

# Sustainability as a purpose on the new path of learning for the future

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This piece argues for a new vision of education that gears learning towards building an equitable and inclusive society in a possible future with planetary stability and well-being as the main goal. The authors call for education to include new literacies to enhance critical thinking in an information intensive age; build up socio-emotional and affective dimensions in learning to achieve an inclusive and equitable future society; focus on reciprocity in teaching and learning pedagogy; and emphasize an appreciation of biodiversity and respect for indigenous knowledge to ensure sustainable development.

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Globally, inequalities and conflicts deprive millions of people of the opportunity to live a decent and humane life. These existential crises are increasing in frequency as populations grow, the climate changes, habitats of numerous (often yet unknown) species are encroached or eradicated, and massive human migrations are in motion. In this nascent era of the Anthropocene, we still use descriptors of futures that are rather fearful. Yet, with sustainability, a positive global vision has emerged for a just and safe future, with sustainable development as a pathway and education as a catalyst for change. However, we are far from achieving such sustainable development and are limited in imagining well-being as we lose balance within economic, natural and societal domains.

Our future will crucially depend on our ability to learn to live within planetary boundaries, decrease disparities and care for “the other”, a term that applies not just to humans. To achieve this, we are in need of radical changes in education to focus on new paradigms of development and well-being that embrace all forms of life. Today’s and future challenges require different approaches to education. Education should prepare learners for the world as it exists and acknowledge the past, yet teach perspectives, values, norms, skills and competencies to address a world as it could be tomorrow. Education should support visions of futures while critically questioning and further improving the concept of sustainable development both globally and locally. An education that is purposed towards building an inclusive and equitable future for all is needed. Thus, our vision should require a humane idea of education that is not limited to the supply of skilled workers but is also concerned with individual human potential for knowing, being, doing and living together sustainably.

Educational change is often compared to turning around a large ship – it requires a decisive act, concerted efforts and prolonged periods of time to change course. Nonetheless, the consequences of unsustainable collective lifestyles require us to define a new trajectory for the purpose of education: the collective well-being of all living and animated beings. The path to overcoming the (re-)building of education systems based on rigid school curricula and core disciplines is through learning to design and continuously improve a collective vision of multiple possible futures and ways of being both individually and collectively. Learning in the broadest sense must address the fundamental challenges of our time. What should or can we know? What should we do? And what do we do? What may we hope for?

For what purpose do we strive? Within this document, we provide key insights that will help guide the formation of a new purpose of education.

## Forming knowledge, acknowledging the unknown and facing the information explosion

Humanity has never before had access to such a wealth of information. We have seen tremendous success in expanding educational content in many nations around the globe. This could be a moment of great potential for public discourse, awareness raising and the birth of new forms of education. This exponential growth of information as well as dynamic interactions of knowledge sub-systems contain opportunity if understood and put into use.

However, the range of available information and enhanced levels of public education do not automatically lead to the development of a knowledge-based society or improved public deliberation. On the contrary, it often lacks wisdom and contextualisation in nature. Currently, truth as a shared standard for the acceptance of information as knowledge has come under fire with the advent of post-truth, fake news, alternative facts, etc. With the simultaneous diversification and harmful use of media, we experience a homogenization of media reception, supported by standardized algorithms and artificial intelligence. Media literacy has become a crucial competence. Enhancing critical thinking capabilities to synthesize information into knowledge and eventual wisdom are seminal societal skills to be taught.

The demand for sustainability as a new purpose of education requires intensified efforts to address the socio-emotional and affective dimensions of learning beyond the cognitive focus. In essence, the reimagining of education should answer questions such as: How can we learn to deal with discomfort from being exposed to information and opinions that do not initially support our current worldviews? How can we learn to better understand and accept the limitations of what we know, and accept that what we believe to know today is likely to change in the future? How can we learn to appreciate the diversity of ways of knowing, including indigenous and spiritual knowledge, and engage systemically and respectfully with existing knowledge and wisdom?

