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ASSESSMENT

WORKING GROUP

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**THE INTERNATIONAL SCIENCE AND
EVIDENCE-BASED EDUCATION ASSESSMENT**

**Education
2030**





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THE INTERNATIONAL SCIENCE AND EVIDENCE BASED EDUCATION (ISEE) ASSESSMENT: WHY IS IT NECESSARY?

Education matters for people at all stages of life. But what is the purpose of education? This quintessential question must be asked before we can assess if our education systems are delivering on their promise. Should the goal of education be to develop human flourishing, or should it be to meet the demands of ‘homo economicus’?

The way the future evolves very much depends on education. Today’s mindsets on how we live, the economic and political systems we adopt, the formal and informal

rules and regulations – the governance – that societies adopt, the way we perceive environmental and social problems are all very much influenced by the type (or lack) of education provided by past and present generations. The speed at which the world is changing, especially driven by technological progress and in transitioning from an industrial to a knowledge society, suggests that education can never be static and that the discourse on education, as **Dewey in 1923** asserted, ‘should never come to an end’. It should be continuously evolving in response to the needs of society and the planet.

Therefore, now is the time to take stock and look ahead. A starting point is to ask two fundamental questions.

1. Are education systems serving the right purpose?

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2. Are they equipped to address the pressing challenges we face today?

To answer these questions, a systematic assessment of the existing knowledge on education and learning is urgently needed. An assessment grounded in science¹ and evidence drawn from a multitude of disciplines, encompassing the entire complexity of learning and education, should consider the following:

- the goals of current education systems and their relevance to today's societal needs;
- the broad sociopolitical contexts in which education is embedded; and
- the state of the art for learning processes drawing from the sciences of learning.

While other reviews and reports have addressed pieces of this complex education ecosystem, a transdisciplinary approach drawing on science and evidence is urgently needed to understand the multifaceted complex education systems across the globe. The International Science and Evidence based Education (ISEE) Assessment is the first to use an integrated conceptual framework that requires the separate streams of knowledge to be integrated to answer the two overarching questions above.

Science and evidence are now widely accepted as a necessary condition for most policy-making. The success of the Intergovernmental Panel on Climate Change (IPCC) in influencing policy by bringing the best science and evidence to the table has been instrumental in shaping climate change policy. However, the road has not been smooth, with many

¹We define science as the pursuit and application of knowledge and understanding of the natural and social world following a systematic methodology based on evidence (The Science Council, <https://sciencecouncil.org/about-science/our-definition-of-science/>).

critics questioning the validity of the science and the evidence provided. The same can be said of the Millennium Ecosystem Assessment, which brought to the fore the power of multidisciplinary science and evidence in informing policy-making for the sustainable use of biodiversity and ecosystem services for the well-being of humanity.

The field of education is no different. However, unlike in the environmental field, no previous attempts have been made to undertake an integrated transdisciplinary international assessment of science and evidence in the field of education. Education policy has been widely influenced by anecdotal information and is seldom backed up by transdisciplinary consensus science and evidence. However, our knowledge of learning processes and their bidirectional relationship with their contexts is rapidly increasing due to advancements in all disciplines addressing educational issues, and particularly over the past two decades by research from the field

of mind, brain and education. But the exchange of knowledge and information across the various disciplines working on education is challenging, as is the translation of new findings from this transdisciplinary research into educational policy.

Recognizing the need for, but absence of, a transdisciplinary approach to education and the limited use of science and evidence in education policy-making further strengthens the need for the ISEE Assessment. The term ‘assessment’ here refers to a critical evaluation of the state of existing knowledge on education and learning by a team of independent experts drawn from a broad range of relevant disciplines and from across the world. The knowledge base is peer-reviewed scientific literature, but also includes credible grey literature. The Assessment report consists of 25 chapters, which have undergone a blind peer-review process. It assesses findings from across disciplines through deliberative discussions amongst the team of diverse

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experts throughout the project. The accompanying Summary for Decision-Makers (SDM) addresses overarching key questions and translates the answers into policy-relevant recommendations. In addition, the Assessment highlights gaps in knowledge and suggests potential future research agendas. To be clear, the ISEE Assessment is of a very different nature from international large-scale student assessments, such as the Programme for International Student Assessment (PISA). Assessments like the one we present here have proved extremely fruitful in other domains (e.g., IPCC) to synthesize information available from a wide range of disciplines. This has never before been performed for education.

THE ISEE ASSESSMENT CONCEPTUAL FRAMEWORK AND STRUCTURE

The ISEE Assessment launched in September 2019 with an expert

meeting hosted by the Chief's Scientist Office, Quebec, Montreal and including approximately 20 scientists from around the world. Expertise was drawn from a range of education-related disciplines, such as international comparative education, human developmental and education psychology, neuroscience, cognitive science, economy and philosophy. This group gathered over three days to deliberate if an assessment of education would be beneficial, what it could contribute to education and what should be the conceptual framework. Although there were many disagreements among the experts, two common findings emerged: the need for an assessment of this nature; and the need for a transdisciplinary, multicultural and multiperspective lens to rethink the education agenda for the twenty-first century.

Developing a conceptual framework is an essential first step when undertaking an assessment of this nature. The ISEE Assessment Conceptual



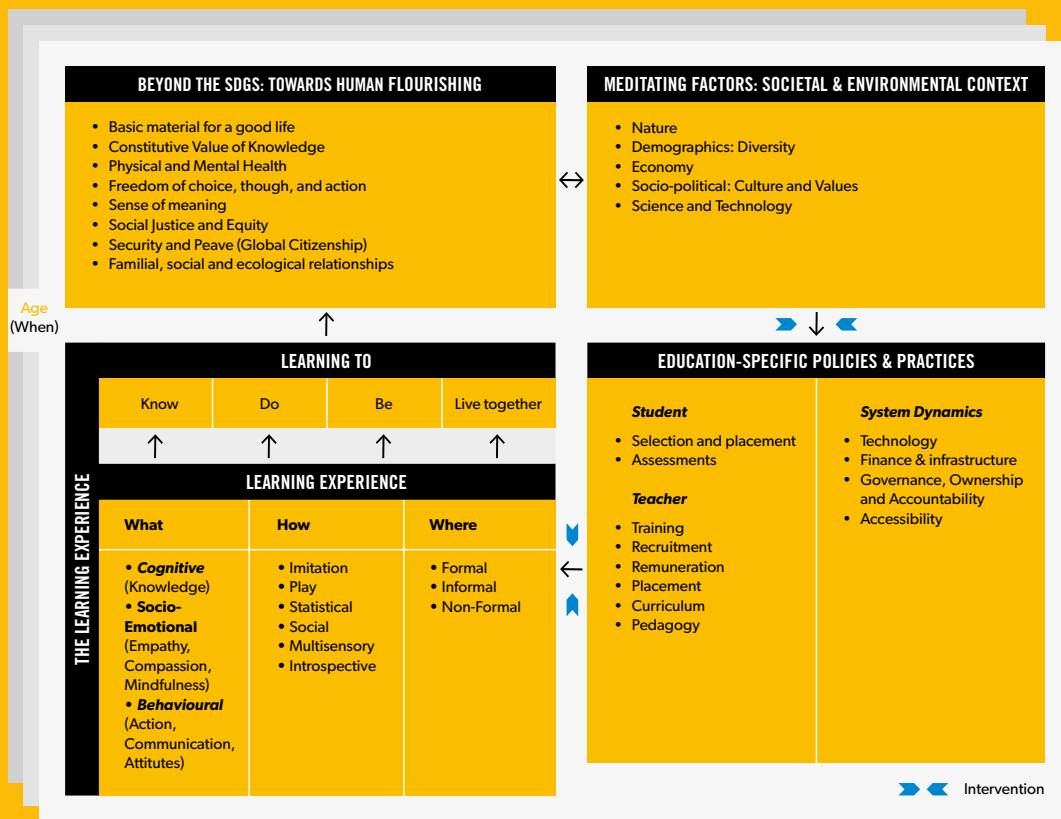


Figure 1. The ISEE Assessment Conceptual Framework of lifelong learning

Framework (CF) aims to capture the key interlinkages between critical components of the education and learning system as understood by the education community represented by the group of experts convened at the first expert workshop. The CF presented in **Figure 1** provides the basis for understanding and unpacking the complexity of the knowledge on education and learning across the world.

WORKING GROUP 1: HUMAN FLOURISHING, EDUCATION AND LEARNING

Working Group 1 on human flourishing unpacks **Box 1** and explores the interdependency between **Boxes 1 and 4** in the CF. **Chapter 1** provides an overview of the working group and the rationale for the chapters presented in the volume. **Chapter 1** also evaluates the concept of human flourishing and explores

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whether a definition can be used in education systems that allows context-sensitivity but still offers a common set of parameters. A main finding is that any education system for the future must acknowledge that volatility, uncertainty, complexity and ambiguity are central characteristics of our world, and education systems must rise to meet these challenges. **Chapter 2** reports that since the Second World War, educational policy and, in particular, education's role in human development have advanced along two parallel tracks with the dominant pathway focusing on the economy, while the other track, which takes a broader humanistic view emphasizing non-economic and non-instrumental objectives for human flourishing, is relegated. **Chapter 3** presents recent advances in cognitive and affective science that demonstrate the skills associated with flourishing can be cultivated through education, in the same way as literacy and numeracy. The chapter also outlines that about 82 per cent of teachers in teacher

surveys consider there is a disproportionate focus on exams in education in contrast to the well-being of students. A similar observation emerged with 73 per cent of parents preferring to send their children to a school where they would be happy even if their exams results were not as good as those achieved in high-stress exam oriented schools. Most students (81 per cent) indicated they wanted to learn more about how to look after their mental well-being.

Chapter 4 presents some perspectives and suggestions on curriculum, assessment and teaching reforms towards an education for flourishing following six curricular domains and six learning trajectories: learning to know and think, learning to do and evaluate, learning to learn, learning to live together, learning to live with nature and learning to be and become. This chapter recommends a slight adaptation of UNESCO's four pillars of education, by introducing two additional pillars to equip education systems to better address



today's societal and environmental challenges. Chapter 5 completes the work of this working group by providing recommendations for strengthening schools towards an education for flourishing based on an assessment of existing school practices and environments.

WORKING GROUP 2: CONTEXT, EDUCATION AND LEARNING

Working Group 2 on contexts aims to understand how our social, economic and political systems influence, and are influenced by, our education systems (**the interdependent link between Box 2 and Box 3 in the CF**). Furthermore, they examine how these contextual factors relate to diverse conceptions of the purpose of education (**the interdependent link between Box 1 and Box 2**). The first four chapters look at the macro level: the social, political, economic and environmental contextual factors the group considers as having a critical influence in the design of education systems across the globe. The group looked at the political

economy of education, as well as how global social phenomena such as colonialism and more recently climate change and sustainability issues have influenced education systems. These chapters look at how equitable education systems have been over the past 50 years and develop interesting insights into how meritocracy – frequently touted today as the great equalizer – actually threatens the equity and sustainability of education systems, fuelling acute competitive intensity and narrowing the experience of learning for millions. The concept of ‘hereditary meritocracy’ is shown to be a rising trend among ivy league educational institutions in the United States, where the majority of the students are from the top 1 per cent of the income distribution while a minority come from households in the bottom 60 per cent. In addition, the chapter informs how socio-economic disparities affect the learning of the over one billion children who are impacted by poverty.

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Chapter 2 on environmental contexts highlights the limitations of approaches to ‘education for sustainable development’, given that education remains wedded to a fundamentally human capital oriented vision looking at nature purely from an instrumentalist view rather than as an existential and intrinsic element of human flourishing. An important dimension in today’s education systems is the notion of conflict and its implications for education. **Chapter 5** reports that the psychological impact of conflict (and related, trauma and poverty) on learning is huge and that, as far as possible, education systems must recognize and accommodate these impacts when designing curriculum, assessments and teacher training. Approximately 37 per cent of primary school aged refugee children are out of school, while only 24 per cent have access to secondary education and a dismal 3 per cent to higher education. Both Chapters 5 and 8 (on curriculum) stress the role that education can and often does play in causing conflict, through fostering intolerance, xenophobia and societal division.

Chapters 6 and 7 of Working Group 2 then address the nature and extent of recent advances in neuroscience and technology as these relate to education, assessing how developments in these fields have both influenced, and been influenced by, contextual factors (political, commercial, cultural, etc). The final set of three chapters assesses how contexts have shaped, and are shaped by, key institutional features of our education systems that include curriculum and pedagogy (**Chapter 8**), assessment (**Chapter 9**) and the teaching profession (**Chapter 10**). These chapters elaborate how curriculum, assessment and teacher training is influenced by the political, social and economic climate in which education systems are embedded. Taken as a whole, the analysis presented in **Working Group 2**, while underlining the crucial importance of education in today’s world, also reminds us of education’s darker aspects (e.g. its potential to fuel conflict, as well as ameliorate it) and of its limitations as a resource for solving the world’s problems if the contextual factors are

not aligned towards peace and sustainability. A key conclusion is the need to balance hope in education's transformative potential with awareness that fully realizing its capacity to promote human flourishing requires far-reaching changes in our political and socio-economic order.

WORKING GROUP 3: THE LEARNING EXPERIENCE

Working Group 3 on the learning experience assesses the relationship between the 'what', 'how', 'where' and 'when' of learning, and how they relate to UNESCO's pillars of education, in light of state-of-the-art evidence from the science of learning, and studies of the socio-economic, environmental and other challenges we face today (**the interdependent links between Box 4 with Boxes 3 and 1 in the CF**). Building on the definition of education and learning as a 'relational' process (**Working Group 1**) and insights from brain imaging studies, the role of social and emotional Learning (SEL) is incorporated into all four aspects of learning. Chapter 4 on social and emotional

foundations of learning highlights that the learning experience at the individual level is intrinsically cognitive, emotional and social, as there is no clear dissociation between cognitive and emotional functions of the brain; rather learning occurs from the interconnectedness of neural networks across many functions. The chapter reports that although SEL improves learning outcomes by 7 to 11 per cent, it only constitutes about 7 and 4 per cent of learning in primary and secondary education respectively.

Chapter 2 on brain development and maturation highlights the non-linear nature of brain development and learning as a result of a lifelong dynamic and mutually interacting interplay between nature and nurture, contrary to the long-held belief in the competing forces between biology and culture. Although the themes of individual differences and learning differences overlap to some extent, experts from **Working Group 3** strongly felt that separate chapters on individual differences and learning differences and

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disabilities were needed. Therefore, **Chapter 3** provides new evidence demonstrating that individual differences in human development and learning arise from reciprocal interactions between biological, psychological and sociological factors. It calls for an integrated multidisciplinary approach to the study of human development, and its conceptualization in education. **Chapter 4** provides details of Social and Emotional Learning (SEL), what it entails and offers to the learning experience. The chapter underscores the high returns to investment in SEL and its contribution to not only academic achievement but also to social issues such as bullying, substance abuse, aggression, and depression among others. Chapter 5 emphasizes the importance of building a strong foundation of academic skills, such as literacy and numeracy, to scaffold other skills and develop flourishing. This underscores the importance of the integration of SEL with the more traditional competencies of literacy and numeracy within education systems to reach for human flourishing, which we

call the ‘whole-brain approach’. The chapter also emphasizes the importance of mother tongue instruction in the first formative years before second languages are introduced to achieve the best possible learning outcomes while highlighting the findings of the **2016 UNESCO Global Monitoring Report** that about 40 per cent of the global population does not have access to instruction in the language they understand.

Chapter 6 raises important questions relating to inclusive education versus special needs education and presents findings suggesting that care should be taken when designing inclusive education policies. Emphasizing that one in every five to ten children express some form of learning difference such as dyslexia or dyscalculia, it highlights that particular attention should be given to disabilities that are invisible but significantly affect learning. About 40 per cent of countries do not collect data on prevalence, school attendance and school completion for students with disabilities/differences,

limiting informed and effective policy-making to close gaps in access and learning under the inclusive education umbrella. The call for universal, preventive screening emerges as a clear policy recommendation, while also recognizing that careful implementation is essential.

Chapter 7 addresses ‘where we learn’ and explores how built spaces, natural spaces and digital spaces affect learning. It looks at the role of these different kinds of spaces for learning, attainment, interpersonal relationships, skills development, well-being and behaviours across UNESCO’s four pillars of learning. The chapter also explores how learning spaces can be actively shaped, felt and understood through practices and policies that occur within and around them.

WORKING GROUP 4: EDUCATION, DATA AND EVIDENCE

The ISEE Assessment was initiated with the idea of using science and evidence as its founding pillars. However, we soon noticed that

the terms evidence and data prompted a slew of questions and clarifications that we did not anticipate. Recognizing the diversity of views and perspectives of what a science and evidence-based assessment means, a small group of experts was commissioned to provide more clarity and guidance on what evidence means and how data can and should be used in education practice and policy-making. This working group’s focus is on seeking the best way to provide answers to the questions, ‘what worked’, ‘what is working best generally’ and ‘will a given intervention work here and now’. A new taxonomy of eight tiers or levels of evidence guides matching available evidence to these questions and assessing the strength of this evidence. The experts in this group provide a deeper understanding of how effect size and consistency of effect sizes influence learning outcomes, and how they can – and cannot – be used in practice and policy guidance. They also illustrate the potential of this modern approach to evidence based education by

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discussing the EEF (Education Endowment Fund) Evidence Database, effectively providing a proof of concept regarding some of the key ideas put forward as the new norm.

Working Group 4, in particular **Chapter 3**, highlights the importance of understanding and interpreting uncertainty. The concepts of p-values and statistical significance, together with confidence intervals, are explained and recommended as the new standard practice to be used when presenting empirical evidence in support of practice and policy-making. The core finding from **Working Group 4** is that science and evidence-based education practice and decision-making are evolving into a more complex set of questions, but are potentially very fruitful undertakings, for which it is key to understand the limitations of extant data and evidence in striving to create, obtain and use recent evidence. A clear and transparent discourse surrounding the assumptions and caveats in the analysis should always be provided

so that practitioners and decision-makers are aware of limitations and uncertainties.

GOVERNANCE AND SOCIAL PROCESS OF THE ISEE ASSESSMENT

The ISEE Assessment is a first of its kind for the field of education. Most studies reviewing education and learning primarily take a single disciplinary lens with very little collaboration, especially across traditional educational study disciplines and the newer science of learning disciplines. A key component for a successful endeavour of this nature is mutual respect and acceptance of multiple perspectives and a culture of ‘agree to disagree’. In addition, an open culture is needed in which experts keep an open-mind, truly listen to others and are fearless in asking questions to ensure transparency in assumptions and terminology. Finally, there must be a process in place to facilitate consensus building across all experts in order to create a synthesis of



findings to be used by policy-makers. Achieving the above will strengthen education systems and facilitate learning for the benefit of the individual and society.

An Advisory Board guided by two co-chairs was formed, comprising eminent persons from academia, business and policy, to provide support and guidance to the Assessment. The primary function was to ensure the relevance and credibility of the Assessment exercise. The overall scientific work of the Assessment was guided by the two Assessment co-chairs, one from the social sciences and the other from the natural sciences. The primary responsibility of the Assessment co-chairs was to ensure smooth collaboration across the various disciplines within and across working groups and to ensure the strictest scientific rigour was applied to the Assessment exercise. The co-chairs also were responsible for synthesizing the Assessment findings in the SDM document and a shorter headlines documents that conveys the key messages and policy

recommendations from the ISEE Assessment.

Each working group had two senior co-chairs supported by a junior co-chair, which always combined experts from traditional educational studies and the sciences of learning community. Recruitment for these positions was a non-trivial process. Many early invitations were politely rejected because the work was outside individuals' comfort zones, as well as the necessity requiring them to find common ground and come to shared consensual conclusions with experts and scientists outside their own communities and bubbles. This itself was an important finding as a new social contract for education is designed and implemented by member countries in response to UNESCO's Futures of Education report released in November 2021.

Once the group leaders were identified, the arduous process of identifying the authors and structure of the chapters for the various working groups took place. The tendency to identify familiar

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faces and colleagues was only natural and therefore stringent requirements for each chapter to ideally have at the minimum two disciplines represented were established, alongside the strong recommendation to reach a representative author team in terms of geographic location and gender. However, the process was not always perfect and sometimes a chapter has leaned further towards a particular discipline or perspective than we ideally attempted.

In order to minimize disciplinary bias but also to ensure scientific credibility, a blinded peer-review process was put in place. Review editors, again from different disciplines, were identified to oversee the review process to ensure legitimacy, credibility and the optimal selection of the most appropriate reviewers for each of the chapters across all four working groups. The secretariat overseeing the logistics of the assessment were responsible for compiling the review comments and supporting the review editors to ensure all review comments

were adequately addressed by the respective chapter authors before they were approved for publication.

THE OUTPUTS

The results of the ISEE Assessment are presented in four volumes, each presenting the findings from each of the four working groups. As mentioned earlier, three working groups present the state-of-the-art of the knowledge on education and learning based on the Conceptual Framework developed for the ISEE Assessment (**Figure 1**), and one on the meaning and use of data and evidence. Needless to say, there are many interlinkages across these working groups and attempts have been made to insert cross-references where necessary.

A Summary for Decision-Makers (SDM) is an essential output from the ISEE Assessment. The SDM is presented not as a summary of each working group, but a synthesis across all the working groups. The SDM is structured



along five key questions of relevance for policy-makers. This meant ‘harvesting’ the answers to each question from all four volumes and presenting them in an integrated fashion that reflects the complexity and interconnectedness among the various components within the education sector. The SDM presents the overarching key messages, findings and recommendations that emerge from the full ISEE Assessment report.

A headliners document forms part of the overall package, providing a brief overview and reflecting the key take-home messages and policy recommendations. It is meant to offer a snapshot of the ISEE Assessment and is a quick reference primarily for decision-makers and policy-makers.

CONCLUDING REMARKS

The ISEE Assessment is a first for the education sector. It brings

together a critical mass of experts and scientists working in the field of education. The process of bringing together over 250 experts and scientists from a range of disciplines has been a challenging task but offers an exciting learning experience of transdisciplinary collaboration within education. The two-and-a-half year journey produced new insights but, more importantly, provided the basis for future such assessments. The assessment process and the findings suggest that transdisciplinary research and collaboration is a necessary condition for any education policy-making, especially at the global level. The insights emerging when a range of disciplines combine their relevant research and perspectives are invaluable, offering understandings that sometimes contradict conventional intuitions. It is also important to emphasize the process of consensus building among experts coming from multiple disciplines on findings which might be controversial or uncertain.

This first assessment highlights

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the richness of evidence and data on learning and education systems, but it also demonstrates how fragmented and compartmentalized these are across the world. Another key observation from the assessment is that many of the experts and scientists were uncomfortable assigning confidence levels to the findings and the subsequent recommendations. This will need attention if we are to ground the science of learning into education policy-making. An international science organization representing multiple disciplines with a mandate on education should ideally carry out an assessment like the ISEE Assessment periodically in the future.

In 2021 UNESCO called for a new social contract in

‘Reimagining our futures together: a new social contract for education’. We are optimistic that the take-home messages, key findings and policy recommendations put forward by the ISEE Assessment will guide countries across the globe when designing the blueprint for this new social contract. An education for human flourishing using a whole-brain, learner-centric approach acknowledges the interconnectedness between cognitive, social and emotional dimensions, and how these are influenced heavily by societal and contextual factors. Furthermore, recognizing and understanding the vast individual differences in development and learning is key when designing any social contract on education in any part of the world.





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01

EDUCATION &
Human Flourishing



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- Ch1 **Introduction** to ISEE Assessment
Working Group 1 – education in and
for flourishing
- Ch2 **Education** for flourishing and
flourishing in education
- Ch3 **The science** of flourishing in child
and adolescent development:
description, explanation and
implications for prevention and
promotion
- Ch4 **A curricular** framework for
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- Ch5 **Human** flourishing in schools



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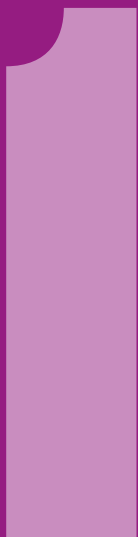
01

EDUCATION &
Human Flourishing

Working Group 1 assesses the definitions of flourishing and education from multidisciplinary perspectives including philosophy and the neurosciences, proposing education implementation and practice for flourishing be built on relationships with others, oneself and with subject matter/knowledge.



C H A P T E R



Introduction to ISEE Assessment Working Group 1 – Education in and for Flourishing

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**The authors contributed equally to this chapter.*



Abstract:

This chapter offers an introduction to Working Group 1 of the International Science and Evidence based Education (ISEE) Assessment. It begins by establishing a basic claim on which the Assessment builds: the need to mobilize education to support flourishing. After describing this foundational claim, we outline the structure of Working Group 1 and explain the role of each of the subsequent four chapters within it.

