooperate across divides and initiate change within their respective spheres of influence. By connecting participants across sectors, disciplines and countries, they also curate networks that can amplify individual efforts through continued collaboration and mutual support (see also Lynders, 2024). Investing in future changemakers therefore also means investing in the people and relationships through which institutional and structural change becomes possible.

Perhaps the essence of this paper is best captured by the reflection of one participant: “MGG reinforced my belief that meaningful systemic change often begins with personal transformation, dialogue and the ability to genuinely understand and work with people who see the world differently” (uzbonn & IDOS, 2026).

This insight resonates strongly with the argument developed throughout this paper. Sustainability transformations are often discussed in terms of institutions, policies and technologies. Yet they are equally processes of learning, dialogue and cooperation among people. Developing the competences to understand complexity, work across differences and initiate change is therefore not a peripheral activity but an important contribution to enabling sustainability transformations. Learning and dialogue programmes alone cannot solve global challenges, but they can help foster the people, relationships and collective agency through which transformative change becomes possible.

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