**Insight 1:** Learning to know is learning about the unknown, understanding the dimensions of known and unknown, the diversity of ways of knowing, and the socio-emotional dimensions of living that are crucial to the formation of knowledge.

## Developing solutions and experimenting with change

Despite progress made in the past 25 years, educational engagement with the idea of a possible future that is both inclusive and equitable is still largely problem-oriented and geared towards predetermined learning outcomes. Where this concept has entered educational settings, it remains mostly at a level of teaching about sustainability, rather than engaging all aspects of our education systems to address the purpose of education for multiple possible futures. Knowledge about natural, social including cultural and economic systems and their interaction is crucial as is understanding both individual and collective needs, wants and resulting behaviours.

The process of envisioning, exploring and negotiating well-being for all within the natural limits of our planet means taking into account future generations. Education cannot be limited to communicating our understanding of the world today. It must play an active role in the search for solutions and paths into the future that we do not yet know. Learning in this context means not only knowing but being capable of taking an active role – both as an individual and a citizen – in the search for a sustainable future. This will entail engaging with others with differing worldviews and perspectives in discourse about how to achieve it. Education for sustainable development as a purpose of education respects yet intentionally goes beyond the ideas, concepts and worldviews that we inherited.

**Insight 2:** Learning to do means being engaged for an inclusive and equitable future with education as a common public and global good. It is learning to be engaged as an individual and a citizen.

## Pursuing planetary stability as a purpose of education

Educational approaches traditionally focus on the development of the individual: our ability to develop our knowledge, talents and capabilities to emancipate and liberate ourselves from the living conditions into which we were born, to lead a self-determined life in participation, solidarity and dignity. The development of these capabilities is linked to preconceived conditions of planetary stability that no longer exist for the expanding population. Collectively, we must address the abject poverty of so many humans, while recognizing the pressure we exert on climate change, biodiversity and the recognition of a looming unsustainable future for all. New human worldviews that are concerned with learning and well-being for all must therefore put planetary stability at the heart. These must be inextricably linked to the advancement of the common good for an equitable, collective and peaceful development trajectory.

Within this understanding, education is not solely limited to act as an instrument to achieve specific formal individual needs and levels, but to serve as the integrated process and operating mode of a sustainable path of life. How would we meet well-being in ways that are less harmful to others and the planet that sustains us? Many cultures and Indigenous societies have existing insights to share. How future societies could sustainably function is a goal that requires collective yet diverse pursuits. We have to question together as societies how we can best sustain the planet while striving for development individually and collectively. We have to learn to trust and engage with others in deliberative discussions over values, ethics, goals and ideas. We each need to contribute our knowledge to help us understand systems and gain an understanding of how transformation occurs. Education systems must discover, produce and transmit these multi-fold talents and foster the best of collaborative skills if we as humans are to develop the necessary solutions. This will also require thorough re-examination of existing testing, assessment and grading schemes.

**Insight 3:** Learning to live together today means to coexist peacefully and in balance with all life on the planet, and it means learning to become sustainable in an ever-changing world.

## Education for an equitable future for all

In closing, new visions of education for an inclusive, equitable and positive future requires us to rethink education fundamentally. To achieve this new purpose of education, we need to:

- ♦ Build on cognitive learning to gain a comprehensive understanding of learning in all its dimensions, including socio-emotional, behavioural and spiritual aspects;
- ♦ Explore, anticipate and learn to live with the unknown in complex systems on the basis of secured knowledge;
- ♦ Expand formal learning spaces to fluid non-formal learning settings, engaging the world;
- ♦ Create testing systems that are culturally appropriate and include locally relevant and meaningful indicators of human development and well-being;
- ♦ Expand on traditional transmission pedagogies to achieve full participation in appropriate transformative learning processes; and
- ♦ Focus on holistic, relational and Indigenous models of learning that are intergenerational and intercultural.