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1.1

The Purpose of Education and the future

‘The future and how to prepare for it,’ writes Facer (2016, p.63) ‘is a perennial concern of education’. Education also tends to be future-oriented because, on a societal level, many changes introduced into education today will have their full impact in years and sometimes even decades to come. When education was confined to its traditional goal of maintaining the existing social order, the time gap between the

present and future was bridgeable. However, around the nineteenth century, once parts of the world started to change at an increasing pace following monumental transformations such as the Industrial Revolution, the rise of capitalism and the emergence of nation-states, it became clear that the existing social order could not or should not be preserved. As a result, education was increasingly required to find ways to prepare

Education is further complicated today by a growing recognition that the future is, to a significant degree, uncontrollable, unpredictable and risky.

students for life in a world different from their own (Green, 1990). Recognizing this nearly a century ago, the great educational philosopher John Dewey (1923) argued that the discourse about education never comes and never should come to an end. In recent decades, however, the challenges involved in preparing students for the future have become even more evident. Since 1960, it has continuously been argued that technological and social changes seem to be accelerating as we move into a knowledge society (Toffler, 1970; Rosa, 2013; OECD, 2019). While the question of whether change is indeed accelerating as claimed is debatable, it is hard to deny that change, and the need to deal with it, is now an essential feature of the contemporary world (Innerarity, 2012). Moreover, education is further complicated today by a growing recognition that the future is, to a significant degree, uncontrollable, unpredictable and risky. It has become increasingly evident that the trajectory of many future developments is out of our hands and cannot be foreseen (Taleb, 2007). Today many

argue that volatility, uncertainty, complexity and ambiguity (VUCA) are central characteristics of our world (Bennett and Lemoine, 2014; Mack et al., 2016; Millar, Groth, and Mahon, 2018; Laukkonen, Biddel, and Gallagher, 2019). The COVID-19 pandemic, in the midst of which this assessment has been carried out, is just one stark reminder of this (Bozkurt et al., 2020; Di Pietro et al., 2020). In addition, much of the uncertainty characterizing our age is human-made (Beck, 1992, 2009). Scientific, technological, economic, political and social developments have greatly benefited humanity but have also created a world in which risk is prevalent. What people value, such as jobs or health, is both progressively ameliorating and increasingly at stake through human actions (Rosa, McCright and Renn, 2013). For example, while the world's economies are developing, the effects of economic activity on the environment and their detrimental results on the lives of many are well documented (WG2-ch2). In addition, while technology is making many jobs physically less demanding

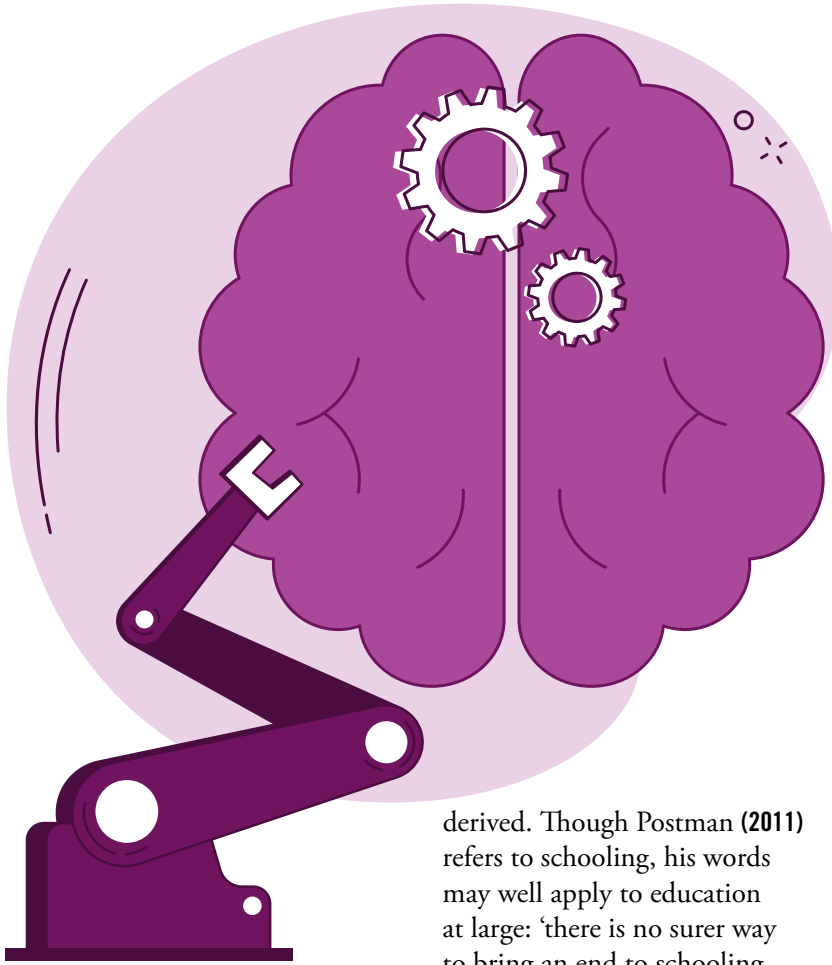
Educational policy must account for future uncertainties and other critical factors such as the neurobiological conditions of learning, existing social, political and economic realities, and individual differences, amongst others.

and more financially rewarding, the risk of losing jobs and the resulting job insecurity is also the result of technological innovation (Beck, 2000; WG2-ch6). The growing inequalities and potential social instability that we are currently experiencing are also due to growing wealth and conscious economic decisions (Piketty, 2014, 2020).

Educational policy, then, must account for future uncertainties in addition to other critical factors such as the neurobiological conditions of learning (WG3-ch2; WG3-ch6), existing social, political and economic realities (WG2-ch1), normative conceptions (WG3-ch6), cultural diversity (WG2-ch7; WG2-ch4) and individual differences (WG3-ch3). Future uncertainties, however, significantly complicate educational policy-making. Because the future is both uncertain and risky, education cannot simply wait for it to unfold. We must prepare for it. A common current response among educational policy-makers to future uncertainty is to enhance students' ability to adapt (Griffin and Care, 2014; Dishon and Gilead,

2020). The aim is to make them more flexible and equip them with skills that will prove useful under different circumstances. This approach is exemplified in the many reforms designed to prepare students for an evolving economy and job market by teaching them what is often termed 'twenty-first-century skills' (Voogt and Roblin, 2012; OECD, 2019). The seeming advantage of such an approach is that it does not rely on a clear conception of how the future would or should look like. If, for example, we teach students to adapt to the demands of the future job market by enhancing their general learning skills, we can avoid the need to know which specific jobs will be on demand a few years from now. This focus on adaptability enables us to prepare for an open-ended future.

However, while enhancing adaptability is a significant and worthy educational aim, it is not sufficient in and of itself. As many have acknowledged, education requires a vision of how we envision the present and the future, a vision from which specific educational aims could be



derived. Though Postman (2011) refers to schooling, his words may well apply to education at large: 'there is no surer way to bring an end to schooling than for it to have no end' (p. 4). Moreover, education can and ought to do more than merely react to changing conditions and circumstances. Even if the future cannot be fully controlled or predicted it can be influenced (Colander and Kupers, 2016).

Education might not be able to generate the exact future we wish for but it can help to direct us towards it. How are we to overcome the unpredictability of the future and the great difficulty in determining the most desirable aims of education?

As Huebner (1999) argues, to realize its full potential, education

must make a certain 'leap'; even though it does not know what the future will be like, education still needs to take action. Given the dynamism of the world and of education itself, the leap cannot be risk-free. Nevertheless, as Biesta (2015) suggests, part of education's beauty is that the risk is approached skillfully and purposively. Many contemporary educational philosophers have therefore proposed positive proactive visions that go beyond enhancing students' adaptability; visions that offer that education will do more than either react to current conditions or remain within the confines of producing 'adaptive experts' (e.g. Morin, 2002; Hansen, 2010; Palmer, Zajonc and Scribner, 2010; White, 2011; Ergas, 2017; Hodgson, Vlieghe and Zamojski, 2018).

The ISEE Assessment assesses, assimilates and critically analyses the existing knowledge and evidence necessary for adequately preparing for the future and setting a purpose for education while acknowledging that the world around us is constantly changing.

It is safe to suggest, however, that the greater our grounding in the literature and the science that rigorously examines what has been done in the past, what are the present conditions and what we expect the future to hold for us, the better we are positioned to provide a vision for education and restructure not only its aims but its practice. This is where the International Science and Evidence based Education (ISEE) Assessment enters. It assesses, assimilates and critically analyses the existing knowledge and evidence necessary for adequately preparing for the future and setting a purpose for education while acknowledging that the world around us is constantly changing.

The ISEE Assessment arrives at the question of education's purpose acknowledging the dramatic changes that have occurred since the publication of the Delors Report (**International Commission on Education for the Twenty-first Century, 1996**). In the last 25 years, the world has changed in both predictable and unpredictable ways. Although

significant progress has been made in some areas, such as reducing extreme poverty or prolonging life expectancy, at least until the COVID-19 pandemic, in other areas this is not the case. Some of the current global challenges, such as the ecological crisis, have intensified. Inequality, racism and violations of human rights prevail and are arguably more severe (**Cole, 2017; Kohli, Pizarro and Nevárez, 2017**). And to these somewhat predictable challenges, we must add events and developments that were not foreseen and have shaken lives across the world: 9/11, the financial crisis of 2007–2008, the COVID-19 pandemic, the escalation of populism and attacks on democracy, and the rise of social media are just some of the developments and events that have changed the world and have had an impact on education (**Schüller, 2016; Hadar et al., 2020**).

These changes are not, however, confined to the realities we face. They have also taken place amidst the knowledge and understanding we possess. In the last quarter of a century our comprehension of issues such as brain plasticity and



development, mental and physical health, as well as learning have improved in highly significant ways. In addition, we have gained significant insights into the political, social and economic challenges we face and how they relate to education. By bringing together an updated diagnosis of current challenges and new knowledge and understandings recently accumulated in various fields, we can enhance our ability to assess and inform education and its purpose.

towards flourishing. The definition of human flourishing used in this assessment is provided in **WG1-ch2** but it can, for now, be described as an effort to achieve self-actualization and fulfillment within the context of a larger community of individuals, each with the right to pursue their own goals. It encompasses the uniqueness, dignity, diversity, freedom, happiness and holistic well-being of the individual within a larger family, community and population.

Human flourishing can be described as an effort to achieve self-actualization and fulfillment within the context of a larger community of individuals, each with the right to pursue their own goals.

In light of the above challenges, difficult questions arise when considering the purpose of education. These include: To what extent are current educational policies sensitive enough to the global challenges we face? Do they reflect a sufficient response to dramatic events that have occurred in recent decades? What roles do a host of scientific advancements, such as understanding of brain plasticity and development (**WG3-ch2**) and the importance of social-emotional capacities (**WG3-ch4**) play in these policies? These and several other questions suggest the need to orient education

1.1 .1

FROM A HUMAN CAPITAL PERSPECTIVE TO HUMAN FLOURISHING

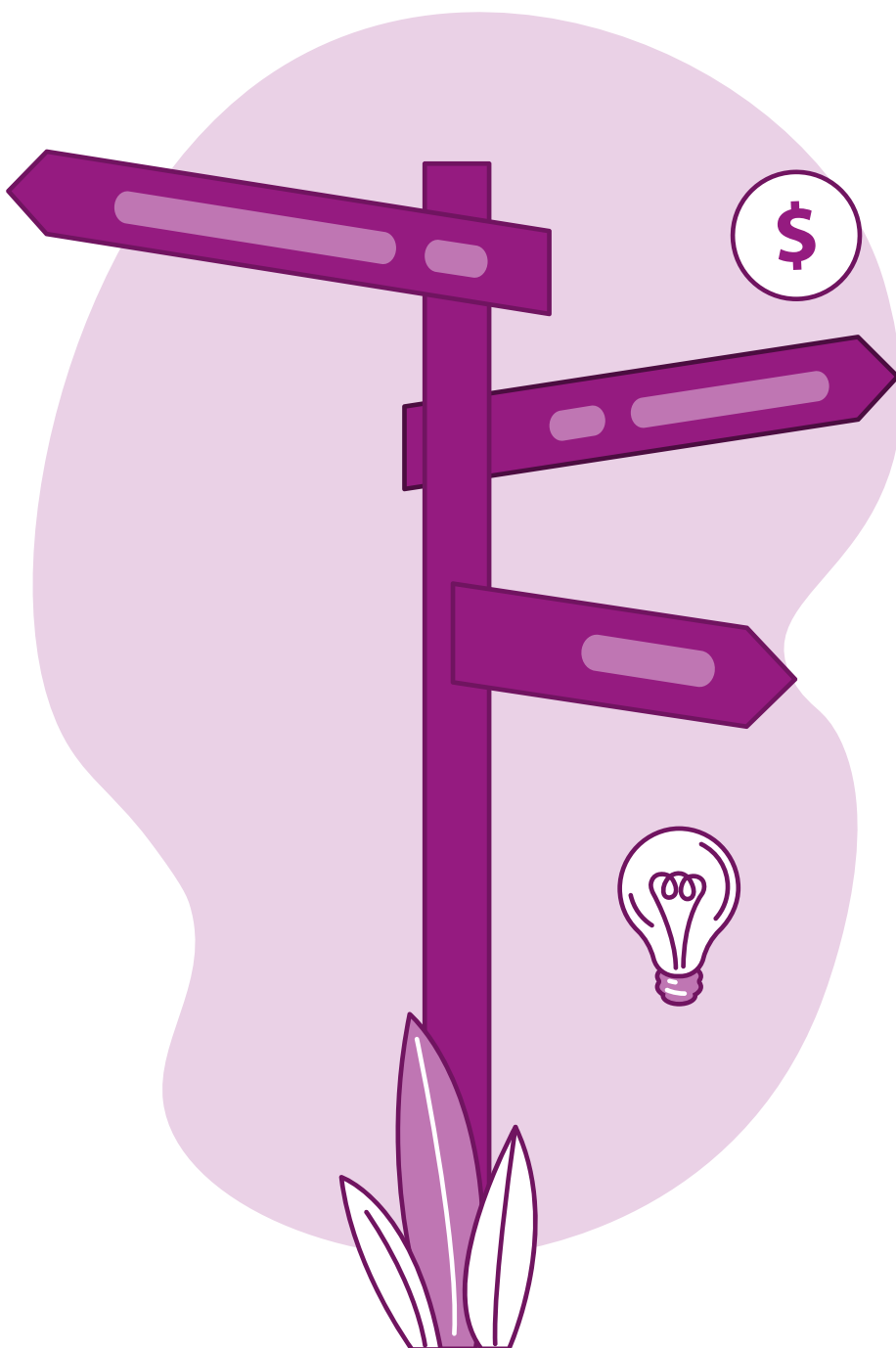
Since the Second World War, educational policy, and in particular conceptions of education's role in development, has been advancing along two parallel lines (See figure 1). The first, and more dominant, focuses

The influence of human capital on economic policy has been profound, placing education at the forefront of economic theory.

on the economy while the other takes a broader view that also encompasses political, social and personal dimensions (**Burnett, 2014**). In the 1940s and 1950s, economic growth, measured by gross national product (GNP) and gross domestic product (GDP), became the main policy objective first in the United States (US) and Europe and then in the rest of the world (**Philipsen, 2015**). However, since contemporary models of growth focused on the contribution of investment in physical capital to growth, education was not perceived as having a pivotal role in it (**Blaug, 1970; Rostow and Kennedy, 1990**). This radically changed with the emergence of human capital theory in the 1960s. According to human capital theory, people's knowledge, skills and abilities that can increase production should be viewed as a form of capital that can significantly contribute, on a social level, to economic growth, and, on a personal level, to employment (**Sweetland, 1996**). Based on this simple insight, the theory infers that education has a vital economic role. The influence of human capital on economic policy has been profound. It

placed education at the forefront of economic theory, it allowed influential multinational economic organizations, such as the OECD and the World Bank, to play an active part in education, but more than anything it led policy-makers to view education in purely instrumental terms (**Blaug, 1985; Marginson, 1989; Olssen and Peters, 2005**). Increasing human capital became a central or even the primary educational aim. Education had to train a skilled workforce that would increase productivity and consequently lead to growth (**Gilead, 2012**).

Despite some setbacks in the 1970s, the link between education and the economy only grew closer in the 1980s. Contemporary policy emphasis on growth, privatization and markets led to a wave of reforms that stressed the importance of education for the economy (**Thorbecke, 2007**). Education, both in developed and developing countries, came to be seen as having to cater to the needs of the economy, with the non-economic benefits of education arguably pushed aside (**Ball, 1999; Williamson, 2009**). In addition,



the development of new growth models from the end of the 1980s reaffirmed and expanded the possible contribution of education to the economy (**Stiglitz, 1999**). These models, which gave rise to the idea of a knowledge-based economy, stressed the importance of knowledge and especially scientific and technological knowledge, to economic growth (**Stiglitz and Greenwald, 2014**). Following these models, education assumed an even broader economic significance because it could facilitate technological and scientific breakthroughs and contribute to knowledge accumulation and diffusion, which are all necessary for and conducive to economic growth (**Olssen and Peters, 2005**). The primacy of economic growth and economic considerations as policy objectives, together with the rising recognition of the role that education can play in them, has led many nations, international organizations and policy-makers to focus on the economic aims of education while neglecting or marginalizing other educational objectives. Aims such as furthering democratic equality, enabling

social mobility, advancing global and democratic citizenship, promoting personal autonomy and advancing human culture have become somewhat secondary (Labaree, 1997; Kitcher, 2009; Nussbaum, 2010; White, 2011).

However, there has also existed an alternative strand, which very much reacts to the one presented above and places greater emphasis on the non-economic and non-instrumental aims of education (see Figure 1). The notion that education is a basic human right that must be provided to all, which is mainly advanced by UNESCO, has had a tremendous influence on education provision worldwide (International Commission on Education for the Twenty-first Century, 1996; World Education Forum, 2000; UNESCO et al., 2015).

Although increasing human capital and education as a right often go hand in hand, there are important differences between them and they can potentially even conflict (Robeyns, 2006). Firstly, the emphasis on rights goes beyond economics and points to the contribution of education to

‘dignity; social justice; inclusion; protection; cultural, linguistic and ethnic diversity’ (UNESCO et al., 2015, 7). It encompasses aspects of life that are not emphasized or even addressed by human capital theory. Secondly, the rights discourse provides a non-instrumental and unconditional rationale for education. For example, while human capital theory will find it hard to justify providing education for someone who is not likely to be economically productive due to physical limitations, the notion of rights can easily do so (McCowan, 2011). In addition, the emphasis on the economic role of education has also been challenged by other forms of discourse. In the 1970s, the focus on economic growth was countered by the idea that human development requires the meeting of basic human needs, especially of the poor (Gasper, 2004; Stewart, 2006; Thorbecke, 2007; Williams, 2014). Inspired by these ideas, from the 1970s onwards, Amartya Sen devised the capability approach, which stressed the importance of not only economic conditions, but also individual,

Although increasing human capital and education as a right often go hand in hand, there are important differences between them and they can potentially even conflict.

CONCEPTIONS OF EDUCATION ROLE IN DEVELOPMENT

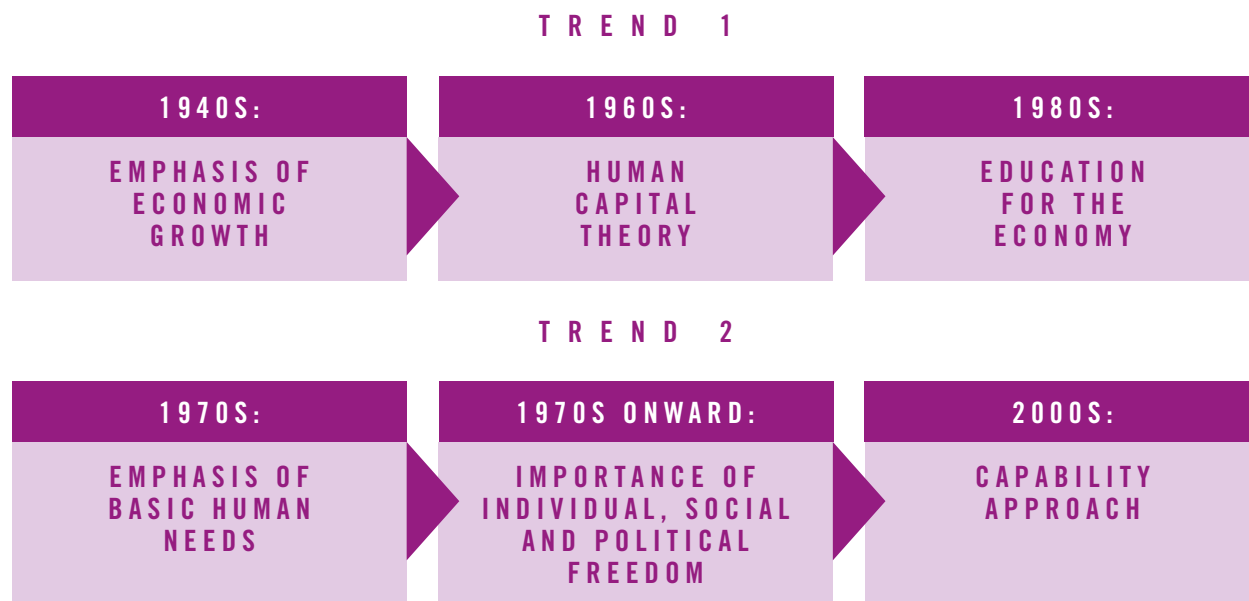


Figure 1. Conceptions of education's role in development

social and political freedoms (Sen, 1980, 1992, 1999, 2000). Sen draws a distinction between functioning, which is what people do or have, and capabilities, which are the range of possibilities people can choose their functioning from. The distinction between capabilities and functioning, it is important to stress, does not only apply to the economic domain but is valid in many areas of life. Sen argues that focusing on functioning is not enough and that policy must also strive to enlarge people's capabilities. For example, examining people's economic condition might not

accurately reflect their situation unless we also consider the range of possibilities and freedoms they have to improve it. The capability approach, which was further developed by Nussbaum and many others, had and still has a significant impact in educational circles (Nussbaum, 2001; Robeyns, 2006; Walker and Unterhalter, 2007; Crocker, 2008; Khader, 2011). Moreover, a growing policy concern with advancing human development and not just economic progress placed education as one of three major components for improving aspects of people's lives. This change, it

There is now mounting evidence and an increased understanding – also among economists – that non-economic aspects of human development, including social, personal, political and moral elements, could and should go hand in hand with economic growth.

is important to note, was fuelled by a growing recognition of the limitation of economic growth and can be linked to the rise of the capability approach.

Over the years, human capital theory has not remained stagnant and has evolved in significant ways, partly as a result of the criticisms levelled against it by competing approaches (Hanushek, 2013; Stiglitz and Greenwald, 2014; Burgess, 2016; Angrist et al., 2021).

For example, the non-economic benefits of human capital have gained increased significance (McMahon, 2000; OECD, 2001).

Nevertheless, despite the rise of alternative approaches and changes in human capital theory itself, in education policy, the focus on growth and employment has prevailed. In 1996, the Delors Report made a strong case to transfer the educational emphasis from economic to broader forms of development, but despite its influence it did not reverse existing trends (International Commission on Education for the Twenty-first Century, 1996; Tawil and Cougoureux, 2013; Elfert, 2015). Since economic

growth measured by GDP remains the main policy objective in most parts of the world, education was and in many ways still is mainly viewed through an economic lens.

In the last two decades, however, the notion that education should primarily focus on economic matters has again been challenged. One significant reason for this is changing perspectives on the relationship between economic and other forms of development. Traditionally it was assumed that a trade-off existed between economic and social development (Sen, 1997; Mkandawire and Unies, 2001). It was thought that focusing on social development would obstruct economic growth since the latter might require harsh measures. As a result, it was commonly held that economic growth must first be secured before other forms of development could be sought (Sen, 1997). Moreover, it was maintained that only after a crucial amount of growth had been achieved could additional aspects of human development be more easily improved. For



example, Kuznets (1955) argues that in the early stages of rapid economic growth social equality will rise only to be reduced later on as the economy continues to develop. Similarly, it was held that economic growth will initially lead to environmental degradation that can be amended once there are enough resources (Barbier, 1997; Constantini and Monni, 2008). However, there is now mounting evidence and an increased understanding – also among economists – that non-economic aspects of human development, including social, personal, political and moral elements, could and should go hand in hand with economic growth (Sen, 1997; Stiglitz, 1998, 2007; Ranis, Stewart, and Ramirez, 2000). In addition, it has become evident that many

non-economic elements such as trust, values and information networks can facilitate economic growth (Whiteley, 2000; OECD, 2001; Chou, 2006). Since it is clear that education can have a profound impact on many aspects of life, it is held that it should go beyond human capital and economic growth (McMahon, 2000; Brighouse, 2006; Harber, 2014; Marginson, 2019). In doing so education can directly contribute to both growth itself and other dimensions of human development.