Giving voice and stakeholder status for the learning and teaching process back to students, teachers and community members will enable them both as learners and teachers in seeking a sustainable future. Education must enhance such opportunity for all to contribute in a lifelong process. Addressing sustainability in its many forms ranging planetary stability to equity and inclusiveness should evolve as a purpose of education. This means to fundamentally redesign educational institutions into places that offer culturally appropriate place-based, solution-focused, real-world learning experiences (e.g. living labs, Kominkan). It is time to effectively address the roles and responsibilities in education that rigorously ensures that all learners will have the necessary knowledge, skills, values, perspectives and motivation to act. Any new vision of education must purposefully work towards an inclusive and equitable future for all with individual, collective and planetary well-being at its heart.

# Visual literacy in the age of the image

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In an era where significant information is transmitted through pictures, signs and symbols, this think piece draws attention to the importance of incorporating visual learning into education. Visualisation of learning content is especially important for verbally challenged, disadvantaged youth. The author makes the argument that visual competency is a necessary component in education to build a responsible and empowered global citizenry.

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Children of the twenty-first century are visualizers. They not only retrieve and process, but also create dozens of still and moving images each day to depict events, their moods and their perception of the world around (Darras, 2016). However, once they enter the classroom, they encounter a world where speech and written text still dominate. Those who easily understand a sophisticated concept or process through images may fail to cope with a lengthy written description. This verbalizing nature of learning has to adapt if we want to reach the unreached and facilitate the integration of socially disadvantaged groups, especially minorities and immigrants with language acquisition challenges.

Vision strongly influences the way we perceive the world, along with the quality of our aesthetic experience. Thus, it is important to be visually literate to fully function as responsible and empowered citizens. However, there is a huge discrepancy between the importance of this domain and its marginal position in education. Developmental programmes based on visualisation in art and science education show impressive student progress and increases learning motivation in both domains (Kárpáti, Molnár and Munkácsy, 2014).

## **Visual learning: A missed opportunity in education**

The study of 'child art' (i.e. drawings, paintings and sculpture produced by children and youth) began as a branch of art history, continued as a form of psychological investigation and became, by the middle of the twentieth century, a research area on the visual language of children and youth, focusing on the interpretation and production of visual signs and symbols. On visual skills and competencies, John Debes, founder the International Visual Literacy Association (IVLA), noted that "a human being can develop by seeing and at the same time having and integrating other sensory experiences. ... they enable a visually literate person to discriminate and interpret the visible actions, objects, symbols, natural or man-made, that he encounters in his environment. Through the creative use of these

competencies, he is able to communicate with others. Through the appreciative use of these competencies, he is able to comprehend and enjoy the masterworks of visual communication” (Debes, 1969). The communicative aspect of the domain soon became the focal point of research, based on Hortin’s definition of visual literacy as “the ability to understand (‘read’) and use (‘write’) images and to think and learn in terms of images, that is, to think visually” (Hortin, 1983). The major contemporary model for art and design education, ‘visual culture,’ makes creative use of the imagery of our environment to express the concerns of contemporary young citizens (Tavin, 2009).

Cognitive and social skills and visual competencies are intertwined. With the description of the ‘iconic mode of representation’ in children and adults, Gestalt psychologist Rudolf Arnheim (1969) moved away from art history-based interpretations and laid the foundation of a theory of “creative vision” that establishes the relationship between thought and visual perception. He described the perceptual-cognitive symbolic behaviour, which is manifest in the iconic mode of perception and creation. He proved that visual images – symbolic or realistic – convey a meaning that cannot be formulated in any other mode, not even lexical. Contemporary educational systems, however, do not capitalise on this natural gift that is practiced voluntarily by hundreds of thousands of adolescents and youth in Visual Culture Learning Communities worldwide (Freedman et al., 2013).