Another and somewhat more fundamental reason for going beyond the economic aims of education is a growing recognition of the limits of economic growth, especially when measured in GDP. There is accumulating

There is accumulating empirical evidence that economic growth does not necessarily have a positive impact on people's levels of subjective well-being and life satisfaction.

empirical evidence that economic growth does not necessarily have a positive impact on people's levels of subjective well-being and life satisfaction (Easterlin, 1974; Blanchflower and Oswald, 2004; Layard, 2011; Diener et al., 2018). There is also now a better understanding of the negative consequences of growth on the environment, economic equity, social cohesion and various other domains (Raworth, 2017; WG2-ch2). Moreover, emerging research suggests that an emphasis on economic growth as a key measure of human well-being, at the expense of subjective and other forms of objective well-being, is a primary contributor to the increasing prevalence of unhappiness, insecurity and poor interpersonal relationships (Rogers et al., 2012). Economic globalization has led to a huge increase in consumerist values, and excessive use of materials and natural resources (UNDESA, 2005), often at the cost of human values and relationships. Urbanization has forced young working adults away from local communities in search of economic growth, a consequence of which is the loss

of community social structure and relationships, value systems and cultural practices, and ultimately well-being in flourishing (Bhugra and Becker, 2005). It has also led to increased inequality in the socio-economic status and per capita income between the richest and poorest countries. As a result, there is also increasing poverty and unemployment, which has forced many into precarious situations like human trafficking.

Apart from all these factors, the most striking indicator of diminished well-being is in the area of mental and psychological wellness (Eckersley, 2011). The World Health Organization's (WHO, 2004) World Mental Health Survey revealed a huge variation in the prevalence of mental illness with disorders worldwide affecting from 6% to 27% of individuals in the countries surveyed. A more recent survey (WHO, 2017) on the mental health status of South Asian adolescents aged between 13 and 17 years found that 10% to 20% of adolescents had mental health issues including anxiety, depression, self-harm and suicide.



The growing understanding of the non-economic benefits of education for human development, together with increasing skepticism towards the value and desirability of economic growth in its current form, demand that we think differently about education.

While the increase in mental health problems has to do with more than a socio-educational focus on economic growth, values of competitiveness, workaholism and consumerism, all of these potential consequences of a focus on economic growth are likely to lead to high levels of stress, which are known to affect mental and physical health (Sapolsky, 2017). In addition to the dramatic effects of the COVID-19 pandemic on mental health (Gao et al., 2020; Pfefferbaum and North, 2020) these findings challenge the association between economic growth and human well-being and suggest the need to go beyond mere materialistic wealth as the primary driver of human well-being. As a result, there is an ongoing search for alternative measures of progress and development (Stiglitz, Sen and Fitoussi, 2009).

The growing understanding of the non-economic benefits of education for human development, together with increasing skepticism towards the value and desirability of economic growth in its current form,

demand that we think differently about education. The limits of an educational approach that focuses solely on human capital and the economy are evident. There is a need for a broader conception of education that goes well beyond economics and focuses on flourishing.

1.1 .2

WHY FLOURISHING? WHY NOW?

The notion of human flourishing has been discussed throughout history. It is found in various wisdom traditions, including those of East Asia, Ancient Greece, and aboriginal and other native traditions. It plays a central part in all major religions and is just as significant in secular and modern strands of thought. The idea that education should promote flourishing is not new either. Throughout history many educational thinkers and educators, including Plato,

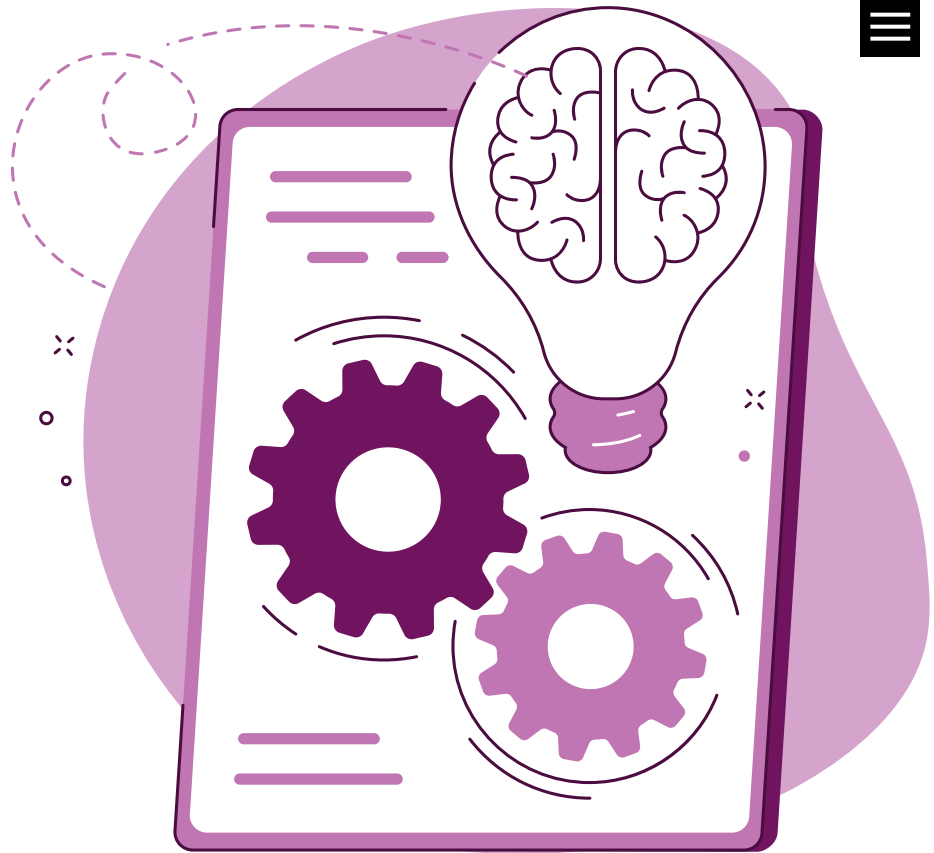
Comenius, Rousseau and Freire, have made enhancing flourishing a central educational aim. While there are various and often contradicting interpretations of what makes a person flourish, few challenge the idea that flourishing is a worthy objective. Even educational policy that focuses on human capital and service to the state can be directly linked to flourishing. It assumes that either economic well-being and economic growth or a strong state are instrumental in achieving a flourishing life.

Although flourishing as an educational aim has been debated throughout history, there are good reasons why the ISEE Assessment report has flourishing at its core. Firstly, as we have seen, flourishing in educational policy-making has been looked over in favour of approaches that focus on economics and social utility. The growing emphasis on what can be viewed as means for achieving flourishing, such as economic growth, scientific and technological advancement, or increased state power, has

obscured their ultimate goal. What could be seen as partial means for flourishing have become ends in themselves. This, however, has often led to measures that hinder rather than promote flourishing. Moreover, current educational policy often seems to focus only on a few partial measures for increasing flourishing while neglecting significant ones (Stiglitz, 1998; Brighthouse, 2006). Secondly, today we know much more about flourishing than we did a few decades ago. Most importantly, we now have the scientific evidence to support and enable the cultivation of flourishing in human beings.

Central to this new knowledge is the biological aspect of human flourishing and an understanding of the central role the human brain plays in the development and cultivation of the human flourishing mindset. The basis for this is the finding that the brain is malleable and thus amenable to change (Merzenich and Jenkins, 1995). Neuroscience research has shown that psychological well-being can be cultivated through intentional mental training

Although flourishing as an educational aim has been debated throughout history, there are good reasons why the ISEE Assessment report has flourishing at its core.



and has the potential to drive structural changes in the brain. In other words, flourishing can be cultivated or trained (**Dahl et al, 2020**). For instance, the positive effects of regular training in the cultivation of well-being and flourishing in Tibetan Buddhist monks shows that regular meditation practices produce not just behavioural but also structural changes in the brain that promote increased well-being (**Davidson and Lutz, 2008**). Further, recent advances in cognitive and affective science demonstrate that well-being and flourishing are skills that can be cultivated like literacy and numeracy. We thus posit that

education systems must be the explicit training of knowledge, skills, practices and behaviours that enable individuals to flourish.

Evidence from neuroscience also shows that enriched environments provide cognitive and emotional nurturing, both foundational factors for successful learning, while inadequate cognitive stimulation leads to poor cognitive and emotional development and learning. For instance, children's math-related skills are enhanced when they engage in math-story time with their parents (**Berkowitzat, 2015**), while children raised in stark poverty show reduced surface

Advancements in social and affective neuroscience have significantly enhanced our understanding of the crucial role of nurturing and safe environments, and in the social-emotional nature of learning and in advancing well-being.

areas of the brain supporting language, reading, executive function and social skills (Lukowski, 2010). Similarly, advancements in social and affective neuroscience have significantly enhanced our understanding of the crucial role of nurturing and safe environments, and in the social-emotional nature of learning and in advancing well-being (Immordino-Yang, Darling-Hammond and Krone, 2019). Furthermore, it has been shown that emotional neglect can induce severe disturbances in multiple aspects of social and emotional functioning, with the most dramatic effects in the amygdala (Casey, 2015), a structure of the brain critical for motivation and anticipating reward, and therefore involved in all learning. Neurobiology has made substantial leaps in its ability to explain human behaviour, thought and decision making, demonstrating clearly how excessive stress impedes mental well-being. (Sapolsky, 2017). Children exposed to high levels of stress on a daily basis (Matthews & Gallo, 2011) not only exhibit reduced functional and structural

maturation of the hippocampus and the frontal lobes (Davidson & McEwen, 2012) but also effects on the amygdala, which contains receptors to cortisol, the stress hormone (Blair & Raver, 2016; WG2-ch5). However, it is not only our individual stress that is at stake; manifesting the social nature of the brain, research demonstrates that stress is contagious. Measurement of salivary cortisol in teachers and students has shown that teachers' occupational stress is linked to students' physiological stress regulation (Oberle and Schonert-Reichl, 2016). Functional brain imaging, including studies of the brain's default-mode network, has provided us with significant insights into mental health, executive functioning, ethical decision making and emotional intelligence, which have various implications for education (Ergas and Berkovich-Ohana, 2017; Immordino-Yang, Christodoulou and Singh, 2012; Jazaieri et al., 2016; WG3-ch2; WG3-ch3; WG3-ch5).

Thus, it is not only research that demonstrates what stands in the way of our development into



flourishing human beings but also research into ways in which flourishing can be proactively pursued that support our proposal to promote flourishing as the purpose of education (**WG3-ch4**). Findings show that a focus on effective social and emotional learning (SEL) interventions and programs contributes not only to student mental health and reduction in dropout rates and risk behaviours, but also to academic achievement (**Durlak et al., 2011**). Positive psychology has developed substantially over recent decades, providing a variety of ways in which to enhance flourishing within and outside schools (**Waters, 2011; Burckhardt et al., 2016**). Comprehensive meta-analyses of mindfulness-based interventions implemented in schools have generally had positive results (**Carsley, Khoury and Heath, 2018; Zenner, Herrnleben-Kurz and Walach, 2014**). At the same time, schools benefit most from systemic approaches in which innovation and change are introduced coherently throughout the school organization and its curricula (**Miller et al., 2018; Harpaz**

and Grinshtain, 2020). Hence when SEL practices are introduced as short-term interventions, rather than through holistic approaches that address the school as a whole, results may be hard to sustain over time (**Sheinman et al., 2018; Ergas and Hadar, 2019**).

This is just a brief overview of what is contained in subsequent chapters, and is offered to provide initial support for our claim that we now know more about flourishing, to the point of providing us with the grounds for the endeavor undertaken in this report. Coming decades will no doubt reveal much more than we currently know. Thus, it is our hope that in this report we will also provide ideas for orienting future scientific research that will be based in an education that has shifted toward the pursuit of flourishing.



1.2

Outline of Working Group 1 and its methodology

...there is a need for educational systems to embrace a broader perspective that positions education in and for flourishing at its centre...

Building on the above argument, namely, that there is a need for educational systems to embrace a broader perspective that positions education in and for flourishing at its centre, our task becomes one of definition, conceptualization, elaboration, substantiation, grounding and operationalization. This begins first and foremost with the very concepts of education and flourishing. Without a clear definition of

what is meant by these concepts it is unlikely that we will be able to provide anything of substance for UNESCO's Member States that can assist in policy-making. Hence, following the project's nature as an evidence-based assessment, the task of the next chapter (**WG1-ch2**) is to develop a grounded definition of both of these concepts.



Definitions ground concepts. The term ‘assessment’ is inspired by Joseph Schwab’s (1982) conception of curricular deliberations.

An assessment in **WG1-ch2** is a deliberation process in which experts from different fields, in a number of disciplines and from different regions around the world, consider various perspectives on a certain concept/domain, and based on past literature, theories and deliberations, arrive at an informed definition. Grounding in this sense does not pretend to be fully objective and remains cognizant of the fact that those who engage in the grounding are humans. However, this grounding does aspire to be sensitive to cultural diversity within and across countries, and seeks to reach a level of concreteness that provides the project and the UNESCO Member States with enough to work with, along with ample room within which to navigate.

WG1-ch2 begins by locating flourishing among a number of close or related concepts such as happiness, subjective well-being, eudaimonic well-being and thriving. From there the

chapter offers a general overview of how flourishing is understood in different key disciplines including Philosophy, Psychology, Neuropsychology, Economics and Ecology. Next, the chapter introduces this project’s definition of flourishing and explains and elaborates upon central terms within the definition, such as ‘optimal continuing development’, ‘potential’, ‘living well’, ‘meaningful’ and ‘satisfying’. The definition offered does not stem from or relate to a particular theory of flourishing but rather draws on many concepts and perspectives. The next part of the chapter discusses education, emphasizing education as relationships and how this applies to teaching, learning and assessment. From there the chapter turns to connect flourishing and education and argues that the two are intertwined. Education, it is maintained, is essential for flourishing and flourishing can help to improve education. The chapter concludes by pointing to how democracy and cosmopolitanism can contribute to flourishing.

The chapter presents us with important advances that have emerged in the past decades that support the ISEE Assessment as an attempt to recruit such knowledge to the advancement of education in and for flourishing.

WG1-ch3 presents a broad exposition of the contribution of science to the advancement of flourishing by reviewing various breakthroughs in neuroscience, psychology and biology over the past two decades, as well as previous theories that also received further support during this period. We now know more about brain development, genetics, the interplay between the brain and its environment, the crucial role of nurturing relationships in early childhood and throughout life, mental health and trauma, and the fundamental role of social-emotional skills in our ability to conduct ourselves wisely and kindly in the world. Studies in these and other fields enable us to say with growing confidence that there are certain conditions, practices, mental states and capacities that are conducive to human flourishing. **WG1-ch3** thus presents us with important advances that have emerged in the past decades that support the ISEE Assessment as an attempt to recruit such knowledge to the advancement of education in and for flourishing. Some of

the strands it outlines are later developed in the various **WG3** chapters which focus on the science and experience of learning. The chapter also discusses some of the problems concerned with measuring flourishing and their implications for research in education.

Just as we know more, there is much that we do not know. Further, much of the knowledge gained from science does not directly translate into educational practice. The aim of **WG1-ch4** is to create a bridge between flourishing and education advanced in **WG1-ch2** and the scientific insights found in **WG1-ch3** regarding what contributes to flourishing. However, translating general notions, concepts and ideas into education and operationalizing them is not as straightforward as it might seem. The field of education has some distinct features and these have to be taken into consideration. One significant aspect of education is that educational systems, on all levels, are highly complex, hard to control and often

unpredictable. The chapter begins by acknowledging the nature of education as a dynamic system. It goes on to argue that education for flourishing must be systematic and multi-scalar, sensitive to context and informed by an interdisciplinary approach.

The chapter then discusses how education can best contribute to promoting flourishing. It presents two models. The first divides the educational process for flourishing into three central components: (1) curriculum, which encompasses teaching and assessment; (2) learning; and (3) flourishing aims and manifestations. The second model, which is the main contribution of the chapter, presents a novel curricular framework for education in and for flourishing. It suggests that education can promote flourishing through six curricular domains: environment, culture, society, technology, interpersonal and self. The chapter describes each of the domains and briefly explains their potential contribution to flourishing. It is important to stress that the list

of domains is not exhaustive, nor are the curricular domains siloed; rather, interrelationships between the curricular domains yield a variety of additional curricular possibilities. Further developing the model, the chapter then builds on the Delors Report's (**International Commission on Education for the Twenty-first Century, 1996**) four pillars of education, but extends them to six learning trajectories that reflect development in these curricular domains – learning to: know and think; do and evaluate; be and become; learn; live together; and live with nature. The last part of the chapter connects the curricular domains with the conditions and capacities conducive to flourishing.

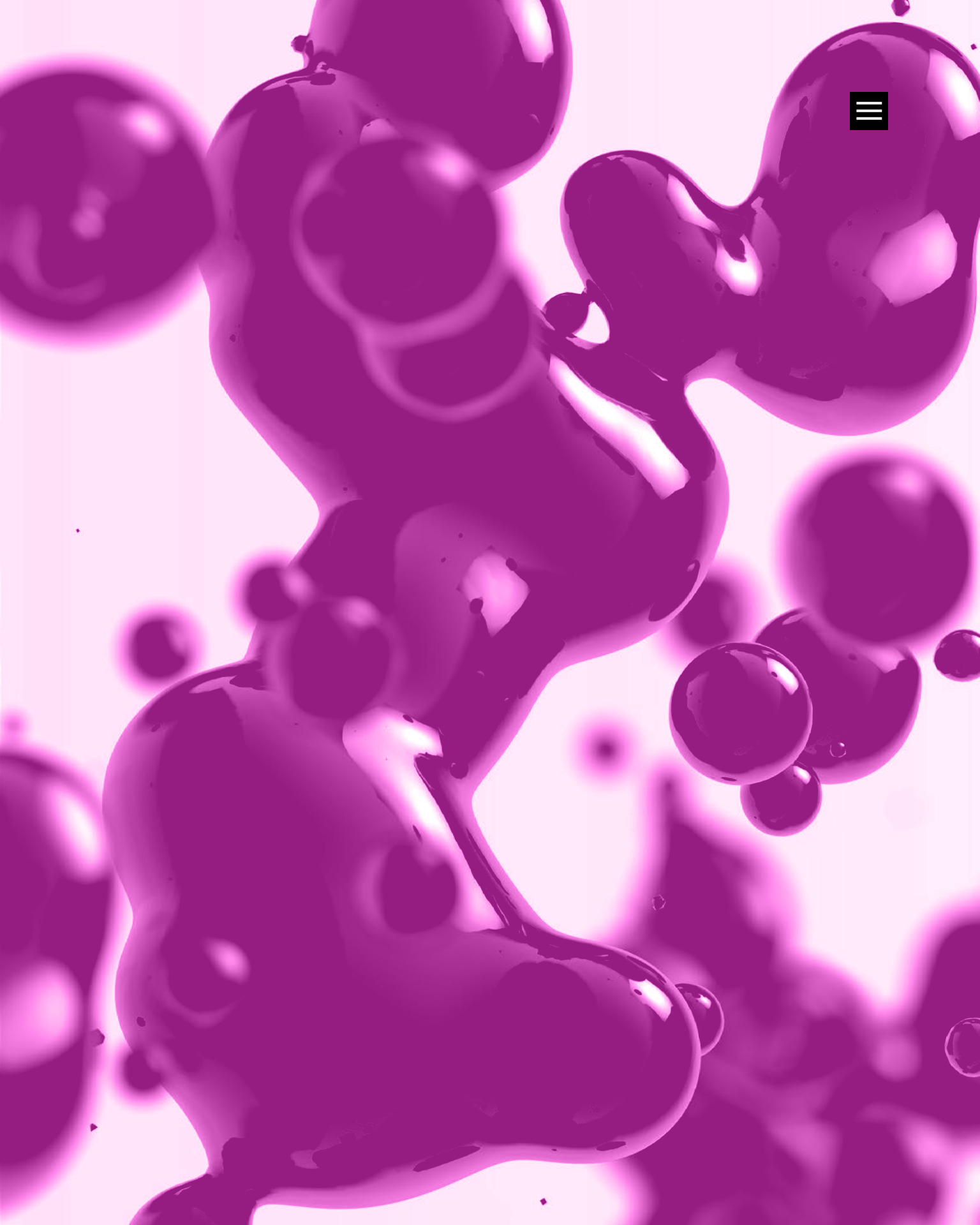
W61-ch5 moves from a macro level to a more micro one, from the level of policy to that of schools. Building on the concept of education advanced in **W61-ch2**, it discusses education for flourishing in schools in terms of relationships. Proposing a categorization that builds on the curricular framework proposed in **W61-ch4**, it stresses the significance

The second model presents a novel curricular framework for education in and for flourishing and suggests that education can promote flourishing through six curricular domains - environment, culture, society, technology, interpersonal and self.

of three types of relationships: (1) relationships with other people (or interpersonal relationships); (2) relationships with ourselves (or intrapersonal relationships); and (3) relationships to knowledge, subject matter or curricular content. Each of the three is not seen as standing on its own but rather as closely interconnected with the other two. In the chapter, the three types of relationships are examined from a variety of perspectives but remain focused on school and class levels.

WG1-ch5 starts by reviewing some philosophical ideas pertaining to these relationships and their ideal manifestations. Most of the chapter, however, is devoted to what we now know about these relationships in education and schools and how these should be designed to promote flourishing. Drawing on empirical research on a variety of subjects, such as teacher–student relationships, student–student relationships and students’ conceptions of curricular knowledge, the chapter provides valuable insights into a number of central questions

relating to flourishing in schools. Clearly echoing claims made in **WG1-ch3**, it points to, among other things, the significance of SEL and mindfulness for advancing flourishing in schools and discusses the conditions necessary for them to succeed. In addition, the chapter analyses the significance of school culture for increased flourishing and suggests ways to make it more conducive to this aim. From there the chapter explores the well-being and flourishing of teachers. It proposes ways in which these could be improved and elaborates on their significance. The chapter concludes by providing a compelling example that highlights the potential ability of schools to contribute to the flourishing of students, staff and the community.



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C H A P T E R

2

Education for flourishing and flourishing in education

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Abstract:

This chapter aims to elucidate theoretical meanings of flourishing and education, and the relation between them. Throughout history a variety of ideas about the nature and purpose of these activities has been developed. This chapter considers the purpose and aims of education. It will explicate what viewing this purpose or ultimate aim may mean in terms of human flourishing and how ideas about human flourishing influence thinking about the practice of education and vice versa, given they are perceived as being in a dialectical relationship.

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CHAPTER

INTRODUCTION

This chapter aims to elucidate theoretical meanings of flourishing, education and the relation between them. Throughout history a variety of ideas about the nature and purpose of these activities have been developed. This chapter deals with the purpose and aims of education. It will explicate what viewing this purpose or ultimate aim in terms of human flourishing could mean and how ideas about human flourishing influence ideas about the practice of education and vice versa (they are perceived in a dialectical relationship).

The chapter begins with an exploration and explication of various interpretations of ‘flourishing’ (conceptual and theoretical) as well as the normative claims that substantiate interpretations of flourishing. These are lenses through which one can describe flourishing. We propose a formal description of

human flourishing that is both general and comprehensive and explains all parts of them extensively:

Human flourishing is both the optimal continuing development of human beings’ potentials and living well as a human being. It means being engaged in relationships and activities that are meaningful, that is, aligned with both an individual’s own values and humanistic values, in a way that is satisfying to them. Flourishing is conditional on the contribution of individuals and requires an enabling environment.

Section 2.2 provides a justification for interpreting education as a necessary condition for flourishing, and **section 2.3** discusses how interpretations of flourishing and education influence one another. The chapter ends with a few recommendations about the use of the concepts in policy documents.



2.1

Meaning(s) of human flourishing

Human flourishing as a concept is envisaged and analysed in many ways. Thomas Kuhn (1970) alerted us to the influence of paradigms of thinking or theoretical goggles (lenses) in the examination of concepts – a paradigm or theoretical framework determines meanings that make up concepts. Theorists use different lenses to make judgements about particular

understandings of concepts; for instance, prominent thinkers such as Ludwig Wittgenstein (objectivism), Hans-George Gadamer (interpretivism), Jurgen Habermas (criticism) and Jacques Derrida (deconstruction) made different pronouncements about education. We use an interpretive–critical lens to analyse human flourishing and then examine

Our analysis of human flourishing in relation to education is not remiss of the fact that any understanding of human action such as flourishing and education cannot be delinked from societal practices such as culture, ethnicity, language, ideology, (non)religion and any other lived experience.

the consequences of such an analysis for education. Likewise, our analysis of human flourishing in relation to education is not remiss of the fact that any understanding of human action such as flourishing and education cannot be delinked from societal practices such as culture, ethnicity, language, ideology, (non)religion and any other lived experience (Taylor, 1985; WG2-ch1). Taylor (1985, p. 93) posits that ‘certain self-descriptions’ of human actions are constitutive of what makes such practices what they are. Our view is similar: the human capacity for common action is embedded in and informed by religion, culture, ethnicity and language.

Therefore, ideas about what it means to flourish and educate diverge. We do not intend to evaluate the religious, cultural or ethnic interpretations of human flourishing, but aim to develop an understanding of flourishing that can be accepted by everyone. It is therefore necessarily a formal explanation.

2.1 .1

LOCALISING FLOURISHING IN THE LANDSCAPE OF CONCEPTS AND THEORIES

Although we find the word ‘flourish’ only once in the Delors Report (**International Commission on Education for the Twenty-first Century, 1996, p. 126**), the concept is unmistakably present. For instance, in its description of a utopian world, the committee writes: ‘... education is at the heart of both personal and community development; its mission is to enable each of us, without exception, to develop all our talents to the full and to realize our creative potential, including responsibility for our own lives and achievement of our personal aims’ (**International Commission on Education for the Twenty-first Century, 1996, p. 19**).

Flourishing can be regarded as a particular interpretation of well-being. This means that 'well-being' is an umbrella term under which we can locate the two central concepts used to express an individual's well-being, namely happiness and flourishing.

Alexandrova (2017) states that a concern with human well-being is at the very root of modern social science. If there were a science of well-being or flourishing, it would be important to clarify a philosophy of science of well-being. With regard to such a science, Alexandrova (2017) states that there are three possibilities in our conception or utterance of well-being, which are relevant also to flourishing. Firstly, a circumscription approach to flourishing would aim to circumscribe the notion of flourishing in a particular domain. Philosophers used to follow this approach, describing what flourishing means and interpreting other uses of the term as careless, without any consideration for diversity. Secondly, in a differential realization approach the semantic content of 'well-being' or 'flourishing' does not vary, but acknowledges that how the state is realized varies with context. This is relevant to discussions of whether flourishing is a normative concept. That is, a human may realize flourishing in different ways, in different contexts. There

is not necessarily a normative expectation as to how they do so. Finally, contextualism, drawn from contemporary approaches within a philosophy of language, would assert that flourishing assertions themselves need to be indexed to specific circumstances or conditions. We adhere to the second interpretation, suggesting that it is possible to give a general description of flourishing and education, but acknowledging that their interpretations and realizations vary between cultures, traditions and human beings.

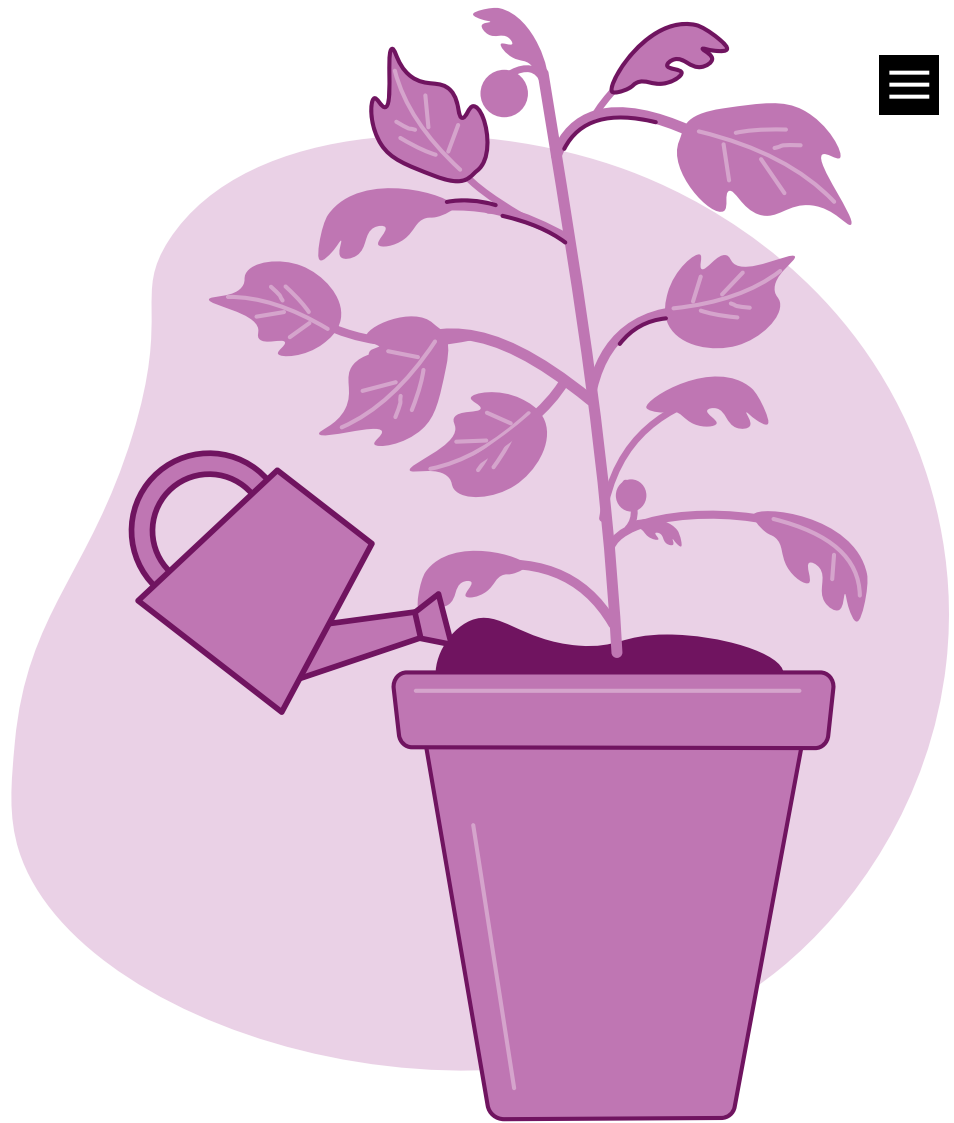
Flourishing can be regarded as a particular interpretation of well-being. This means that 'well-being' is an umbrella term under which we can locate the two central concepts used to express an individual's well-being, namely happiness and flourishing.

Although 'happiness' and 'flourishing' are sometimes used interchangeably, in both daily language and theory, it is important to distinguish clearly between the two, because they do refer to different types of well-

Characteristic of flourishing, is that individuals develop and enact their potential in an optimal way and doing so can mean that at times one has to be persistent, and overcome frustrations and negative emotions.

being. We note three differences. Firstly, in common language, the prime characteristic of happiness is a person's positive emotional state – when someone says they are happy, they express that they are in a good mood, exhilarated, tranquil or satisfied, etc. While we may need to know the person to have a better idea of the type of positive emotional state they are experiencing, we can make some inferences about their positive emotions. Flourishing, on the other hand, is used primarily in reference to an optimal state of something, be it a flower, a tree, a community or a human being. Human flourishing focuses on the ways in which human beings live their lives, for instance, those mentioned in the Delors Report (**International Commission on Education for the Twenty-first Century, 1996**) that people (can) optimally develop. A second and related distinction is that happiness is primarily evaluated from a first-person perspective – for instance, when a person says they are happy, it is deduced that they are happy. While outsiders may say that the person does not have good reasons

for being happy, the person's own evaluation of happiness is sufficient. Flourishing, however, also has criteria that are not subjective and therefore a person might be mistaken in saying they are flourishing. This is the same as for evaluations about the natural world, for example, we would be surprised if someone were to say that a tree that is affected by acid rain is flourishing. Thirdly, happiness can refer to feelings experienced during short periods of time, for instance when people have received good news or see their good friends again. We do not use the word flourishing in that way. When we say that we are flourishing or that another person is flourishing, we give a positive evaluation of a longer period in time and also about the quality of their life overall. The following example can clarify these distinctions. A homeless person who is addicted to crack can correctly say they are happy when they have just smoked their pipe, while we would disagree with them if they were to say that they are flourishing. It also means that one can say that one flourishes



even though there are periods in which one does not feel happy or is struggling to learn or do something (Badhwar, 2014a&b).

Characteristic of flourishing, as we explicate later on, is that individuals develop and enact their potential in an optimal way and doing so can mean that at times one has to be persistent, and overcome frustrations and

negative emotions. This contrasts with Aristotle's view of human flourishing, on the grounds that a virtuous person does not feel these negative emotions – this is precisely what distinguishes them from what he calls a continent person (e.g. Kristjánsson, 2020). Education could be a source of diminished feelings of happiness, not only because of the noted emotions while learning, but also because education could also

The subjective well-being theories presume that a) human beings themselves are the judges of their well-being and b) that people experience wellbeing when they have positive emotions about their life.

make one realize that there are boundaries to one's flourishing that one would not know if one had not been introduced to them. We defend good quality education for all human beings to enable their flourishing, not to enhance their feelings of happiness and defend it even if it turns out that unhappy episodes increase.

Happiness as a positive emotional state is what Haybron (2008) calls the psychological interpretation of happiness, which is a descriptive interpretation (pp. 31, 39) – it denotes that a person is happy, which can be investigated by simply asking a person about their feelings. This is a different concept than the concept of happiness as used in philosophical subjective well-being theories. Such theories describe and defend what

constitutes a happy life; normative criteria are introduced regarding the correct reasons for using 'happiness'.

In the academic literature, three main clusters¹ of well-being theories can be distinguished. By elucidating the differences, several characteristics of flourishing as a particular concept will become clear. Flourishing itself will be further elaborated upon in the next section.

The first group of theories are the so-called hedonic theories of well-being (e.g. Waterman, 2013). They are also known as subjective well-being theories. These theories presume that a) human beings themselves are the judges of their well-being and b) that people

¹Other distinctions have been made as well. We mention two examples. Firstly, within positive psychology, Waterman (2013) distinguishes: a) subjective well-being; b) psychological well-being (well-being as flourishing); and c) eudaimonic well-being (well-being as self-realization). Thus, he uses similar terms, but for different concepts: well-being as flourishing is called psychological well-being rather than eudaimonic well-being, while self-realization tends to be seen as an aspect of eudaimonic well-being rather than the complete description of it. Secondly, Tiberius (2013) makes a distinction between five types of theory: hedonism, desire-fulfilment, life-satisfaction, objective-list and nature fulfilment. These theories can be placed under the three groups of theories – the first would be an example of a hedonic theory, the second and third are examples of a mixed theory and the final two are examples of objective theories.

According to objective theories, persons live a life of well-being if they realize goods that are deemed to be objectively good for all people or if they develop or have developed their human capacities to the full.

experience well-being when they have positive emotions about their life. There are different types of subjective well-being theories but all suggest normative criteria as to what it is that should make people happy. For example, people can be said to be (truly) happy when they are able to: a) do what they most like doing (hedonism or actual desire satisfaction theory); b) fulfil the desires that benefit their interests (Griffin, 1986); c) live according to their values (Tiberius, 2018); and d) undertake activities that require high-quality human capacities (Mill, 1863). There are also theories that take positive emotions as the prime component and add other elements that have an objective character, like Seligman's (2010) PERMA model: Positive emotion, Engagement, Positive relationships, Meaning and Accomplishment.

The second group of theories are the so-called eudaimonic theories of well-being. According to objective theories, persons live a life of well-being if they realize goods that are deemed to be objectively good for all

people (Arneson, 1999) or if they develop or have developed their human capacities to the full. Central to these theories is the idea of optimal functioning, the pursuit of excellence of or the best in oneself (e.g. Kraut, 2007; Kristjánsson, 2020). Of course, theories about what constitutes optimal functioning or the pursuit of excellence may differ.

The third group of theories are the so-called mixed or blended theories. They see both the realization of objective goods as necessary for well-being and the positive evaluation of this by the individual. Mixed theories of well-being combine an objective standard as proposed by the objective theories with the subjective theories' claim that satisfaction with one's life is a necessary condition for well-being (e.g. Badhwar, 2014a&b). An example of a mixed theory is Joseph Raz's well-being theory, the conditions of which 'steer a middle course' (Raz, 1986, p. 308). This theory has influenced many analytic philosophers (of education) (in the context of this chapter, for



instance, De Ruyter (2007, 2018) and White (2011). According to Raz (2004, p. 292), well-being ‘consists in successful pursuit of valuable goals and relationships’. ‘Valuable’ means that they are whole-heartedly accepted by the individual (implying that the person is autonomous) and that the goals are worthwhile (they are believed to have value ‘at least in part independent of the fact that they were chosen and are pursued’ (Raz, 1986, p. 308).

The term ‘flourishing’ is used by proponents of all three types of well-being theories, but in the case of the first group only by theorists who introduce non-subjective criteria into their explanations of what it means to flourish as a human being.



In addition to demarcating flourishing from well-being, it is important to examine thriving. In popular language ‘thriving’ is often juxtaposed with ‘surviving’, drawing either literally or metaphorically from evolutionary biology. In paediatrics, failure to thrive indicates insufficient weight gain or possibly weight loss, not within the expected developmental trajectory. The old Norse etymology of thrive, *thrifa*, to grasp, to get hold of, is more informative than later usage which simply means to grow or increase. Growth or increase does not explicitly mention the environment which is being grasped, or got hold of.

Thriving, like flourishing, has its etymology in an organism in an environment. The term ‘thriving’ primarily describes the process of the dialectic with the environment; similar to developmental systems approaches, which assert that development of organisms can be influenced, involving a bi-directional relationship between genetic and cultural

factors. Semantic distinctions are important to education, as it is the very ‘taking hold of the environment’ which is closely related to many aspects of the development of educational potential. The operationalization of eudaimonic well-being within positive psychology and well-being science (Ryff and Keyes, 1995) includes environmental mastery and broader discussions of functionings, as does Sen’s justice theory, from an economic perspective.

2.1 .2

SOURCES FOR DEVELOPING A DESCRIPTION OF ‘FLOURISHING’

This section describes how the concept of flourishing is used in a variety of academic disciplines. The interpretations have been written by representatives from these domains and are meant

According to Aristotle, eudaimonia is that to which all human beings strive and is an end in itself, that is, human beings do not aim to flourish in order to realize something like wealth, happiness or spiritual enlightenment in life or after the current life of the human being.

to give a brief introduction to the breadth of interpretations of flourishing. Not surprisingly, the academic disciplines have their own language and highlight certain aspects of flourishing that are the focal point of their research – in neuroscience, for example, flourishing has a different denotation than in economics. The presented disciplines show the breadth in which flourishing is conceptualized and discussed and form another background for a description of flourishing.

INTERPRETATIONS IN PHILOSOPHY

The ancient Greek philosopher Aristotle was one of the first in the history of Western philosophy to develop a comprehensive theory of human flourishing, which he called eudaimonia (having a good soul or spirit). According to Aristotle, eudaimonia is that to which all human beings strive and is an end in itself (2009, p. 10), that is, human beings do not aim to flourish in order to realize something like wealth, happiness or spiritual enlightenment in life or after the current life of the

human being. It is not enough to know that human beings strive for flourishing, in order to discover what human flourishing is, one has to investigate what is characteristic of human nature (what is their function). He concludes that: ‘Human good turns out to be [an] activity of the soul exhibiting virtue, and if there are more than one virtue, in accordance with the best and most complete’ (Aristotle, 2009, p. 12). Human beings flourish when they act virtuously (e.g. Annas, 1993, p. 49; Aristotle, 2009; Curren, 2013; Dunne, 1999; Kristjánsson, 2013, p. 29; MacIntyre, 1967; Nussbaum, 1986; Pakaluk, 2006, p. 385). Being a virtuous person is the first central characteristic in Aristotle’s interpretation of flourishing. The implication is that children cannot flourish as they are not yet virtuous persons. The second characteristic is that flourishing is a ‘dynamic state’, as much an ongoing quest (activity) as a state of being (e.g. Rasmussen, 1999, p. 3; Kristjánsson, 2020). For Aristotle, this meant that a life can only be evaluated as flourishing from the perspective of an entire life and

'Flourishing' is also used by philosophers (of education) whose interpretation of 'flourishing' departs most significantly from the link between flourishing and virtuousness.

thus at the end of a person's life; people can meet great misfortunes later in life and this affects our judgement as to whether they lived a flourishing life. Yet, he did presume that it is possible to say that a virtuous adult is flourishing (Aristotle, 2009, p. 17), defending this by claiming that a virtuous adult will be able to deal with misfortunes well and make the most of their life.

Philosophers (of education) who are deeply inspired by Aristotle (e.g. Curren, 2013; Curzer, 2012; Kristjánsson, 2020) have differences of opinion if virtuosity is a necessary condition of human flourishing. Indeed, Kristjánsson (2020) suggests that it is sufficient for a person to act like a virtuous person while they are still overcoming intentions and emotions that counter virtuous action, which a truly virtuous person does not have to do. Examples include overcoming irritations caused by

one's impatience when helping an elderly person or countering one's prejudices against women in a job application process.

'Flourishing' is also used by philosophers (of education) who do not consider themselves to be neo-Aristotelians, but rather liberal or critical philosophers. Their interpretation of 'flourishing' departs most significantly from the link between flourishing and virtuousness. They suggest, for instance, that flourishing means: a) that a person is able to identify with the life they are living and that this life contains valuable objective goods (Brighouse, 2006); or b) wholehearted and successful engagement in worthwhile relationships, activities and experiences (White, 2007, 2011)². A recent prominent view on flourishing, developed by John Ehrenfeld, draws not only from philosophical theories but also from biology and psychology

²For an extensive overview of ideas of philosophers of education about 'flourishing' see De Ruyter and Wolbert, 2020.

In terms of human flourishing, research within empirical psychology has been influenced strongly by debates about hedonic versus eudaimonic conceptualizations of well-being

(Ehrenfeld, 2019; e.g. Interpretations in ecology and ecosystems, below, written by Ehrenfeld)³. In his existential or eco-systemic interpretation of flourishing, human flourishing not only requires a flourishing ecological system or viability (passing through genetically driven stages from birth to death, like all living organisms), but also existential flourishing. This may emerge when people can develop personal wholeness and live in a situation of social coherence. Personal wholeness springs from the uniqueness of every individual – it is an expression of authenticity, reflecting the person's own values and norms. Social coherence represents the systemic aspect of flourishing and 'is manifest through effective actions within institutions such that the objectives of the particular institutions are being attained' (Ehrenfeld, 2020, p.3). While viability is timeless, personal wholeness and

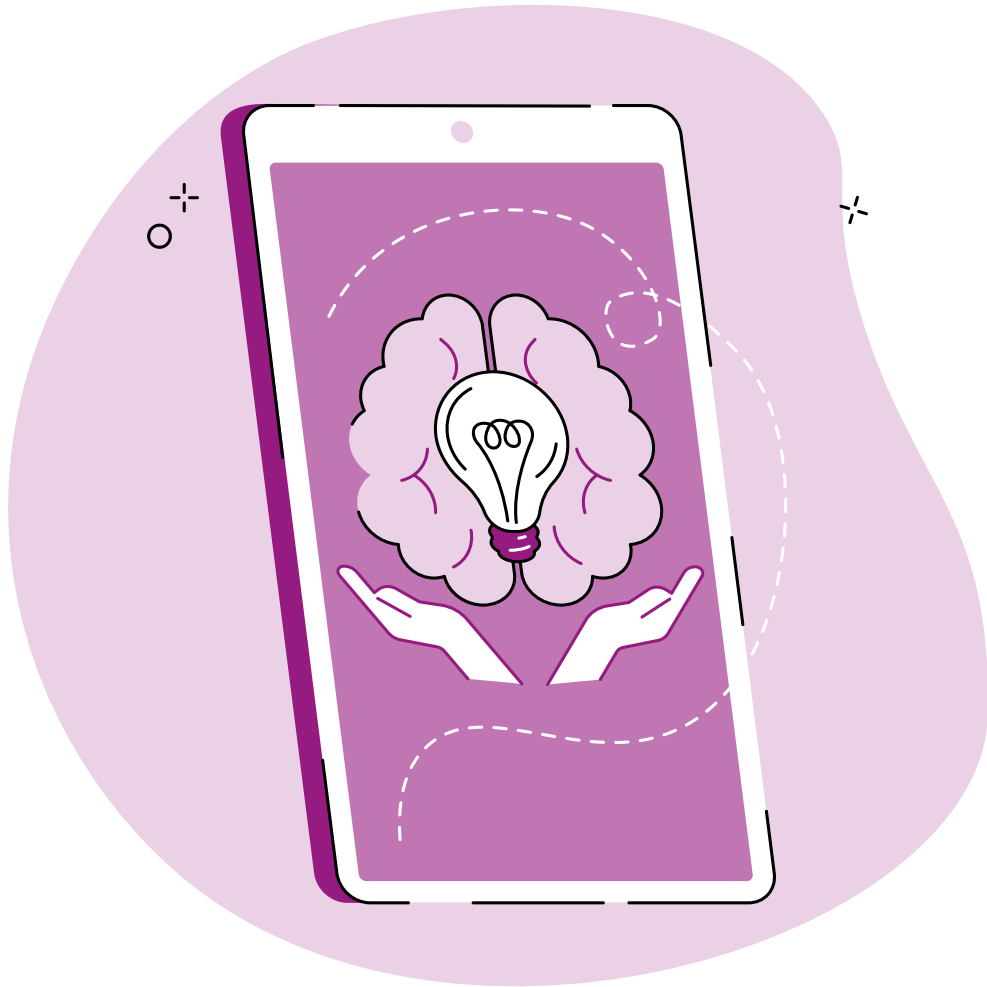
social coherence are historical and therefore relative to agent, time and culture.

INTERPRETATIONS IN PSYCHOLOGY⁴

In terms of human flourishing, research within empirical psychology has been influenced strongly by debates about hedonic versus eudaimonic conceptualizations of well-being (Waterman, 2013). With the increased interest in positive psychology as a subfield, this debate has intensified. The debates are particularly around how well-being is operationally defined so it can be measured (an objectivism lens) as opposed to meta-theoretical or philosophical explanations. Theoretical positions within psychology often revolve around the primacy given to cognition, affect or motivation

³We are also thankful for the various short texts that John Ehrenfeld sent us in the process of writing this chapter.

⁴This section also makes use of a short paper written by Nandini Chatterjee Singh.



and their respective effect on well-being. The measurement debate often includes the degree to which the characteristics of a person are stable traits or are attributed to the situation (immediate or ongoing external conditions). This section considers the recent trait-like taxonomy of character strengths, before considering the affective components of well-being and flourishing, and then comments on motivational aspects of well-

being and flourishing.

Peterson and Seligman's (2004) taxonomy of character strengths within positive psychology is a strong example of the conceptual links with eudaimonia and virtues. This approach classifies six virtues which are divided into 24 measurable character strengths and has been significant in making conceptualizations of

One noticeable change that emerged through these various models was that the concept of mental health began being phrased in positive terms rather than by the absence of mental illness

virtue ethics appear more tangible, measurable and teachable. This has led to a significant interest in such approaches from practitioners in workplaces and schools with the notion of identifying and using one's character strengths becoming well known, similar to people understanding their personality. This has spawned empirical research investigating the relationship between the use of character strengths and well-being and is also closely linked to the rise of the positive psychology and classroom intervention known as positive education (Seligman et al., 2009). Positive education refers to the use of approaches with empirical support from positive psychology used within educational settings, to enable students to learn and develop approaches which support flourishing and well-being. These approaches have become increasingly used, often based on Seligman's (2010) theory of well-being, better known by the acronym PERMA, which refers to positive emotions, engagement, (positive) relationships, meaning and accomplishment. With the

combination of character strengths and discussion of well-being through PERMA, aspects of popular discussion and student learning around the relationship between character strengths (indirectly virtue-ethics) and well-being (eudaimonism) has become more prominent and has led to further empirical investigation of these relationships in schools, workplaces and health services.

Bradburn's (1969) 'hedonic balance' focuses on emotion, and suggests well-being is maximized by a high ratio of positive to negative affect. Diener's tripartite model of subjective well-being describes how people experience the quality of their lives and includes both emotional reactions and cognitive judgements (Diener et al., 1999, 2018). Ryff's (1989) model of psychological well-being articulates six dimensions that are purported to be more directly tied to the philosophical traditions of the ancient Greeks and psychological theories from humanistic, existential and developmental traditions. The six dimensions are self-acceptance,

Self-determination theory posits that if conditions afford the opportunity for these psychological needs to be satisfied, a person will function better, that is, experience well-being.

environmental mastery, positive relations with others, autonomy, purpose in life and personal growth.

Ryan and Frederick (1997) propose the phenomenon of subjective vitality, defined as one's conscious experience of possessing energy and aliveness, which has been viewed as a reflection of both organismic and psychological wellness (Diener et al, 1999. 2018; Ryff and Keyes, 1995) and is therefore influenced by both psychological and somatic factors. As a marker of wellness, subjective vitality has the advantage of being a highly accessible, phenomenologically based variable that is content-free with respect to external criteria of well-being such as objective success, health, social supports or aspirational attainments. It is also a variable that can be meaningfully placed within both biological and psychological theories of human functioning (Ryan and Frederick, 1997). Keyes (1998) combines the dimensions of subjective and psychological well-being and adds to it a third dimension of social well-being.

One noticeable change that emerged through these various models was that the concept of mental health began being phrased in positive terms rather than by the absence of mental illness (Keyes, 2002). Thus, flourishing was meant to contrast not just with pathology but also languishing: a disorder intermediate along the mental health continuum experienced by people who describe their lives as 'hollow' or 'empty'. Fredrickson and Losada (2005) extend these ideas and describe 'flourishing' as a means to live within an optimal range of human functioning, one that connotes goodness, generativity, growth and resilience. Building on the emotional states of human beings, they propose affect to represent the spectrum of valenced feeling states and attitudes. While positive affect and positivity interchangeably represent the pleasant end (emotional states such as feeling grateful, upbeat; expressing appreciation, liking) negative affect and negativity represent the unpleasant end (e.g. feeling contemptuous, irritable; expressing disdain, dislike).