The *Common European Framework for Visual Literacy*, the result of an international innovation project in which 25 authors from 19 countries collaborated to find new common grounds in the domain of visual learning, integrates cognitive and social skills with the dominant mode of communication of the twenty-first century: visual language (Wagner and Schönau, 2016). Appearing in curricula around the world as art and education (i.e. *Kunsterziehung*, *beeldende vorming*, *éducation plastique*, etc), this discipline encompasses visual communication, handicraft, design, photography, textile art, media education, cultural studies, audiovisual art, art history and other forms of learning through and with images. The framework synthesizes the main competencies of 37 art education curricula from 22 European countries.

## Defining visual literacy

Visual literacy is not limited to visual information. It also addresses our other senses as well as linguistic information processing (i.e. in film, video and multimedia). This framework is based on the definition of ‘visual literacy’ as “A group of acquired sub-competencies for interpreting and composing visible messages. A visually literate person is able to:

(a) discriminate, and make sense of visible objects; (b) create static and dynamic visible objects effectively in a defined space; (c) comprehend and appreciate the visual testaments of others; and (d) conjure objects in the mind’s eye” (Brill, Kim and Branch, 2001).

We define visual competencies and their constituting sub-competencies in three levels (basic, intermediate and expert) for 15 (partially) visual activities: analysing, communication, creation, description, drafting, empathising, experiencing aesthetically, experimentation, interpreting, judging, perceiving, presentation, realisation, using, and valuing. Through school-based experiments, teachers and researchers of the European Network of Visual Literacy and their partners from all over the world are working on projects that foster these

sub-competencies and showcase their relevance in different areas of education – from arts and science to sports.

Experts from five continents: America, Africa, Australia, Europe and Asia undertook a review of the framework in the journal of the International Society for Education through Art (InSEA), a UNESCO-affiliated non-governmental organization (NGO) (IJETA, 2019). The reviews indicate that the socially sensitive, competence-oriented framework holds relevance for educational systems all over the world. The structure for visual competencies, related to basic cognitive and affective skills, may serve as a basis to integrate visual language in all areas of the school curriculum. Experts from vastly different educational cultures unanimously expressed their conviction that creative imaging and scientific visualisation may advance teaching and learning and help societies face the challenges of twenty-first century education – a century labelled as the ‘age of the Image,’ where visual literacy is a key skill to survive and thrive.

## Teaching visual literacy

‘Being visually competent’ only makes sense in real-life situations. Teaching the visual language will only be authentic if it has a personal, social or practical relevance. Authentic assignments and learning situations eliciting expressive, interpretive or documentary visualisations may turn art education that is marginalized in most educational systems today into a key discipline to make meaning of a world of knowledge and emotions. The role of the educator is to redesign the learning process and when possible, substitute verbal explanations with situations that invite experimentation and creation. A situation can be defined by six key factors: place, people, time, image/objects, actions and interests. In the visual competency framework previously briefly described, some of these key factors are more specific, such as context (e.g. religion, issues of copyright and privacy, economy), visual rhetoric (e.g. decorative, variety, entertaining), materials and techniques (the way things are made), and genre (e.g. documentary, portrait, advertisement). A learning situation can refer to the personal, public or occupational domain and reinterpret them for the educational domain. Educational situations are created in a ‘protected’ environment and support the successful learning of competencies. A system of assignments for visual learning should relate to a situation that is relevant to a learner’s personal development; social and cultural interaction (citizenship); and preparation for the world of work (Billmeyer, 2019).

“I study Mark, sitting on the floor, with crayons in different colours scattered around him. His face is red with delight and he is obviously in a flow of creation. His mother comes in and asks: ‘What are you drawing?’ ‘God!’ – he says, in an authoritative tone. ‘But we do not know how He looks like!’ – replies his mother. ‘You just wait!’ – says Mark, a bit irritated. I will soon finish and then we will know!” (Egger, 1991). This little story vividly illustrates the essence of visualisation, characterised by rich symbolism and motivation to give shape to anything and everything learnt, thought or imagined. As visual symbols are formed easier than verbal ones and symbolic codes are often more sophisticated in drawing than in speech, education in the twenty-first century should incorporate and capitalize on the visual language of children and youth to make the teaching and learning process more accessible, up-to-date, motivating and effective.

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