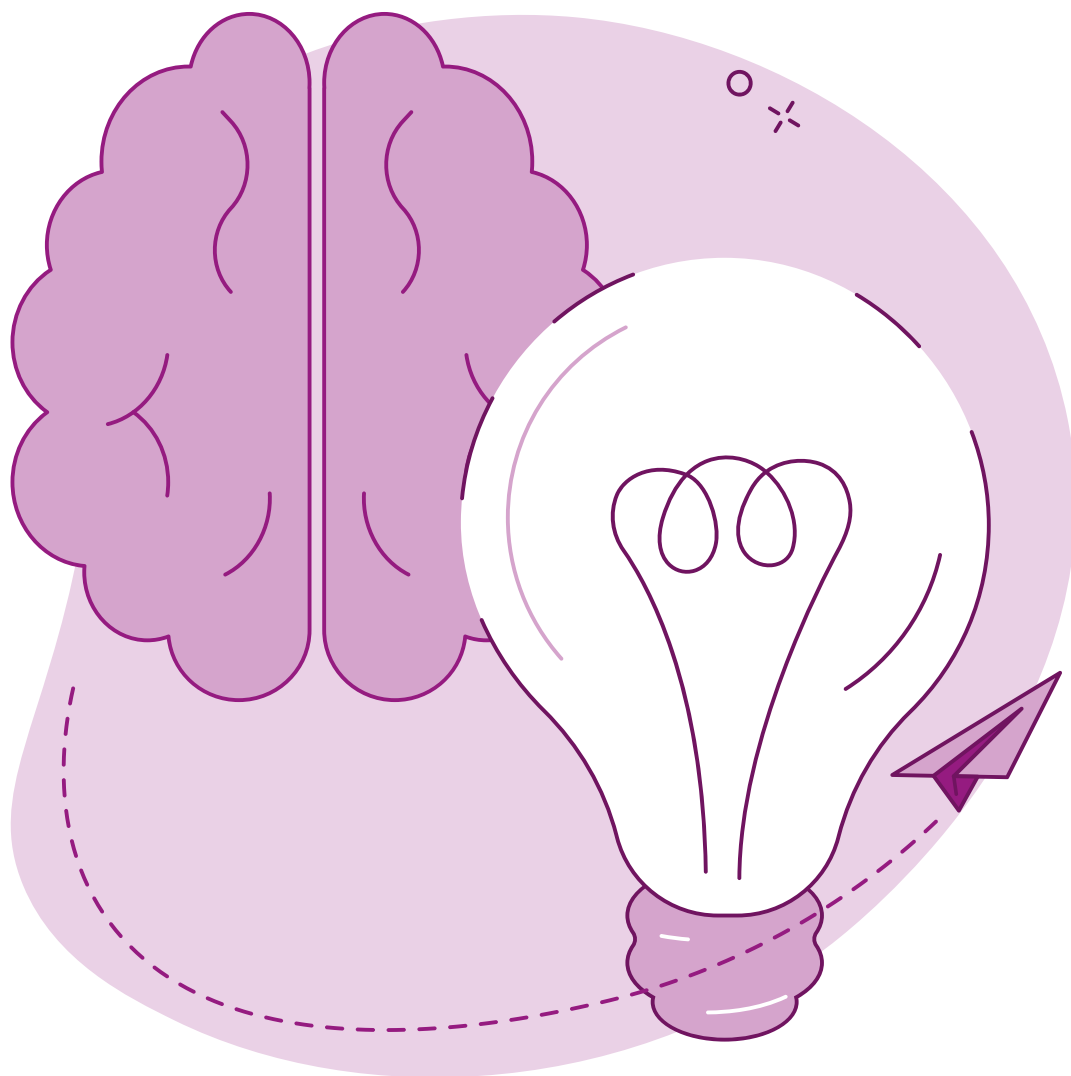
Advances in neuroimaging techniques have led to much interest and progress in unravelling the neurobiological circuits in the human brain that promote human flourishing.

In terms of motivational theories relating to flourishing, humanistic theories have the most relevance. Self-determination theory (Deci and Ryan, 1985), also known as organismic dialectical theory, in which needs are met via an interaction between the person (internal) and their (external) environmental conditions, is a needs theory of motivation, positing that humans have three universal psychological needs: autonomy, competence and relatedness. These are conceptualized as nutriments, necessary for psychological functioning, which have to be nurtured by the social environment. For instance, an autonomy-supporting teacher will provide greater choices and pedagogic opportunities for a student, whose intrinsic motivation to study will increase. Self-determination theory posits that if conditions afford the opportunity for these psychological needs to be satisfied, a person will function better, that is, experience well-being. Due to its conceptualization of optimal functioning, it is considered as an

eudaimonic approach to well-being amongst empirical well-being researchers (e.g. Ryan, Curren and Deci, 2013).

INTERPRETATIONS IN NEUROPSYCHOLOGY/NEUROSCIENCE

Advances in neuroimaging techniques have led to much interest and progress in unravelling the neurobiological circuits in the human brain that promote human flourishing. Much of this work has focused on uncovering links between brain circuits and human behaviour during states of flourishing. Broadly described as ‘positive neuroscience’ it seeks to unravel the neural mechanisms that support flourishing, psychological well-being, resilience and promotion of health (Kong et al., 2020). A recent meta-analysis of functional magnetic resonance imaging studies demonstrates that prosocial behaviour activates distinct regions of the brain that include the insula, temporal lobe and superior temporal gyrus. This is distinct from areas activated



during reward which include the lentiform nucleus, thalamus, caudate nucleus, parahippocampal gyrus and anterior cingulate cortex (Wang et al., 2019). These findings indicate the possibility of distinct neural circuitry in the brain

associated with human flourishing.

Along similar lines, a separate set of studies investigating neural circuits linked to eudaimonic well-being and subjective well-being find interesting divergence

These brain circuits underlying human flourishing can be cultivated by explicit training and can thus be taught like literacy and numeracy and should therefore be mainstreamed into education systems and classrooms.

in underlying brain areas. While the left middle temporal/fusiform gyrus is a hub node of a network associated with eudaimonic well-being (Diener et al., 2018), the left primary/secondary somatosensory cortex is a hub node of the network associated with subjective well-being, suggesting that eudaimonic and subjective well-being are localized in different regions of the brain. A number of brain imaging studies also document the role of mindfulness/meditation (Davidson et al., 2003; King et al., 2019; Zhang et al., 2019) and compassion (Klimecki et al., 2013) in improving well-being with an increase in prosocial behaviour. An important and notable feature here is the positive effect of regular training in the cultivation of well-being and flourishing. By examining the brain structure of Tibetan Buddhist monks, Davidson and colleagues show that regular meditation practices produce behavioural and structural changes in the brain that promote increased well-being (Davidson and Lutz, 2008). This emerging research has led to the exciting and encouraging proposition that

well-being and flourishing can be trained or cultivated by regular practice based on the principles of neuroplasticity, which is the ability of the brain to change due to training (Draganski et al., 2004).

How might these findings manifest in learning and education? Firstly, human flourishing has a neurobiological basis and requires specific brain circuits to be nurtured. These brain circuits contribute to the development of competencies of social and emotional learning that may be described as necessary skills that are required to equip all learners to identify and navigate emotions, practice mindful engagement and exhibit prosocial behaviour for human flourishing towards a peaceful and sustainable planet (Singh and Duraiappah, 2019). Secondly, these brain circuits underlying human flourishing can be cultivated by explicit training and can thus be taught like literacy and numeracy and should therefore be mainstreamed into education systems and classrooms. Thirdly, human flourishing has measurable outcomes which may

allow us to evaluate it in learning and education. These and many more ideas underlying the science behind human flourishing are discussed in **WG1-ch3**.

New insights and approaches from neuropsychology and neuroscience to the field of human flourishing suggest great promise and excitement not only in measuring and characterizing human flourishing but also in adding to our understanding of the neurobiological basis that is part of the different constructs of flourishing (Keyes, 2002; Diener et al., 2018). We look forward to newer insights and understanding of how flourishing as skill develops in the future

INTERPRETATIONS IN ECONOMICS

Until quite recently, mainstream economists have avoided discussing flourishing or related terms such as welfare, well-being and happiness. Nevertheless, concepts of flourishing, or what

makes life worthy, are an inevitable element of economic theory and always underlie it either explicitly or implicitly (Oswald, 1997). Up until the twentieth century economics was dominated by hedonic conceptions of flourishing or happiness. Grounded in utilitarianism, most economists, including Henry Sidgwick, Alfred Marshall and William Stanley Jevons, assumed that happiness is achieved by maximizing pleasure and minimizing pain (Sen, 2008). Some disagreement existed regarding what constitutes pleasure and pain and how to weigh them, but the basic principles of the hedonistic concept were retained (Juster, 1991).

In the second quarter of the twentieth century, the hedonistic concept of happiness was being gradually discredited in mainstream economic theory for being unmeasurable and unscientific and was eventually replaced by a preference-based approach (Drakopoulos, 1997). This move seemingly disconnected economics from happiness and flourishing because the latter

In the second quarter of the twentieth century, the hedonistic concept of happiness was being gradually discredited in mainstream economic theory for being unmeasurable and unscientific and was eventually replaced by a preference-based approach



were no longer needed to explain economic phenomena (**Harsanyi, 1996**). In practice, however, it led mainstream economists to implicitly embrace a concept of flourishing based on desire satisfaction. According to this approach, the more one satisfies one's actual desires, the better off one is (**Sumner, 2003**). In other words, we flourish when we receive what we want. The notion of desire satisfaction also stands as a basis of the relationship between

flourishing and material wealth. It is assumed that the wealthier we are, either as individuals or as a state, the more we can satisfy our desires or create the conditions that enable us to do so.

What characterizes concepts of flourishing underlining economics, both old and new, is a commitment to subjectivism and maximization. In economic theory it is assumed that each

individual is the best judge of their own interest (**Penz, 2008**). The economic commitment to subjectivism has both an epistemic and moral justification. It is held that one knows oneself better than anyone else and that from a moral perspective paternalism should be avoided (**Norton, 1994**). Economic concepts also assume that the level of flourishing results from the aggregation of positive experiences, be it pleasures in nineteenth-century conceptions or desire satisfaction today (**Hausman, McPherson and Satz, 2016**). The aim in economics is, therefore, to maximize positive experiences. In the nineteenth century the aim was the maximization of pleasure, but this was replaced by maximizing desire satisfaction.

Over the last few decades, the concept of happiness or flourishing that stands at the core of mainstream economics has been severely challenged from both within and outside the economic professions. Empirical research has revealed that increased wealth and the desire satisfaction it permits often do not result in

higher levels of reported happiness (e.g. **Easterlin, 1974; Layard, 2011**).

Empirical research has also shown that people often misjudge their own interest and make systematic errors in pursuing their own good (**Frey and Stutzer, 2002; Layard, 2011**).

In addition, many economists including, for example, Sen (**2000**), Layard (**2011**), Scitovsky (**1992**) and Frank (**1997**) have pointed to the theoretical limits of the existing conception of well-being or flourishing that underlies mainstream economics. It is argued that a person can live an impoverished life, from a third-person perspective, while satisfying their desires (**Sen, 2000**). It is also maintained that people's tendency to adapt to existing patterns of consumption makes it increasingly hard for them to experience happiness even when their desires are being satisfied (**Scitovsky, 1992**).

In addition, economists point to tension between public and private goods as a reason for why desire satisfaction might not result in better lives (**Frank, 1997**). Finally, it is suggested that attempts to maximize desire satisfaction damage the environment in ways

For all life forms, other than human beings, flourishing is a state wherein biological potential is realized

Humans interact as cultural entities within the myriad social institutions that constitute a society. Flourishing in this domain emerges when individuals act coherently within the structures of this institutional or cultural ecosystem.

that can hinder flourishing (Stiglitz, Sen and Fitoussi, 2009). These are, of course, only selected examples from a rapidly growing economic literature discussing the limits of existing mainstream economic conceptions of well-being and flourishing.

INTERPRETATIONS IN ECOLOGY AND ECOSYSTEMS

Flourishing is a particular configuration of the most basic telos of all living organisms: to exist in the world in such a manner as to reproduce themselves as individual organismic entities and as species. This telos has been named, variously: viability, autopoiesis and homeostasis. Living entities exist to maintain their life. This is not a tautology but the description of a dynamic, closed system.

For all life forms, other than human beings, flourishing is a state wherein biological potential is realized. Biological potential is manifest in the expression of genes. For humans, the biological

is complemented by an existential or cultural potential (Ehrenfeld, 2019). The biological component of flourishing emerges only if organisms live coherently with their natural habitat. Their genes contain an evolutionary record of such coherence. If the external conditions change such that their genetic phenotype cannot cohere, the species will disappear locally or may even become extinct.

Ecosystems provide proper habitats for all of the organisms they contain. The ecological system can be said to flourish when all the contained species pass through genetically driven stages from birth to death, that is, they flourish as individual components of the system. In this biological sense, human flourishing is no different from the flourishing of all other living organisms.

Human flourishing has a second social dimension because our ecosystem includes cultural as well as natural objects. Humans interact as cultural entities within the myriad social institutions that constitute a society. Flourishing in this domain emerges when

individuals act coherently within the structures of this institutional or cultural ecosystem. The human organism differs from other life forms in many ways, but one important aspect is self-consciousness and associated self-expression. Human flourishing, in addition to its dependence on these two systemic aspects, may emerge when an individual expresses that self, authentically, as an independent, autonomous entity – in other words, when they own and are responsible for their actions. All three conditions need to be exhibited, more or less continuously, over a period of time for flourishing to emerge. In this ecological sense, it is not a momentary phenomenon.

2.1 .3

DESCRIPTION OF HUMAN FLOURISHING

The interpretations of human flourishing found in the various

academic disciplines⁵ have informed us in developing a description of human flourishing that is both comprehensive and general in character: it does not favour a particular theory of flourishing and avoids using words that are associated with particular theories. Moreover the description is formal, allowing for various interpretations of the central elements of the description is formal, allowing for various interpretations of the central elements of the description (possibly informed by a particular worldview). And, as has been alluded to above, framing human flourishing in the context of an interpretive-critical perspective allows us to foreground some of its constitutive meanings as well as possibilities for human actions, including social change, human self-empowerment and liberation. We propose the following description:

Human flourishing is both the optimal continuing development of human beings' potentials and

Human flourishing is both the optimal continuing development of human beings' potentials and living well as a human being.

⁵It should be noted that we have also been informed by texts from other academic disciplines, such as that by the theologian Volf (2015).

living well as a human being. It means being engaged in relationships and activities that are meaningful, that is, aligned with both an individual's own values and humanistic values, in a way that is satisfying to them. Flourishing is conditional on the contribution of individuals and requires an enabling environment."

The description contains five central concepts that we shall expound upon below.

OPTIMAL DEVELOPMENT

Just as trees and flowers flourish in many different ways, we posit that optimal development is relative to an agent (agent relative), which is related to an individual's potential. Human beings share many potentials generally conceived, but individuals have different levels of potential and, therefore, what is optimal for A can be different from what is optimal for

B⁶. Thus, people's development should be evaluated against their own standards, not against those of others. Unlike in the natural world, we can also say that human flourishing is agentially relative – human beings develop potential in different ways (with influence from their cultural background, language, beliefs, etc.) and also to function well in different ways (see also next point). Furthermore, flourishing is a dynamic state of human development, but not necessarily a linear, progressive one.

Although optimal development is agent and agentially relative, there are still independent (pre) conditions of human flourishing; (pre)conditions that need to be fulfilled to be able to say that a human being is flourishing. Preconditions are described at the end of the chapter; here we focus on what are called constitutive conditions, that is, the conditions that allow us to say that people flourish.

These assumptions about the qualities of potentials also mean that determining or ascribing potentials does not automatically reveal how people should be treated or how pupils ought to be educated (education is not a technical enterprise).

⁶Note, however that the comparison should not be dependent on the circumstances in which they live (e.g. Nussbaum, 2006, 2011; Sen, 2000, 2008).



POTENTIALS⁷

According to Article 29 of the Convention of the Rights of the Child, children are entitled to develop their potential to the full. Whilst longstanding debates relevant to potential have existed

in the metaphysics literature, including Aristotle's notions of potential and actuality, the current purpose is to provide accessible insights into this area as it relates to human flourishing, particularly in the context of education.

⁷ It is possible to distinguish a fourth type of potential: potentiality. The potentiality of human beings refers to things (e.g. skills, dispositions) that are not there yet, that are in the making. Whether or not potentiality can be actualized is part of the quest (of life) of human beings, although educators can cultivate its development once it is discovered. The potentialities referred to above, for example, the potential of an author to write books is a skill that can be developed to bring about an altered state, that is, the authoring of a book.

What human potential means, or what it is, is not self-evident. A most insightful clarification of the concept comes from Scheffler (1985). There are two aspects of his theory that inform our description of ‘flourishing’, namely his presuppositions (pp. 11–16, 63) and his classification of three types of potential. Central to Scheffler’s (1985) theory is that: a) the stock of human beings’ potentials changes over time – some potentials are actualized and lead to other potentials; some are discovered later in life; some disappear after a certain age. Thus, there are no fixed potentials; ‘In no case is potential a metaphysical essence governing the predetermined direction of the subject’s development, nor is it a durable feature intrinsic to the subject’ (p. 63); b) human potentials can be positive and negative (people can be potentially evil and good); and c) not all potentials can be (harmoniously) attained. On the basis of these presuppositions, Scheffler (1985) argues that we require a normative evaluation of which potentials should be attained/developed in

particular ways. These assumptions about the qualities of potentials also mean that determining or ascribing potentials does not automatically reveal how people should be treated or how pupils ought to be educated (education is not a technical enterprise). In **WG1-ch4** a normative idea about which curriculum enables human flourishing is defended. Scheffler (1985) offers a helpful distinction between three ways in which ‘potential (s)’ can be used: as a capacity notion, a propensity notion and a capability notion.

Capacity represents possibility; ascribing a capacity to someone means that one denies a presupposed argument for the necessity that they cannot do/be(come) x. Having a capacity means that if the conditions are correct, someone will be able to do or become what the capacity indicates they are able to do or become. For example, saying that John has the capacity to play the piano means that if there were a piano he would be able to play it (Scheffler, 1985, pp. 47, 48). A capacity notion of potential

Approaches to capability are relevant to human flourishing through their emphasis on potential and optimal development and how conditions enhance that potential.

only denies that a person cannot acquire some characteristic, it does not say that they will. For example, psychologists have attempted to measure ability for some time, particularly through measurement of the construct of the intelligence quotient (IQ). Debates around the legitimacy of IQ measurement often relate to its malleability or environmental pre-conditions, namely whether it is or should be a measure of capacity, or whether it should be used to predict capability (Nisbett et al., 2012). Such debates remain highly relevant to education and education policy, for they elucidate positions about the objectivity of claims.

A stronger notion is the propensity notion of potential (Scheffler, 1985, pp. 52–58). The propensity to become something or other or to acquire a feature of a certain sort expresses that a conditionally predictable endpoint (which can be good or bad) will be reached if conditions x to z are present (p. 57). Thus, if we say that someone has the propensity to play the piano, they can predict

that they will do so if there is a piano, has had sufficient piano lessons and the time to practice. Propensity may also be compared to character strengths as a trait, such as propensity to contribute to individual fulfilment for oneself and others (Peterson and Seligman, 2004). Finally, the capability notion of potential refers to a person's effectiveness in promoting a designated outcome (p. 58). Having the capability to become x means that it can be predicted that a person will become x if they make the effort (p. 61). A capability is what is within a person's power to do and what they are free to do (p. 59). Capability is highly relevant to conceptualizations of flourishing because of its link to potential or becoming. Capability crosses multiple disciplines including economics, education and to a lesser extent psychology, which uses 'ability' more so, particularly through the measurement of the construct of IQ mentioned above.

In the economics discipline, Sen's (2000, 2008) work on capability is well known. Sen argues that a person's well-being depends



upon what they are actually capable of doing and being. An individual's substantive freedom to rationally choose to be and to do what they value being and doing is central for their flourishing and agency. Such agency is a key characteristic of humanistic values in which a human being is not totally predetermined by external conditions. Nussbaum's

(2011) capabilities approach emphasizes social justice and dignity in which freedoms or opportunities are created by a combination of personal abilities and political, social and economic environments. Robeyns (2016) offers capabilitarianism as another name for the capability approach and highlights that the capability approach is a normative

Philosophical theories that draw on Aristotle's view of flourishing propose a naturalistic interpretation and refer to aspects that are characteristic of human beings, not of monkeys or ants.

framework which includes a family of (capability) theories. All capability theories focus on what a person is able to be and to do (their capabilities) and/or those capabilities that they have realized (their functionings). These and other approaches to capability are relevant to human flourishing through their emphasis on potential and optimal development and how conditions enhance that potential.

LIVING WELL AS A HUMAN BEING

Philosophical theories that draw on Aristotle's view of flourishing propose a naturalistic interpretation and refer to aspects that are characteristic of human beings, not of monkeys or ants. Some theories of human flourishing focus strictly on what is typical of human beings in contrast to other types of beings (e.g. Aristotle, 2009; Foot, 2001), while others have a wider scope and include characteristics that human beings share with other species, like feelings, or the things that are good for human beings (what they

need to flourish), which can be good for non-human beings too (e.g. Holma, 2007; Nussbaum, 2006).

Defence of this wider notion of naturalism is plausible, for the potential of human beings is related to their nature. However, this does not imply that human beings are determined by their nature. Empirical research on the influence of genetic make-up and the environment on human development shows time and again that (the interaction between) the two explain an individual's character and behaviour (e.g. Rutter, 2006; Plomin, 1990; Interpretations in neuropsychology/neuroscience, above). Thus, human beings' potential develops and is enacted in various ways. For instance, a person who is technically skillful can develop these capacities in various jobs and hobbies. Curiosity can lead to explorations within the confines of one's house or the wish to venture out into the world, but is also required for being an active citizen, a critical consumer and for learning in general. Furthermore, while at a general level we could say that human beings share the

From the explication of potential and naturalism we conclude that flourishing is a hybrid concept: it is naturalistic, culture dependent and agent relative.

same potential, at a more concrete level we see that individuals have different potentials. For example, not all human beings have the capacity for high jumping, playing a flute, or becoming a proficient carpenter or a minister of education. Both the individual diversity in potential and the variety in which people can develop and enact their potential, means that human flourishing is agent-relative: human beings flourish in their own way (Aristotle, 2009; De Ruyter, 2012; Foot, 2001; Huta, 2013; Kraut, 1979; Rasmussen, 1999).

Another point of contention is whether human flourishing simply means the optimal development of the natural capacities of human beings. We suggest that this is a simplistic and mistaken idea, because it cannot be denied that human beings have potentials that are detrimental to themselves and others and/or enact them in a way that is detrimental to themselves or others. This means that a normative evaluation of human potential is necessary. Kraut (2007), for instance, proposes that we should not begin with

(human) nature and suggests that this is always good for us, but when we look at human activities and practices that we believe to be good and investigate what is characteristic for them, ‘we say that nature gave us something good in all these cases’ (p. 147). For example, when we look at the ways in which people around the world dealt with the COVID-19 crisis in 2020, we can say that they were able to do so because of their intelligence, creativity, empathy, sociability and physical capacities.

The human capacity to make normative evaluations is one reason to reject a simple deduction of human flourishing from given capacities or human needs and can explain that people live different flourishing lives (e.g. Foot, 2001). Human beings differ from other living creatures in that they are normally able to change themselves intentionally (if the circumstances in which they live allow them alternative routes and if they are not hindered by serious psychiatric disorders or intellectual disability), because they are able to reflect on themselves and their



environment. This ability for reflection includes their evaluation of the ways in which they best develop their potential and enact it to live a good life. This will be more or less influenced by their cultural environment. For instance the majority of women around the world will believe that they flourish when they develop their nurturing and caring potential to look after their children. This capacity means that evaluating whether a human being is flourishing has a subjective dimension as well. We will return to this below.

From the explication of potential and naturalism we conclude that flourishing is a hybrid concept: it is naturalistic, culture-dependent and agent-relative. Flourishing is also both objective and subjective: there are potentials that human beings need to be able to develop and enact to say that they are flourishing, but human beings also have their own views, preferences and desires about the ways in which they best develop and enact their potential.

There are aspects of living that are good for all human beings, simply because they make a life a human life. We identify three main categories of what constitutes 'good': firstly, having relationships (with family members, friends, community members, citizens, animals and the environment); secondly, being engaged in activities (e.g. play, work, learning, caring); and thirdly, agency. Note that these categories are general and the ways in which they are enacted are influenced by the culture in which humans live and are dependent on or relative to what is good for an individual human being.

MEANINGFUL

Not every relationship and activity that human beings engage in is an expression of their flourishing. When human beings are forced into a relationship or activity (like work) that does not align with their (deepest) values and potential or when they only act out of self-interest to the harm of others, we argue that they do not

We identify three main categories of what constitutes 'good': firstly, having relationships; secondly, being engaged in activities; and thirdly, agency.



fully flourish as human beings. In the first case such relationships or activities are not meaningful to the individual, because they cannot be a source of significance for them, in other words they do not contribute to the individual's belief or feeling that what they do matters. Nor can they be a source

for a sense of purpose; in other words, they do not contribute to an individual's reasons for living their life (in a certain way) (e.g. **Martela and Steger, 2016; George and Park, 2016 about the dimensions of meaning in life**). The more dominant the meaningless spheres of life, the bigger the impact



Central humanistic values are: negative and positive freedom, that is, being free from inappropriate interference from others and being free to engage in activities and relationships

on a human being's flourishing. However, meaninglessness can affect people in different ways. For instance, while Aisha experiences feelings of worthlessness and depressive moods because of her monotonous job, Bellah sees the job as instrumental in being able to live a meaningful life. While Bellah could be said to flourish at a higher level if she had a meaningful job, she can still be regarded as a flourishing person. When people act out of self-interest only (the second case), the relationships or activities undermine the meaning, in the sense of having importance, of someone or something else and therefore cannot be meaningful. Thus, relationships and activities are meaningful when they are a source of significance and purpose.

This resonates with Susan Wolf's (2010) view which suggests that meaning in life 'arises from loving objects worthy of love and engaging with them in a positive way' (p. 8), involving 'subjective and objective elements, suitably and inextricably linked' (p. 9). Further, meaning arises 'when

subjective attraction meets objective attractiveness' (Wolf, 2010, p. xii). This idea is also expressed by the psychologist William Damon (2009), who has written extensively on (the development of) purpose in life, and suggests that 'purpose is a stable and generalized intention to accomplish something that is at the same time meaningful to the self and consequential for the world beyond the self' (p. 33).

VALUES

Tiberius's (2018) value fulfilment theory of well-being proposes that our lives go well to the extent that we pursue and fulfil our appropriate values. Tiberius (2018) asserts that we live well when we succeed emotionally, reflectively and over the long term. Well-being is a life rich in value fulfilment and momentary well-being is considered within a whole-of-life perspective. This leads to the question of what are values, or what is the activity of valuing? Tiberius (2018) states that we are motivated to promote or

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pursue the values to which we are committed and that we are likely to react emotionally if our values are helped or threatened. Valuing here is also a judgement that something is good in some way. Values in this sense are seen as generating reasons for us to behave in a certain way. Likewise, what seems to underscore a value fulfilment theory of well-being is that a human's capacity to proffer reasons is considered as interconnected with their emotional disposition. In this way, reason and emotion are intertwined as by implication a value fulfilment theory of well-being recognizes both the significance of proffering reasons and internalizing emotions.

Central humanistic values are: negative and positive freedom, that is, being free from inappropriate interference from others and being free to engage in activities and relationships (for

which human beings tend to need support from others, for instance in the form of protection or in the case of young people, in the form of education)⁸; equality and equity of human beings; solidarity with (groups of) human beings; care for sentient beings; and care for the environment.

Moral values have a particular status among the values of a flourishing person. While flourishing persons do not have to be or aspire to be morally sanctimonious, it is characteristic for them to value the flourishing of other human beings. At a minimum, they respect the negative freedom of others and, if they have the opportunity, contribute to the possibility that others can flourish as well. The first is less demanding than the second and therefore the moral value in contributing to other people's flourishing is qualified; not according to their intention of

⁸The terms positive and negative freedom were introduced by the philosopher Isaiah Berlin (in an article in 1958 that was reprinted in 1969 and in many other sources that are freely available on the internet) for the two ideas (or what people would call types) of freedom or liberty mentioned.

whether or not they want to do so, but dependent on what people are able to do. Some are in a situation whereby they can only contribute to the flourishing of people close by, while others have the means and the opportunity to help large groups of people or people further removed to flourish. This is not based on the view that flourishing people are naturally inclined to act morally or that they always act morally (although they will feel ashamed or guilty if they have done something immoral) or that they do not have to overcome other desires and negative emotions. There are ample empirical illustrations that such presumptions are not true. They do, however, point to the importance of education in which these humanistic values are fostered. In this way, flourishing and education seem to be intertwined on the basis of shared moral values.

SATISFACTION

People can be said to flourish when they enact their potential

irrespective of whether they affirm that they are doing so or whether they are satisfied with the way in which they are able to lead their life. This, however, does not seem to cohere with our common understanding of human flourishing. It seems incorrect to say that someone flourishes if they do not share that evaluation or if they are unhappy with their life (which could be a clinical depression, but also a 'healthy evaluation' of what their life turns out to be). Therefore the description includes a subjective evaluative dimension of flourishing.

Satisfaction has both a cognitive valuative and emotional dimension. Human beings flourish if they: a) can (authentically) affirm that their life is good, that is, they have reasons for giving a positive evaluation; b) have overall positive feelings about their life (they are happy), which does not mean that they have to have these positive feelings all the time or about everything they do.



2.2

Description of Education (and teaching, learning and evaluation

Education, like any other concept, is constituted of meanings that give it form and matter. A formal

element of a concept refers to the rationale or guiding principle that gives it its form, whereas matter



Within teaching, there is a relationship among teachers and students. Likewise, learning denotes a relation among learners, teachers and texts.

refers to the many ways in which a concept manifests in actions, referred to as practices (**Kovesi, 1970**). A form of education is the activity that describes education as a human relation. In other words, without a form of human relations, education cannot exist. Education is what it is on the basis of humans' relations with themselves and others: humans and other humans, human and non-humans and humans and the environment.

Towards the end of the fifth century B.C., Greek sophists explained education as training for promoting individual happiness (**Graves, 1926**). In opposition to such a view on education, Platonists and Aristotelians understood the concept as a synergy between an individual and a democratic society. Subsequently, the influences of scholastic thought resulted in education being conceived of as a human practice underscored by acts of reason and faith. It was only after the Age of Enlightenment in the 18th century that Kant (**1996**) and Rousseau took further

the idea that education is an act of rationality. In the nineteenth century, education was understood as an act of uniting the self and the world in the Anglo-Saxon world, and in Europe as *Bildung*—a matter of enculturating (civilizing or cultivating or moralizing) the autonomous self in the world (**Lovlie and Standish, 2003**). Other than the dominant Western notion of *educare* (to nourish or train) (**Winch and Gingell, 1990**), in Muslim society, education is also referred to as *ta'dib* (good education) (**Al-Attas, 1991**), whereas *ubuntu* (human dignity and interdependence) is most poignantly used in relation to education on the African continent (**Waghid, 2014; WG2-ch8**). Therefore, we recognize that there are multiple understandings of education based on different cultural and religious orientations.

Elements of matter manifest in practices such as teaching, learning and evaluation. Put differently, teaching, learning and evaluation are multiple ways in which the concept of education is realized. Within teaching, there

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is a relationship among teachers and students. Likewise, learning denotes a relation among learners, teachers and texts. In a similar way, evaluation is underscored by relations among evaluators (teachers) and evaluatees (students). Consequently, teaching, learning and evaluation can be considered as educational activities. It is the concept (form) of education that organizes the many ways (matter) in which teaching, learning and evaluation unfold. In other words, the concept of education is constituted by the acts of human relations that in turn give rise to how teaching, learning and evaluation are organized.

In considering education (paideia), Rorty (1999, p. 117) posits that human relations are guided by two necessary and equal processes, namely, socialization and individuation. Socialization involves familiarizing students with what teachers consider to be true, whether it is true or not. In other words, students are socialized into an inherited tradition of knowledge that prepares them for a future

political, social and economic life (Rorty, 1999, p. 118). Individuation prepares students to think critically and to challenge the prevailing consensus about what is considered as true (Rorty, 1999, p. 118). Rorty's interpretation of socialization is similar to both what Biesta (2015, p. 77) identifies as qualification that involves the transmission and acquisition of knowledge, skills and dispositions that qualify students to do something for a particular profession, and the socialization function of education, which is the introduction of the younger generation into the ways of society and communities, their social, cultural and political orders. In addition to qualification and socialization, Biesta distinguishes the function of subjectification (2015, p. 77). Subjectification, similar to individuation, concerns the ways in which students come to exist as subjects of initiative and responsibility rather than as objects of the actions of others (Waghid and Davids, 2017, p. 39).

The question arises: If education is underscored by the notion of

In learning, students act as human agents intent on coming to make sense of what they are taught. That is, their learning becomes significant on the basis of their potentialities being evoked to see the point.

a human relation, what makes teaching, learning and evaluation what they are or become? Firstly, when one teaches one provokes students to come to understanding. Teaching would not be teaching if students were not aroused to see the point (Greene, 1995). The point about teaching is that it implies a relational act according to which students are encouraged to act in particular ways. And, to provoke students implies that they are invited to think for themselves – a matter of being summoned to come to understanding. Secondly, learning happens when students' potentialities are evoked to come to understanding in agential ways of being and acting (MacIntyre, 1999). Learning would fail to be learning if students' potentialities were not evoked in the quest to gain understanding and insight, and be encouraged to embark on academic, political, economic, social and environmental activism. In learning, students act as human agents intent on coming to make sense of what they are taught. That is, their learning becomes significant on the basis of their

potentialities being evoked to see the point. When their potentialities are evoked they exercise their freedom to think for themselves and make sense of the world around them. Exercising one's freedom is a matter of acting with autonomy. And, when one does act with autonomy one creates opportunities to come to understanding, that is, one constructs meanings, critiques and differences with others. Simply put, one exercises one's freedom in a positive way. However, one can also act freely in a negative way whereby one articulates claims unconstrained by the freedom of others. Of course, exercising one's freedom in an unhindered way can also be disadvantageous for one's relations with others because one might act unjustly towards them. And, when one exercises one's freedom in a negative way, unhindered by the freedom of others, there is always the possibility that one can act unjustly towards others. Hence, negative liberty might not necessarily be advantageous to cultivating just human relations. In agreement with Gutmann



(2003), acting freely should not be left unconstrained, especially if justice towards others is undermined. Thirdly, evaluation involves making reasonable

judgements about what is taught and learned, that is, as a form of deliberative inquiry teachers make sense of what students proffer as a consequence of their

In sum, education is constituted by the act of a human relation.

learning. Evaluation would not count as evaluation if reasonable judgements were not proffered about what constitutes teaching and learning, and if such judgements were not determined in deliberative action. To evaluate as teachers do, and to be evaluated as students are, does not happen in isolation but rather, in a way that both teachers and students can justify. When teachers justify their evaluation of students' work, they give an account of why students produce work of a specific kind, that is, they provide a justification for their evaluation.

Like education, teaching and learning involve human relations. Drawing on the seminal thoughts of Spinoza (2007), teaching and learning happen when teachers and students act responsibly and responsively towards one another. Human flourishing can be achieved when teachers and students act in ways that are desirable not only for themselves as individuals, but also for all others. As argued elsewhere, when teaching and learning lead to the inculcation of goodness

and equal respect and dignity for all others, then teachers and students become free to actualize their own potentials in ways that will not cause harm to others (Davids and Waghid, 2019b). Thus, teaching for Spinoza (2007) is not individualistic, egotistical or insular but is about engaging with students and the world in which they live so that whatever students learn not only changes who they are for the good but also addresses social injustices that might hinder their flourishing. Self and collective fulfilment (flourishing) would be wanting if teachers and students did not act freely and rationally driven by a desire to honour and respect one another in their relations. In this way, human flourishing also seems to be related to the selfdoing things collaboratively with others so that together the selves undergo an alteration. In other words, teachers and students act in the interests of one another – a matter of being responsive to one another – when they recognize one another's presence as speaking beings capable of making judgements about that

We contend that human flourishing has greater potential to be realized if it is considered in relation to an understanding of education that holds the promise for human flourishing.

with which they agree or disagree. Showing dissent (disagreement) is a matter of recognizing differences in others' claims that encourages an individual to adjust and re-articulate their own formulations. In this way, students learn to speak more confidently and teachers act with care (Waghid, 2019, p. xv).

In sum, education is constituted by the act of a human relation. When an individual thinks on their own they do so privately or in relation to their inner self, possibly comparing their thoughts with existing ones on a particular matter. Through education, an individual's thoughts commune with an external other self. Thus, the individual connects their thoughts with those of others, even in a private sphere. In this way, education is both a private and public experience where the thoughts of one person can be brought into conversation with those of others. If such a relation were not present, education would not be possible. This rationale of a human relation organizes teaching, learning and evaluation in specific ways.

We have identified teaching as provocation, learning as evocation and evaluation as deliberation on the basis that these human acts are manifestations of how education manifests in institutions and practices. In light of such an understanding of education, we contend that human flourishing has greater potential to be realized if it is considered in relation to an understanding of education that holds the promise for human flourishing. If education

2.2 .1

were not enacted through the agency of provocation, evocation and deliberation it might not be possible to realize human flourishing in the ways suggested above (WG2-ch8).

DEMOCRATIC AND COSMOPOLITAN EDUCATION

The notion of cosmopolitan education is one that engenders human relations that are inclusive despite its emphasis on difference and otherness

We posit that human flourishing is particularly enhanced by a form of education that is democratic and cosmopolitan. Considering that education is constituted by the idea of a human relation, such a relation, if it is democratic and cosmopolitan, has the potential to enhance human flourishing. Gutmann (1987), Callan (1997) and Benhabib (2004) place a high premium on democratic engagement in the pursuit of cultivating educational relations among humans. According to Gutmann (1987) humans act democratically when they exercise their individual freedom autonomously (independently) and interdependently with other humans. When humans act independently and in collaboration with others the possibility of, and opportunity for, learning together and making defensible and collective ethical judgements would be enhanced. Benhabib (2004) posits that democratic iteration is at the core of democratic education. That is, when humans listen attentively and converse with one another in educational contexts, their forms

of engagement are invariably altered and renewed in relation to a democratically inspired ethical opportunity (Davids and Waghid, 2019a, p. 25). Callan (1997) avers that educational relations among humans ought to be guided by ethical confrontation so that humans use their opportunity to recognize the right to contest views and engage in dissent as they endeavour to persuade one another through deliberation and conciliation (WG2-ch8). The point about democratic education being constituted by autonomous and interdependent action, iteration and ethical confrontation is that humans create opportunities to engage openly and freely with one another's views, take responsibility for one another's views, and although they would be provoked by confrontation they would continue 'to speak their minds without being silenced, even when their views are provocative and dissenting' – a matter of exercising their human agency towards freedom (Davids and Waghid, 2019a, p. 47). In other words, through democratic relations, their education would

In our elucidation of human flourishing three prominent concepts emerged in relation to the notion of potential(s): capacity, capability and propensity.

be individually and collectively pursued on the basis of disturbing doubts about one another's claims. In this human relation, flourishing becomes conditional upon acts of democratic engagement, that is, interdependence, iteration and ethical confrontation.

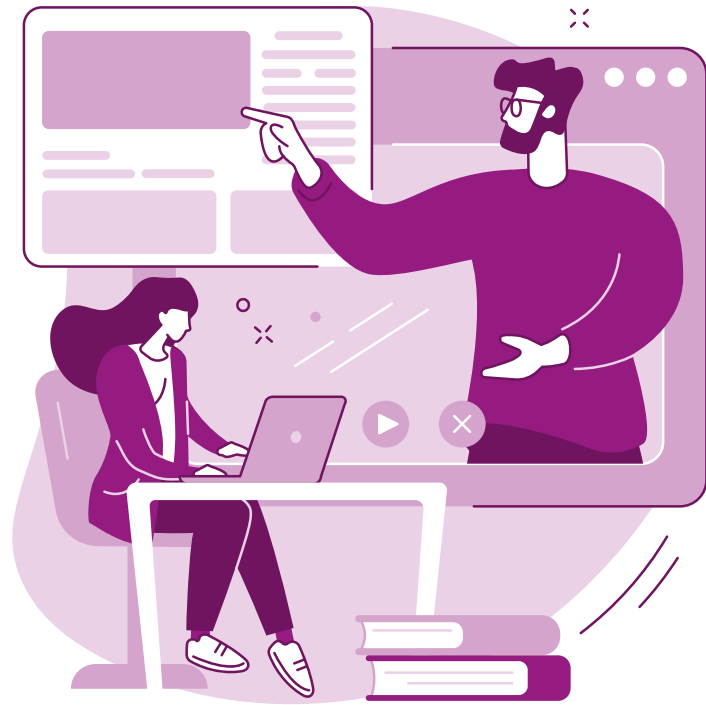
The notion of cosmopolitan education is one that engenders human relations that are inclusive despite its emphasis on difference and otherness. Nussbaum (2000), Derrida (2010) and Hansen (2011) proffer understandings of cosmopolitan education that can enhance human flourishing. Nussbaum (2000) argues for a notion of universal hospitality, in particular having respect for cultural differences and enacting human responsibility that can contribute towards confronting human problems on the basis of critical argumentation and deliberation as human beings endeavour to eradicate prejudice, inequality and injustices vis-à-vis their educational concerns. Derrida's (2010) view of cosmopolitan education is premised on an understanding

of human relations underscored by a notion of unconditional hospitality. This view of unconditional hospitality is one of interruption whereby humans are prepared to forgive the unforgivable in order to eradicate hatred, resentment, torture, genocide and other crimes against humanity. Hansen (2011) takes a different look at cosmopolitan education and makes a cogent case for the notion of a reflexive openness to the self and what is known to the self. In other words, cosmopolitan education as pursuing a reflexive openness to the self implies that a person has to be open and reflexive towards that which is known to them – a matter of performing self-introspection and self-critique. Only then, the possibility exists for the individual to be open and critical to that which is not known to them. Hansen makes the case that cosmopolitan education is about enhancing a reflexive openness to that which is still in becoming. The notion of a cosmopolitan education with its emphasis on cultivating universal hospitality, unconditional



hospitality and a reflexive openness to what is known and yet to come can create opportunities to possibly enhance human flourishing. This is so on the basis that human flourishing depends

on the cultivation of relations that resonate with hospitality, unconditionality and reflexive openness to the known and what is still to come. It is in hospitable, unconditional and reflexively open



2.3

Relation between human flourishing and education

relations that humans' education contributes to their opportunities to flourish.

In our elucidation of human flourishing three prominent concepts emerged in relation to the notion of potential(s): capacity, capability and propensity. If one were to explain human flourishing in light of potentials it could be that one shows the capacity to accomplish a task, for instance, writing poems; one demonstrates the capability to

author poems; and one shows the propensity to accomplish the art of poetry. In all three instances, one has drawn on one's potential to write poems. But then, in showing one's prowess to write poems one equally becomes adept at taking poetry into a new realm. Thus, one shows the potential to write poems and to produce novel ones. When one's potential to pursue poetry is accentuated, one invariably draws on the thoughts of others both rationally and imaginatively; it brings one into

Flourishing enhances education – when teachers and students flourish in their teaching and learning, in other words when they can develop their potential and live well and when teaching and learning are meaningful to them, their relations will prosper and both the teaching and learning will be higher in quality.

a relation with others albeit in reality or fictitiously. On this basis, pursuing one's potentials seems to be connected to one's flourishing and in turn, one's flourishing depends on one's relations with others and otherness, for instance, the distinctiveness of the poem one produces. In this way, one's flourishing seems to be intertwined with one's education on the basis that both actions, that is, flourishing and education, are inextricably connected with the idea of a human relation.

Figure 1 shows how human flourishing (green) and education (orange) are intertwined (mutually reinforcing). Firstly, education enables flourishing – human beings need to be introduced into the social, cultural and natural world by teaching and learning, in relation to teachers and the environment, for they need to be able to make sense of their world in order to be able to live well as human beings. This means that flourishing can be regarded as an aim of education. Secondly, flourishing enhances education – when teachers and students

flourish in their teaching and learning, in other words when they can develop their potential and live well and when teaching and learning are meaningful to them, their relations will prosper and both the teaching and learning will be higher in quality.

The intertwined character of flourishing and education also shows that flourishing is a hybrid concept: the development of human potential that makes life a human life must inform education (the naturalistic quality of flourishing), but the worlds in which these potentials are fostered are different (culturally dependent) and good education takes into account that children can develop different ways of living well related to their specific potentials and their ideas and preferences about how they want to live in the world (agent-relative). That the last is true can be shown by the fact that for some adults being a teacher is a meaningful way of living well, while others want to use the potentials that teachers need to become an engineer, a doctor or a parent (and there are also

2.3 .1

human beings who do not have the specific potential to become a good teacher).

PRECONDITIONS OF FLOURISHING

Finally, education has a complex relationship with flourishing: on the one hand it is part of human flourishing and on the other hand it is a precondition of human flourishing – a condition that needs to be fulfilled in order to make human flourishing possible. So far we have described what human flourishing means, that is, which conditions need to be fulfilled in order to be able to say that humans are flourishing; the so-called constitutive elements or constituents. But human flourishing also presumes that basic conditions are fulfilled. These include basic biological needs like food and safety or existential needs like freedom or psychological health.

Preconditions tend to be categorized as internal or external. There are at least three ways to construe internal versus external preconditions relevant to preconditions for flourishing. Firstly, within the context of humans, particularly in individualist cultures, internal conditions are often construed as those within the body boundary, with anything outside deemed as external, which may include social (or cultural) and physical environments. Secondly, some may construe internal preconditions more narrowly, that is, by referring to phenomenological or subjective fields of experience or the ‘I’ as internal, and hence things within the body boundary such as brain chemistry as external. Thirdly, Aristotle used ‘external’ in a wider sense, namely for all those conditions that are necessary for human flourishing, but that are largely beyond the agent’s control (Aristotle, 2009, p. 14), which means that human beings also require (a bit of) luck to be able to flourish. Thus, Aristotle used the term ‘external goods’ for a wide

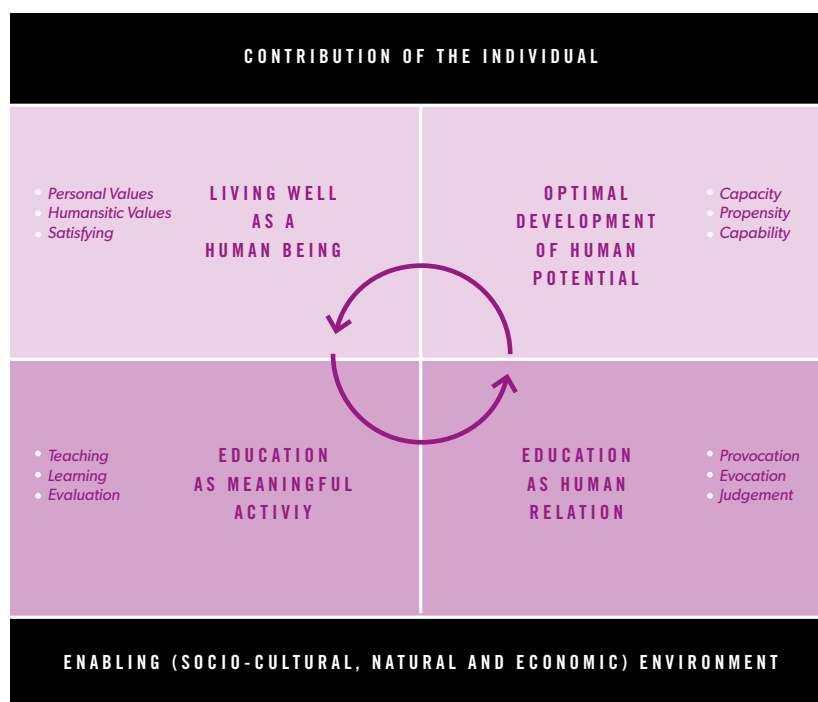


Figure 1. A visual representation of the relationship between flourishing and education

array of necessary preconditions of human flourishing such as physical, psychological, societal/ political and economic aspects (e.g. Kristjánsson, 2020, p. 33). Some of these are really outside the person but some are more ‘internal’; some can hardly be changed by a person, while conditions such as (mental) health as well as some aspects of one’s societal circumstances, like living in a safe and clean neighbourhood, can be influenced by a person to a certain degree (Kristjánsson, 2020). Further, the wider the group of preconditions, the more difficult it becomes to make a clear distinction between preconditions and constituents, as the relationship between flourishing

and education also shows.

For general understanding and policy purposes the first construct, the body boundary definition of internal and external, is likely to be more easily understood. Hence, a genetic precondition would be internal in this sense. A cultural precondition would be external, but may be internalized over time. The issue at hand is which internal and external preconditions are necessary or helpful in their presence or absence. Further, it is important to stress that the majority of preconditions are not under the control of individuals; luck as well as concerted effort is needed to realize the preconditions. These



CHAPTER



2.4

Recommendations

preconditions are dealt with in
WG1-ch3 and **WG1-ch5**.

To ensure that all children and
adolescents will receive education
for flourishing, states must



(collaboratively) ensure that necessary educational policies and systems are in place and sufficient institutions or financial support are available. On the basis of our description of flourishing and education, as well as their relation, we propose that the following five recommendations are taken into account in policy-making:

1. The concept of flourishing is a complex (multifactorial) one with various meanings. We suggest that the proposed meaning is used (not only in the ISEE Assessment, but also in other UNESCO documents), for it is comprehensive and culturally neutral. This means that, in principle, it is possible for all governments, school leaders, teachers, parents and pupils to use it. In addition, it is agent-relative, which ensures that the particular characteristics of each human being are taken into account

2. Education should not be understood as a system or an institution, but rather as three central types of activity on the

part of teachers and pupils, namely teaching, learning and evaluating, each of which expresses a particular relationship between the actors involved.

3. Education is to be the favoured concept over learning as it ensures that not only are the how and what questions asked (what should pupils learn and how do they learn most effectively; or what should teachers teach and which is the most effective way to do so), but also the why question. The question regarding the purpose of education should be the primary one and answers to it will inform the other two questions.

4. Flourishing and education are to be understood as forms for iterative/reciprocal action. It is not just that human flourishing and education stand in relation with one another. Also, human relations are guided by doing things together (association) in the pursuit of understanding, well-being and thriving (flourishing).

5. The purpose of education is the

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C H A P T E R

3

The science of flourishing in child and adolescent development – description, explanation and implications for prevention and promotion

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Abstract:

Since ancient times, the question of what it means to truly live a life of flourishing has been contemplated, debated and pursued. This chapter reviews contemporary scientific research on flourishing in psychological science and neuroscience, linking this contemporary scholarship to the classical idea that flourishing emerges over time from the support, practice and development of various skills. From this foundation, we cast research on flourishing into an explicitly developmental systems, contemplative science framework in an effort to: (a) describe the development of flourishing from infancy through childhood and adolescence to early adulthood years in terms of specific underlying skills; (b) explain variation in the development of flourishing and these underlying skills in terms of key biological and social-contextual factors that transact across levels of analysis and time; and thereby (c) optimize the development of flourishing across the first two decades of life by identifying key opportunities for targeting specific malleable skills aimed at enrichment in families, schools and communities in order to prevent problems and promote flourishing.

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3.1

Introduction

Since ancient times, the question of what it means to truly live a life of flourishing has been contemplated, debated and practically pursued (**Dahl, Wilson-Mendenhall and Davidson, 2020**).

In the middle of the twentieth century, the question of how to go beyond surviving in this world to really thrive, flourish, and live a life of deep fulfilment and

meaning began to be investigated scientifically (e.g. **Maslow, 1950, 1968; Jahoda, 1958; Frankl, 1959**). Since that time, with the founding of positive psychology (**Csikszentmihalyi and Seligman, 2000**) and contemplative science (**Goleman and Davidson, 2017**), the study of what some call flourishing (e.g. **Seligman, 2010**) and others call thriving (**Bundick et al., 2010**), eudemonic well-being (e.g.



*Tell me, what
is it you plan
to do with your
one wild and
precious life?*

MARY OLIVER

Ryan, Curren and Deci, 2013; Ryff, 2014) or genuine human happiness (e.g. Ekman et al., 2005; Ricard, 2011) has been growing rapidly. We are beginning to learn much more about what flourishing is and what factors affect its development across the lifespan (e.g. Keyes, 2007).

In this chapter, we explore flourishing from a developmental systems perspective and cast questions about human flourishing into an explicitly developmental framework. We begin by describing the assumptive framework we use to approach the question of how flourishing develops, and how this assumptive framework coheres with the view of flourishing put forth in previous chapters. Next, we outline what a developmental framework for studying flourishing might look like based on extant research in psychological science and neuroscience, and on the classical idea that flourishing emerges over time as the result of dynamic person–context transactions involving scaffolding and social

support, the sustained practice of various virtuous skills, and discussion and meaning-making around ideas of what it means to flourish; to live well for oneself and the world (e.g. Roeser et al., 2014; Goleman, 2015).

Based on these central ideas, we explore three core developmental questions (Baltes, Reese and Nesselroade, 1977): (1) What is flourishing and its constituent elements, and how are these elements transformed in sociocultural contexts and developmental time? (i.e. description); (2) What biological, mental and sociocultural processes explain continuity and change in the elements of flourishing across development? (i.e. explanation); and (3) What are the implications of our descriptive and explanatory understandings of flourishing for the prevention of problems and the promotion of optimal development through programs, socialization practices and forms of education during the first two decades of life? (i.e. optimization).



3.2

Assumptive framework for understanding the development of flourishing

Three big assumptions underlying our view of flourishing are:

1) that human beings have an intrinsic potential for positive

transformation and a tendency towards actualizing their passions and capabilities in the direction of flourishing; (2) that



A flourishing life,
is also an ethical life
in which the balance
of self- and other
interests is focal, a
balance of flourishing
for self and others

it is the sustained practice of learned skills (e.g. procedural knowledge or ‘knowing how’ to practice flourishing) and related perspectives on flourishing (e.g. declarative knowledge or ‘knowing what’ flourishing is) that underlies individuals’ resilience and flourishing; and (3) a community is needed to foster individuals’ learning of flourishing-related skills and motivation, as well as how to embody them ethically in ways that foster the well-being of self, others and the world, together. A flourishing life, according to this view, is also an ethical life in which the balance of self- and other interests is focal, a balance of flourishing for self and others (Roeser et al., 2014). We briefly elaborate each of these assumption sin WG1-ch2.

Firstly, a life of flourishing is hypothesized to be possible insofar as human beings possess the tendency to grow and the potential to transform themselves in ways that lead towards flourishing – as seen in the study of the lives of historical/exemplary individuals (e.g. Erikson, 1958,

1969); resilience across the lifespan (Werner and Smith, 1992; Masten, 2001); and modern neuroscience (e.g. Begley, 2007; Davidson and Lutz, 2008; Stiles, 2008). Thus, the first foundational idea for this chapter is that our potential to change default mental habits for those that promote flourishing is possible, even following significant life adversity. This requires practice, sustained effort and social support.

Secondly, the process of self-transformation involves the learning and development of new skills through structured practice over time. As the saying goes, ‘Train your mind, change your brain’ (Begley, 2007). What this means is that psychological mastery/skill development is accompanied by structural and functional changes in brain systems (Ericsson and Charness, 1994). This process is called neural plasticity. The big idea here is that flourishing can now be conceptualized as the cultivation of specific kinds of ethical skills that are malleable – and which can be learned through practice

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(Varela, 1999; MLERN, 2012). These skills include empathy, mindful awareness and compassion for oneself and others. Further, the development of these virtuous skills is being studied in relation to changes in brain behaviour and social relationships in the areas of health, well-being and growth rather than their opposites. In summary, the process of flourishing involves learning various skills that, given average-expectable contextual conditions, can lead to a life of flourishing.

Methodologies for developing these skills of flourishing include 'meditation' or 'contemplation' practices. The word contemplative means to mark out a space for observation; and such practices are designed for us to make time to observe our minds and lives in ways that can help move us in the direction of flourishing. Accordingly, a new science is emerging that studies how we can develop our awareness, attention and the power that these qualities can have for leading a life of meaning, purpose and flourishing. This new field is

called contemplative science (e.g. Goleman and Davidson, 2017), and research from this field forms a key part of the developmental theory we propose. Contemplative science aims to integrate insights about the optimization of human development from both science and the wisdom of the world's contemplative meditative traditions in order to gain a better understanding of the nature of the mind and of life, as well as how various practices can help us to cultivate skills leading to a personally meaningful and socially beneficial life (Goleman and Davidson, 2017).

The third foundational idea in this chapter is that flourishing involves community; it is interpersonal and not a personal pursuit or project (Lavelle, 2017; Condon and Makransky, 2020). Many traditions, including science (e.g. Coan and Sbarra, 2015), suggest that humans are inherently social by nature, and we cannot thrive or flourish in isolation from community or by ignoring our responsibilities to others who, like ourselves, wish to flourish and not to suffer. This



idea is based on the fundamental interdependence between one's own happiness and the happiness of others. Understanding such interdependence is thought to be a key dimension of living a life of flourishing (e.g. **Dalai Lama, 1999, 2012**). This idea is also central to our understanding of human development – it is fundamentally a process of interdependence and relationality (e.g. **Overton, 2015**).

Taken together, these foundational assumptions of flourishing also cast it as a developmental, lifelong process of growth in fulfilling our potential in positive ways. This would involve the cultivation of various virtuous skills and mindsets, in relationship with

others and the world. As such, we can begin to describe and explain how flourishing can unfold across the lifespan, and use the knowledge so gained for the good of the world in terms of prevention and health promotion programmes aimed at promoting/supporting the elements of flourishing as they develop in young people. This idea of a developmental approach to flourishing is only a promissory note at this point, but much of the newer work on flourishing and its relation to skill development through contemplative practices and exercises remains developmental at this time (**Roeser and Eccles, 2015; Roeser, Colaianne and Greenberg, 2018; Roeser, 2019**).



3.3

Towards a developmental framework for studying flourishing

Although there are various theories of adult flourishing (VanderWeele, 2017) and positive youth development (e.g. Leman et al., 2017), there is no agreed upon lifespan theory of flourishing. Thus, in this section we propose one developmental framework for

studying flourishing and illustrate it across typical stages of human psychological development. This framework builds on the proposal of psychological needs postulated in self-determination theory (Ryan and Deci, 2008), and is an extension of Eccles et al.'s (1993) stage–



...the need for autonomy develops to include a need for self-transcendence – not just engaging in activities deeply endorsed by the self but engaging in those activities that take one beyond self – activities such as prosocial behaviour, the arts, being in nature or contemplative practice

environment fit (SEF) theory where the need for autonomy, belonging and competence are thought to differentiate into wider needs with development (Roeser and Pinela, 2014). The framework outlined here links psychological needs and their underlying cognitive and neural sources with a focus on two key neurocognitive well-being capacities (Dorjee, 2021).

Ryan, Curren and Deci (2013) propose three basic psychological needs that need to be satisfied for human flourishing to manifest. These are: the need for autonomy, the need for competence and the need for relatedness (Ryan and Deci, 2008). The need for autonomy is satisfied via self-directedness that is congruent with personal values and a sense of self, whereas the need for competence describes a sense of mastery (experiencing oneself as capable) over activities that one considers important. Finally, the need for relatedness concerns the need to be positively related to others, including a supportive social climate and relationships. Evidence suggests that these three

needs are universal across cultures, for instance, they determine psychological well-being regardless of differences between collectivist and individualist cultures (Deci and Ryan, 2008).

Building on SEF theory (Eccles et al., 1993) in which the ‘fit’ between psychological needs and changing social environments is seen as key to flourishing during different life stages, Roeser and Pinela (2014) propose an elaboration of the three basic psychological needs discussed in SEF theory during adolescence, and imply that fit between this expanded set of needs and social environments is key to flourishing during adolescence and beyond.

Specifically, they propose that the need for autonomy develops to include a need for self-transcendence – not just engaging in activities deeply endorsed by the self but engaging in those activities that take one beyond self – activities such as prosocial behaviour, the arts, being in nature or contemplative practice (e.g. Frankl, 1962; Staub, 1979; Hart,

2004). The need for competence is proposed to develop into a concomitant need for wisdom concerning how to live a good life and be fully human through reflective exploration of philosophical ideas and myths regarding the big questions of life and death (Kessler, 2000). Finally, Roeser and Pinela (2014) propose that the need for relatedness also develops into a need for mattering in the world of adults to others (Eccles and Gootman, 2002; Damon, 2009). This is hypothesized to encompass contributing significantly to one's ingroups, strangers and society at large. We build on this proposal and related work below in our considerations about the relative prominence of psychological needs during different developmental stages.

The self-regulatory capacity broadly describes the ability to manage our attention, emotions and behaviour in ways that foster our flourishing.

To provide a more complete picture of flourishing development, we connect Roeser and Pinela's (2014) proposal of this expanded set of psychological needs that shape flourishing with key neurocognitive sources of well-being to bridge psychological research on flourishing with recent

relevant advances in cognitive, affective and social neuroscience. Here we build on the proposal of two neurocognitive well-being capacities – the self-regulatory capacity and the self-world capacity (Dorjee, 2021). The self-regulatory capacity broadly describes the ability to manage our attention, emotions and behaviour in ways that foster our flourishing. It postulates that adaptive regulation of mind-wandering (daydreaming or random off-task ruminative thinking) is a necessary prerequisite for this ability. The self-world capacity describes an overarching integrated state or trait of cognition, affect and awareness that determines our sense of self and reality in connection to others and the world more broadly. The term 'capacity' is used here to indicate the malleability of these sources of flourishing (WG1-ch2) by social, cultural, communal, familial and educational factors as well as targeted development of skills and knowledge that enhance these capacities (such as training in mindfulness, social and emotional learning (SEL), art education,

The self-world capacity describes an overarching integrated state or trait of cognition, affect and awareness that determines our sense of self and reality in connection to others and the world more broadly.

engagement in prosocial volunteering, etc.). The links between these two capacities and psychological needs are depicted in Figure 1.

The concept of self-regulatory capacity builds on established theories of self-regulation, particularly those with a cognitive focus, which are often linked to related concepts of self-control, metacognition and executive control. There is strong evidence that cognitive self-regulation significantly predicts a range of positive outcomes across development. For example, better self-regulation during early childhood predicts lower risk behaviours, higher well-being and better educational outcomes in adolescence (Woodward et al., 2017; WG2-ch5; WG3-ch3). There is also robust evidence indicating that better early self-regulation is linked to better physical health, income and less criminal activity in adulthood (Moffitt et al., 2011). Recent research shows that self-regulation can be improved by targeted educational programmes, such as SEL training involving

taking turns, Montessori education, training in martial arts or mindfulness (Pandey et al., 2018).

The concept of the self-regulatory capacity extends traditional approaches to cognitive self-regulation by its explicit emphasis on trainability of self-regulation skills and by pinpointing regulation of mind-wandering as the basis for effective management of attention, emotions and behaviour. Mind-wandering is often defined as mental activity we engage in when we are not focusing on a task (Smallwood and Schooler, 2006). Both the amount and the content of mind-wandering are linked to well-being. We tend to mind-wander for nearly 50 per cent of our waking hours, and increased mind-wandering has been associated with lower levels of happiness (Killingsworth and Gilbert, 2010). However, the content of mind-wandering - what we mind wander about - matters too; those who habitually mind-wander about positive events or experiences are less likely to experience disturbances in their

...various recent theories and studies have developed links between mind-wandering and education, and also ethical decision making, propensity to compassionate behaviour, wellbeing, emotional intelligence and capacity to change.

affect and this is associated with greater well-being (**Wang et al., 2018**). In line with intervention research on self-regulation, initial research evidence shows that programmes (such as those involving mindfulness training) that reduce mind-wandering also improve well-being and can enhance academic performance (e.g. **Mrazek et al., 2013**). In addition, various recent theories and studies have developed links between mind-wandering and education, and also ethical decision making, propensity to compassionate behaviour, well-being, emotional intelligence and capacity to change (**Immordino-Yang, 2015; Ergas and Berkovich-Ohana, 2017**).

At the neural level, cognitive processes of the self-regulatory capacity have been linked to increased activity in brain areas associated with cognitive control, including the anterior cingulate cortex (ACC) and parts of the prefrontal cortex (PFC) (**Posner and Rothbart, 2007**). Developmental maturation of these brain areas enables increasing self-reflectivity (as a pre-requisite of moral

reasoning) during development since they are involved in metacognitive monitoring of attention, emotions and thinking patterns. Such metacognitive monitoring is a prerequisite for skillful regulation of mind-wandering; it modulates the default mode of brain function describing activity in a network of brain areas during off-task activity (**Raichle et al., 2001**). Regulation of mind-wandering is associated with activation decreases in some of the key nodes of the default mode network, while activation in the ACC increases as a result of error monitoring (**Schooler et al., 2011**).

Since self-regulation is often an interpersonal pursuit, it also engages the social brain regions, such as the temporoparietal junction (TPJ) involved in perspective-taking, understanding others' thoughts, emotions and behavior (**Langner et al., 2018**). An overlapping network of brain areas is also involved in moral reasoning and emotions, which are associated with virtue-aligned well-being (**Eres et al., 2016**). Finally, enhanced self-regulatory capacity



is also associated with better regulation of the hypothalamic–pituitary–adrenocortical axis underlying the stress response and resulting in better physiological stress regulation (Lupien et al., 2009; Blair and Raver, 2015), which

can serve as a protective factor for a range of negative outcomes of stress exposure during development.

The cognitive and neural processes of the self-regulatory capacity

...the ability to manage emotions and focus attention in interactions with others (including mind-wandering distractions and reactivity to these) is essential in developing a sense of connectedness associated with positive relationships.

particularly underlie adaptive satisfaction of the psychological needs for autonomy, relatedness and competence (see Figure 1). For example, deliberate engagement in behaviour in alignment with one's goals and mastery of any activity strongly relies on the ability to regulate distractions of mind-wandering, including affective disturbances which can interfere with effective decision making and sustained goal focus. Similarly, the ability to manage emotions and focus attention in interactions with others (including mind-wandering distractions and reactivity to these) is essential in developing a sense of connectedness associated with positive relationships.

The second capacity underlying wellbeing – the self-world capacity – is a much newer concept than the concept of self-regulation. The self-world capacity describes an overarching state or trait which integrates five dimensions: 'self-other-world focus (extent to which one primarily focuses on oneself as a source of self-understanding, or alternatively has a wider more

inclusive sense of self); connection or disconnect (having a sense of connection with others and the world more broadly); solidity of self (fixed inflexible sense of self, or a flexible changeable sense of self); agency (being able to control who one aspires to be) and sense of purpose locus (having a sense of purpose focused on oneself or a wider self-transcending locus)' (Dorjee, 2021, p. 6).

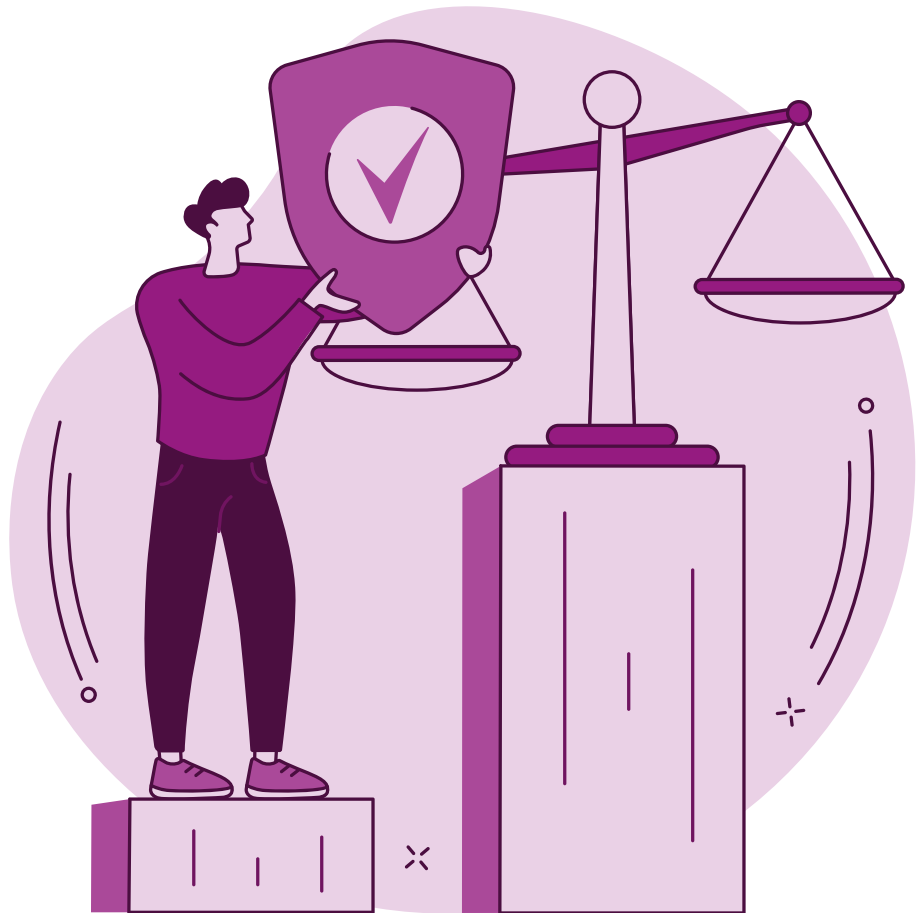
The first two dimensions are closely linked to adaptive or maladaptive self-focus associated with qualities such as empathy and compassion. Maladaptive self-focus and reduced empathy are associated with lower well-being and mental ill-health (e.g. Watkins and Teasdale, 2004). In contrast, compassion is associated with positive emotions, prosociality and a sense of connection with others (Singer and Klimecki, 2014). While the research evidence on cultivating compassion in education is still limited, initial findings suggest encouraging benefits both for children's wellbeing and their relationships (Jazaieri, 2018).

The link between the third dimension of the self-world capacity and wellbeing can be illustrated by research on ‘decentering’ – a state in which one experiences healthy distance from one’s own thoughts, feelings and mental events.

The link between the third dimension of the self-world capacity and wellbeing can be illustrated by research on ‘decentering’ – a state in which one experiences healthy distance from one’s own thoughts, feelings and mental events (Fresco et al., 2007). In the state of decentering, thoughts and emotions are perceived as impermanent and changeable, not as solid facts (Teasdale, 1999), hence the sense of self becomes more flexible. Decentering has been associated with decreased reactivity to experience and better well-being; it also predicts decreased anxiety and depression after mindfulness training (e.g. Hoge et al., 2015). In contrast, a self-world mode that could be described as an immersion and identification with thoughts and emotions is a predictor of low well-being and mental ill-health. Interestingly, decentering has been negatively associated with personal distress as an aspect of empathy and is not significantly related to the perspective-taking and empathic concern aspects of empathy (Fuochi and Voci, 2020). This further

highlights the need to cultivate all the dimensions of the self-world capacity in support of optimal flourishing.

The last dimension of the self-world capacity particularly highlight the importance of developing a sense of purpose as a protective factor of well-being. Indeed, research with adults has linked greater sense of purpose to a range of psychological and physical health benefits (e.g. Ryff et al., 2004; Ryff, 2014). Evidence in children and adolescents associates purpose with positive emotions, prosociality and fewer social and emotional difficulties. Greater sense of purpose has also been found to predict fewer depression symptoms and less risk-taking behaviour in adolescents (Cotton et al., 2005). Self-transcending purpose with beyond-the-self focus (involving contribution to the greater good) can be particularly beneficial to individual wellbeing and wider community wellbeing. Indeed, self-transcending purpose has been linked to higher positive affect and healthy coping strategies (e.g.



positive reframing) (Malin et al., 2019). However, the benefits are not limited to wellbeing only; research shows that fostering of self-transcending sense of purpose results in improved academic performance in adolescents (Cotton et al., 2005).

Finally, agency brings together the other four dimensions by translating self-transcending purpose motivated by compassionate concern for others supported by a flexible sense of self into action making a difference in everyday life.

The need for wisdom is also linked to expansion of the self-world state towards connection with bigger issues of humanity beyond self-focus.

Education needs to foster such a sense of agency combined with the other dimensions of the self-world capacity developed on the basis of the self-regulatory capacity, for young people to develop a sense of compassionate mattering and courage to contribute to bettering of their immediate communities and wider societal challenges. These qualities are arguably much needed now, as we are tackling a range of societal crises including climate change and political polarization fueled by the attention economy encouraging constant distractibility (Dorjee, 2021).

At the neural level, the self-world mode is virtually unexplored given the nascent nature of the concept. However, there is initial neuroscientific evidence from studies with experienced meditators who are able to shift their self-world state at will. This evidence suggests that self-world states linked to flourishing are likely to change brain-wave oscillations associated with changes in synchronicity and frequency of neuronal

firing. This was the case when meditators engaged in a state of unconditional compassion towards others (Lutz et al., 2004). This research suggests that shifts in self-world states are likely to be associated with changes in global markers of brain activity which need to be investigated in future studies, particularly from a developmental perspective. The findings also point to trainability of self-world states that foster flourishing and associated neural plasticity.

The self-world capacity is particularly linked to the psychological need for self-transcendence, wisdom and mattering proposed by Roeser and Pinela (2014). The need for self-transcendence is associated with a shift from self-focus towards self-world states of caring other-focus in acts of kindness, helping or sharing, or during contemplative practices when one cultivates states of acceptance, tolerance and compassion. The need for wisdom is also linked to expansion of the self-world state towards connection with bigger issues

The three remaining learning trajectories of education are aligned with the needs for self transcendence, wisdom and mattering linked to the self-world capacity.

of humanity beyond self-focus. Finally, the need for mattering shifts the self-world capacity from narrow self-interest to broader issues of a group one connects with, thus expanding one's self-construal towards inclusion of wider world concerns.

Importantly, the proposed developmental theory of flourishing closely links to the six learning trajectories of education and flourishing elaborated in **WG1-ch4** (see Figure 1). The needs of autonomy, mastery and relatedness associated with the self-regulatory capacity seem to map onto the learning to know and think, learning to do and evaluate and learning to learn learning trajectories. Indeed, the need to make choices about our own behaviour (autonomy) builds on knowledge and considerations about our environment, culture and self which are acquired and modified across the lifespan. Similarly, skills (learning how to) of literacy, numeracy, technology, etc., are the stepping stones for mastery in any activity. Finally, learning to learn – including

the ability to notice, observe and reflect on the processes of our learning– is essential across the six psychological needs, whether it is reflection on behaviour choices, progression towards mastery in activities, communication or relationships that are important to us. The self-regulatory capacity underlies all three types of learning; extensive research (e.g. Veenman et al., 2006) particularly documents strong positive associations between metacognitive abilities (being able to observe and reflect on our thoughts, feelings and behaviour) and learning to learn which facilitates learning to know and think and learning to do and evaluate.

The three remaining learning trajectories of education are aligned with the needs for self-transcendence, wisdom and mattering linked to the self-world capacity. Learning to live together and learning to live with nature are manifestations of the needs for mattering and wisdom which go beyond the immediate circle of relationships and reach further

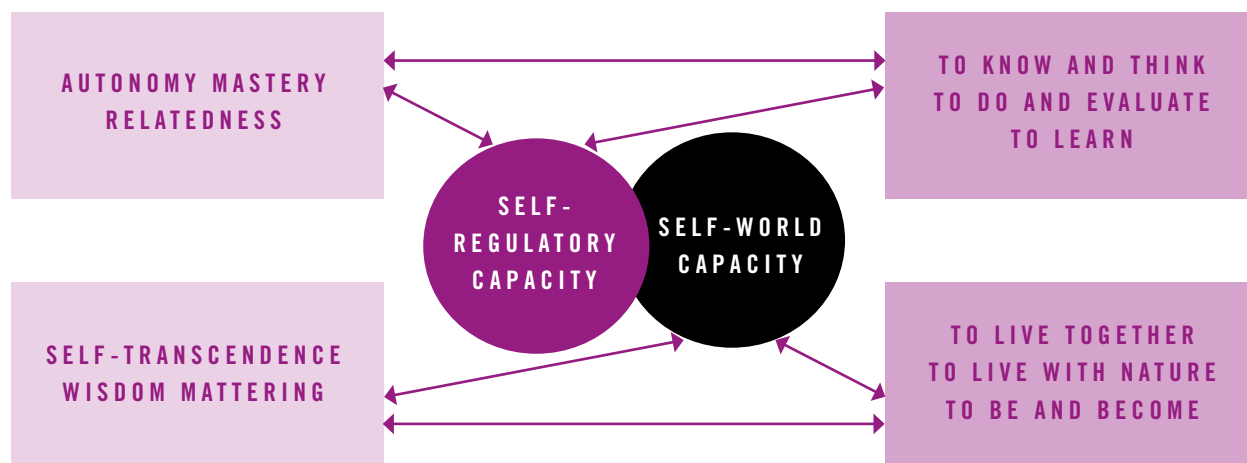


Figure 1. The links between self-regulatory, self- world capacities and psychological needs.

into connecting with groups, traditions or causes of wider ethical significance. Similarly, learning to be and become is closely linked to the need for self-transcendence, as both highlight exploration of self-identity and its expansion beyond self-focus. These three psychological needs and associated learning trajectories

of education map closely onto the self-world capacity, which enables grounding of their further exploration in development in their neurocognitive sources. We will now apply the proposed developmental theory of flourishing to explain the development of flourishing across developmental stages.



3.4

Describing and explaining flourishing across development

3.4 .1

PRENATAL STAGE

The foundations of flourishing are laid during the prenatal stage, that is, from conception to birth. For example, we know that maternal stress during

pregnancy (including depression and anxiety) is associated with low birth weight in babies and this has been further linked to higher likelihood of mental health and behavioural problems in childhood (Lupien et al., 2009). One of the possible underlying mechanisms of these effects might be the impact of prenatal exposure to glucocorticoids which leads to

Infancy is a sensitive period for both cognitive and social emotional development – it shapes life-long learning and relational tendencies impacting flourishing.

genetic changes predisposing the child to increased vulnerability to stress during further development (Provençal et al., 2019). The mediating mechanism between genetic impacts and increased stress vulnerability is likely the diminished self-regulatory capacity which in turn particularly negatively impacts the first three learning trajectories of education's ability to fulfil the needs for autonomy, mastery and relatedness.

To minimize the negative impacts of stress during the prenatal stage, societies, communities and workplaces should make concentrated efforts to reduce major sources of stress— such as not having access to adequate healthcare, and job and income concerns— during pregnancy. Educating policy-makers, employers, families, health and social workers, and pregnant women about common stressors and the impact of stress on their and their child's flourishing prospects is the first step in addressing these risk factors to lifelong flourishing. The

implication of this understanding should be policy and care changes resulting in access to stress-reduction courses, counselling and coaching during pregnancy as part of routine prenatal care.

3.4 .2

INFANCY

Infancy, the developmental stage between birth and two years of age, is a sensitive period for both cognitive and social-emotional development – it shapes life-long learning and relational tendencies impacting on flourishing. In Erikson's (1993) psychosocial theory of development, infancy is a stage during which we develop a sense of trust or mistrust towards others. Trust develops if the infant receives consistent, responsive and emotionally stable care, whereas mistrust results from experiences of unresponsiveness, rejection and emotional unavailability.

Similarly, Bowlby's theory of attachment (1982) describes

At the neural level, infancy is a time of rapid growth of cells as a result of sensory input, increasing ability to explore environment and social interactions with others.

infancy from the age of six months as the developmental stage during which we develop attachment to a primary caregiver. Attachment is described as an emotional connection to a primary caregiver, with the child seeking their closeness in times of anxiety or stress. Based on the degree of sensitivity and continuity of care one receives, we develop a lifelong attachment style (secure or insecure) that influences our relationships with peers and partners. Attachment styles impact on flourishing— insecure attachment styles have been particularly associated with mental health and behavioural problems in children (**Fearon and Roisman, 2017**). At the biological level insecure attachment has been linked to abnormalities in glucocorticoid levels in children, suggesting abnormalities in the neuroendocrine stress response as an underlying mechanism.

At the neural level, infancy is a time of rapid growth of connections between brain cells as a result of sensory

input, increasing ability to explore environment and social interactions with others. Access to nurturing rich sensory stimulation and warm, responsive, supportive care are the key factors in enabling infants to develop the foundations of their life-long flourishing. The brain region that is particularly sensitive to the influences of care children receive during infancy is the hippocampus. This region is involved in learning and memory processes throughout the lifespan. Inadequate care or significant stress during infancy can negatively impact the maturation of the hippocampus and result in developmentally delayed mental health problems including anxiety, depression and post-traumatic stress disorder (PTSD) in adolescence and adulthood (**Lupien et al., 2009**), thus diminishing one's flourishing prospects.

In cognitive terms, the concept of attachment is linked to mind-mindedness (**Meins et al., 2002**) – the ability of a parent to tune into what their child is feeling or thinking. Mind-mindedness has been strongly associated with

...one of the key targets for interventions that aim to foster flourishing of infants and their future flourishing prospects is support of caregivers in delivering supportive, responsive and consistent care to their children, which is attuned to their feelings and needs.

children's self-regulatory capacity and is a strong predictor of a range of outcomes in adolescence and adulthood, including academic performance. Attachment style manifesting via mind-mindedness can be considered one of the determinants of successful satisfaction of autonomy, mastery and relatedness needs throughout development.

Based on available evidence, attachment style is largely influenced by social, relational and cultural factors and much less by genetic factors (**Fearon and Roisman, 2017**). There is also relatively strong evidence of internal working models of attachment, describing the expectations of relationships transferred between generations. Hence, one of the key targets for interventions that aim to foster flourishing of infants and their future flourishing prospects is support of caregivers in delivering supportive, responsive and consistent care to their children, which is attuned to their feelings and needs.

We propose that the stabilization of attention affected through attuned care-giving and joint attention, and the noting and labelling of significant features of emotionally charged social experiences (e.g. feelings, feeling–action linkages), enhances the ability of young people to clearly perceive and develop rich cognitive-affective representations regarding ethical dilemmas they experience in daily life (**e.g. Tharp and Gallimore, 1988**). Enriched perceptions and representations, in turn, enhance children's ability to accurately extend their moral understandings to situations and encounters that share correspondences and affinities with previously encountered ones – from the known to the similar (**Varela, 1999**). This was the view of Mencius, who posited, 'truly virtuous people attend to their nature sufficiently well to understand an event in terms of their experience and thus ensure that appropriate extension follows easily' (**Varela, 1999, p. 29**).

3.4 .3

CHILDHOOD

Childhood (two to eleven years of age) is a particularly sensitive stage for development of the self-regulatory capacity, and accordingly the needs for autonomy, mastery and relatedness impacting the first three learning trajectories in education. Self-regulation abilities, particularly during early childhood, robustly predict risk behaviours and academic achievement in adolescents, as well as income, educational level and even levels of engagement in criminal activity in adults (Moffitt et al., 2011). This is why there have been increasing calls to implement self-regulation interventions in primary schools, especially in early education. A recent meta-analysis of self-regulation interventions – including family-based programmes, social and personal skills interventions, mindfulness and yoga – summarizes their positive impacts on academic achievement, social skills,

mental health and reductions in behavioural problems and conduct disorders (Pandey et al., 2018). Similarly, a systematic review of interventions enhancing executive function as a central component of self-regulation shows that interventions such as games involving taking turns (e.g. Simon says), martial arts, Montessori approach, yoga and mindfulness are more effective in improving self-regulation in children than computer-based training (Diamond and Lee, 2011). A recent review of the field of mindfulness in education also suggests that school-based mindfulness programs for children can support development of their self-regulation (Roeser, Galla and Baelen, 2020).

At the neural level, the development of self-regulation is linked to increasing reliance on the executive attention network involving the ACC and the PFC, which undergo gradual maturation into adolescence and until the age of 25. This gradual development enables increasing reliance on metacognition (monitoring of

Self-regulation abilities, particularly during early childhood, robustly predict risk behaviours and academic achievement in adolescents, as well as income, educational level and even levels of engagement in criminal activity in adults.



attention, emotion and behaviour) and less reactive responses to situations (delayed gratification). At the same time, regions of the social brain involving the TPJ undergo maturational changes resulting in increasing perspective-taking, development of empathy and prosocial behaviour, including sharing and helping. Development of empathy and prosocial

behaviour can be particularly enabled through parenting and education that encourages awareness and verbalization of emotions, inviting taking on the perspectives of others and rewarding positive prosocial behaviour (e.g. Farrant et al., 2012). Neuroscience research also shows that children are particularly sensitive to rewards, more so than

negative feedback, when learning (Martin and Ochsner, 2016).

Development of self-regulation and prosociality enables initial satisfaction of the need for autonomy, mastery and relatedness as well as mattering. Indeed, in Erikson's (1973) psychosocial theory, childhood is described as the age of developing autonomy, initiative and mastery. Children start exploring their environment by themselves and gradually also learn to take initiative in peer relationships. To progress in their development towards satisfaction of the need for autonomy they need to be provided with sufficient opportunities for self-initiated exploration and self-initiated play without discouragement or excessive intervention from caregivers. As they progress through acquisition of new skills, they also develop an initial sense of mastery in activities of interest. Through parental and/or educational guidance they can also start exploring their need for mattering, by engaging in activities of wider significance, for example, learning and participating in

initiatives aimed at protecting the environment. Developing new ways of measuring flourishing during childhood in ways that are useful to communities, schools and families represents a new frontier in this work (Thomson et al., 2018).

3.4 .4

ADOLESCENCE

Adolescence (eleven to nineteen years of age) is a developmental period of self-regulatory capacity vulnerabilities and extensive self-world capacity development with changes in both capacities impacting on fulfillment of associated psychological needs (WG3-ch2). Maturation in the PFC, which continues until the age of 25, is a hallmark of developmental brain changes in adolescence and underlies adolescents' increasing metacognitive ability to reflect on their thinking, emotions, behaviour and relationships. It

Adolescence is a developmental period of self-regulatory capacity vulnerabilities and extensive self-world capacity development with changes in both capacities impacting fulfillment of associated psychological needs.

also expands the scope of self-regulatory skills towards more complex strategies involving planning, consideration of a range of information sources, others' perspectives, including considerations about communal and wider societal issues, and one's longer-term goals. This expansion of self-regulatory skills is foundational to wisdom.

These processes of PFC maturation in adolescence also bear a risk of increased sensitivity to stress, given that neurotoxic effects of glucocorticoids associated with stress particularly impact regions with glucocorticoid receptors including the PFC and the hippocampi (Lupien et al., 2007). This increased vulnerability to stress also means that programming effects resulting from earlier experiences of chronic stress or abuse in infancy or childhood can manifest in mental health or behavioural difficulties in adolescence. Such vulnerabilities often manifest as increases in negative mind-wandering that can predict and are symptomatic of anxiety and depression (Burwell

and Shirk, 2007; Young and Dietrich, 2015). About a half of adult mental health problems begin in adolescence (Jones, 2013).

In addition to PFC vulnerabilities, imbalanced maturation of connections between the PFC and other brain regions impacts on adolescents' susceptibility to risk behaviour, particularly under peer pressure. This is because the neural connections between the PFC and the ventral striatum (VS), a brain region associated with rewarding experiences, mature faster than the connections between the PFC and amygdalae associated with threat detection (Spear, 2013). As a result, adolescents are prone to hot cognitions – impulsive behaviour associated with risk-taking – particularly in the presence of peers, while decision making is associated with increased activity in the VS.

However, increased self-regulatory capacity enabled by PFC maturation, changes in other areas of the social brain and increased susceptibility to peer influence can also have protective effects

...strengthening the self-regulatory capacity by enabling fulfillment of the psychological needs of autonomy, mastery and relatedness fostered via corresponding learning trajectories in adolescence, can positively impact adolescent flourishing.

on well-being in adolescence. For example, Ronen et al. (2016) show that self-regulation not only predicts better subjective well-being in adolescents, but also predicts higher levels of positive affect when adolescents experience crisis. In the same study, greater social support also has protective effects on adolescent subjective well-being. Contemplative practice interventions, such as martial arts or mindfulness, have been shown to improve self-regulation (Pandey et al., 2018) and reduce mind-wandering in adolescence (Mrazek et al., 2013). This suggests that strengthening the self-regulatory capacity by enabling fulfillment of the psychological needs of autonomy, mastery and relatedness fostered via corresponding learning trajectories in adolescence, can positively impact on adolescent flourishing.

Similarly, extensive development of the self-world capacity in adolescence can also be harnessed in support of adolescent flourishing. In Erikson's (1973) theory of psychosocial development, adolescence is the

stage during which one needs to resolve the conflict between finding one's identity and role confusion. Healthy development of identity involves moving towards a sense of self that goes beyond immediate self-focus and includes value-oriented virtuous qualities. In this way, adolescence is a key period for meeting the needs of self-transcendence, mattering and wisdom which can steer identity development in a direction that facilitates flourishing. Education has a key role to play in this via fostering the learning trajectories associated with these needs. Indeed, research shows that character strengths that build connections to people and a sense of purpose beyond self predict future well-being in adolescents (Gillham et al., 2011). In another study, greater sense of purpose in adolescents is shown to have protective effects on depression symptoms (Cotton et al., 2005). And the self-transcending purpose of adolescents has also been linked to better academic performance (Yeager et al., 2014). Adolescent susceptibility to peer influence can be harnessed in



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Overall, adolescence is a developmental period of vulnerabilities and sensitivities but also one of great opportunities. Better understanding of these, (WG3-ch2) combined with understanding of psychological needs and underlying well-being capacities can guide development and implementation of effective school curricula addressing the six learning trajectories in an effective and age-appropriate manner. Although research is just beginning, there is some evidence that developmentally appropriate flourishing-related programs for adolescents that include reflection, contemplative practices and service can engender salutary effects, both by reducing distress and increasing the skills and perspectives of flourishing. This work is in its initial stages, however, and more research is needed (Roeser and Eccles, 2015; Roeser and Pinela, 2015; Eccles and Roeser, 2016; Roeser et al., 2020).

3.4 .5

ADULTHOOD

According to Erikson's theory (1973), adulthood is the stage of development during which one resolves the conflict between intimacy (having a partner) and isolation and the conflict between generativity (contributing to family, society, etc.) and stagnation. Healthy resolution of these conflicts contributes to flourishing, for example, marriage has been associated with better psychological health but factors such as relationship quality and social support mediate the impact on this association (Soulshy and Bennett, 2015; Chapman and Guven, 2016). This reflects the manifestation of need for relatedness in adulthood as one of the determinants of flourishing.

Similarly, those in employment that satisfies the needs for mastery and competence linked to intrinsic motivation tend to show higher levels of flourishing (Ryan and Deci,

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2013). And at the neurocognitive level, higher levels of off-task mind-wandering have been linked to unhappiness, suggesting that a decrease in the self-regulatory capacity is indicative of less flourishing (Killingsworth and Gilbert, 2010). However, the affective content of mind-wandering matters too; positive mind-wandering content has been linked to less affective disturbance suggesting greater levels of flourishing (Wang et al., 2018).

In terms of the self-world capacity— and associated needs for self-transcendence, mattering and wisdom— there is robust evidence suggesting that a greater sense of virtue-oriented purpose is linked to health benefits such as lower risk of cardiovascular problems (Kubzansky et al., 2018), decreased risk of cognitive impairments associated with ageing and possibly longer life (Cohen, Bavishi and Rozanski, 2016). There is also evidence elucidating the underlying mechanisms of these effects – these may modulate the neuroendocrine pathways of the stress response since greater sense

of purpose is associated with lower cortisol levels, lower inflammatory markers and better sleep (Ryff et al., 2004; Cole et al., 2015). And at the neural level, eudemonic happiness, emphasizing a virtue-oriented sense of purpose, has been associated with increased activity in the insula (Lewis et al., 2014), a region of the brain involved in emotional awareness and modified in the same direction by contemplative practices (Farb, Segal and Anderson, 2013). Engagement in prosocial activities, such as volunteering, has also been shown to increase well-being, presumably via changes in the self-world capacity in response to such activities meeting needs for self-transcendence and mattering.

As noted in preceding sections, well-being of adults strongly impacts on flourishing of infants, children and adolescents. Children of parents who experience depression, for example, are more likely to have difficulties with self-regulation, and a low sense of well-being in teachers is associated with lower well-being in children (reflected in their

...an intricate relation between inner (cognitive and emotional) development and a stimulating and encouraging environment exists from the beginning of life

stress response biomarkers). This clearly indicates that flourishing of adults is inseparable from flourishing of the young people they look after or work with. As Erikson (1973) notes in his lifespan theory of development, the life-task he describes for adulthood involves, in part, the discovery of whom one would take care of (p. 124). In this way, he articulates the interdependence of successful child/adolescent and adult development: the developmental life task of society's elders is to assist young people in progressing along fruitful educational, social and moral lines of development that eventuates in their full participation in an on-going cultural concern. The developmental life task of society's youth is to open outward to the opportunities of their times, to co-create and perpetuate society in conjunction with their elders, and sometimes, to reshape the future direction of society in spite of them (Erikson, 1969; Mead, 1970). Erikson (1970, p. 754) describes this notion of the interdependence of adolescent and adult development from the perspective of the child:

...an intricate relation between inner (cognitive and emotional) development and a stimulating and encouraging environment exists from the beginning of life, so that no stage and no crisis could be formulated without a characterization of the mutual fit of the individual's capacity to relate to an ever expanding life-space of people and institutions, on the one hand, and on the other, the readiness of people and institutions to make him [sic] part of an ongoing cultural concern.

In sum, effective educational interventions aiming to support the flourishing of children and adolescents should, wherever possible, target enhancements in the self-regulatory and self-world capacities of pupils/students, and their caregivers, parents and teachers (e.g. MLERN, 2012).



3.5

Measuring flourishing

The overarching goal of supporting the flourishing of children and adolescents implicates the need to measure flourishing effectively in order to develop a strong evidence base on flourishing development which can in turn inform policy and practice recommendations. However, effective measurement is not an easy task given there is no agreed definition of flourishing. The most common way of measuring flourishing in children and adolescents involves self-reports or informant reports

(provided by teachers or parents) of a range of skill and quality types which are related to flourishing. These include relationship skills such as empathy or social skills, flourishing in relationships (with parents or peers), flourishing at school (assessing qualities such as diligence, educational engagement, thrift, trustworthiness, etc.), prosociality (altruism, generosity), environmental stewardship or personal flourishing (qualities including forgiveness, gratitude, hope, purpose, spirituality, etc.) (Lippman, Guzman and Moore, 2012).

....any large-scale assessments of pupil flourishing in education would need to carefully consider suitable measures and ethical implications of such evaluations.

As can be seen from this long list, some assessments seem to focus more on skills and qualities associated with the self-regulatory capacity (e.g. diligence, goal orientation), while others seem to target the self-world capacity (e.g. altruism, purpose).

In recent years, there have been increasing calls for routine assessments of flourishing (happiness or well-being) in schools as one of the metrics schools are evaluated and guided on. The primary aim of these suggestions has been to highlight cultivation of flourishing as an educational priority (**Minds, 2017; Layard and Ward, 2020**). Such recommendations from researchers and non-profit organizations supporting the mental health of young people are encouraged by recent surveys with teachers and parents in the United Kingdom (UK). For example, 82 per cent of teachers surveyed said that there is a disproportionate focus on exams in education in contrast to the well-being of students, and 73 per cent of parents would rather send their children to school where

they would be happy even if their previous exam results were not good (**Minds, 2017**). Eighty-one per cent of young people reported that they would like to learn more about how to look after their mental well-being in school (**Minds, 2017**). These findings clearly point to the current imbalance in the educational system – overemphasis on academic performance and insufficient focus on supporting student flourishing, with academic pressures often undermining student flourishing. Inclusion of large-scale regular flourishing assessments in schools, and their results being considered in evaluations of school provisions, may help bring flourishing to the central stage of educational policy.

However, any large-scale assessments of pupil flourishing in education would need to carefully consider suitable measures and ethical implications of such evaluations. The most appropriate measures are likely to assess positive skills and qualities associated with flourishing, rather than evaluate flourishing as absence of mental ill-health

...any plans for large scale assessments of flourishing would need to carefully consider the ethical implications of such evaluations, including informed consent from parents and assent from adolescents, data handling, and data access by schools and government institutions

(Huppert, 2017). How to select the most suitable flourishing skills and qualities will be one of the main questions in that process. Arguably, this is where assessments of underlying capacities would be particularly useful as concise predictors of a range of flourishing skills and qualities. Measuring underlying capacities could lead to the development of effective flourishing interventions (Huppert, 2017), targeting groups of flourishing skills and qualities rather than limited sets of selected skills/qualities associated with flourishing.

Importantly, any plans for large-scale assessments of flourishing would first and foremost need to carefully consider the ethical implications of such evaluations, including informed consent from parents and assent from adolescents, data handling, and data access by schools and government institutions. For example, it is an open question whether teachers should have access to their students' individual flourishing data and whether such information could be helpful in

supporting student flourishing. It is also an open question whether anonymized longitudinal data on student flourishing could be made openly accessible to researchers given the lack of developmental research on the flourishing trajectories of children and adolescents. Finally, where would such data be stored and how would we ensure that information linking anonymized student data with their identity is kept strictly confidential with restricted access?

Another question that needs to be addressed in the process of designing and implementing such large-scale evaluations in schools pertains to the most suitable methods of measuring flourishing. Self-reports have been the default approach in flourishing research, but they have their limitations (Dolan and Metcalfe, 2012), particularly in research with children and young adolescents given that self-reporting relies on still-developing metacognitive abilities facilitating monitoring, reflecting upon and reporting of one's mental processes and behaviour.

Given the increasing interest in neuroscientific research as a means of informing flourishing initiatives in education, neuroscientific methods are also relevant for investigating flourishing development with educational implications

For these reasons, self-reports are not reliable for assessments with children younger than seven or eight years of age. Innovative assessments with methods such as experience sampling, where children or adolescents report on their momentary experiences of flourishing several times during a selected day or week might be an alternative (Vilaysack et al., 2016).

Other possibilities include using peer reports of student behaviour prior to and following flourishing interventions (e.g. Schonert-Reichl et al., 2015). In addition, other peer metrics that assess peer hierarchies, neglected/rejected students and other peer-group characteristics are interesting measures for future evaluation studies to consider as targets of change (Kindermann and Gest, 2018).

There is also a range of measures other than self-reports that may provide more complete understanding of flourishing in the context of education. However, these methods are more demanding on data collection and analysis, and are therefore

not suitable for large-scale implementation. Observational methods are one such research measure (Briesch et al., 2015). They involve a researcher spending time in a classroom during lessons and evaluating indicators of flourishing such as class atmosphere or use of feedback strategies, for example, positive rewards. And in younger children, observation methods evaluating child behaviour can be used to assess the self-regulatory capacity (Woodward et al., 2017).

Given the increasing interest in neuroscientific research as a means of informing flourishing initiatives in education, neuroscientific methods are also relevant for investigating flourishing development with educational implications. Neuroscientific research typically utilizes electrophysiological methods or magnetic resonance imaging (MRI) methods. Electrophysiological methods measure cumulative electrical signals resulting from synchronous firing of neurons on the surface of the scalp. From this signal, researchers can derive markers

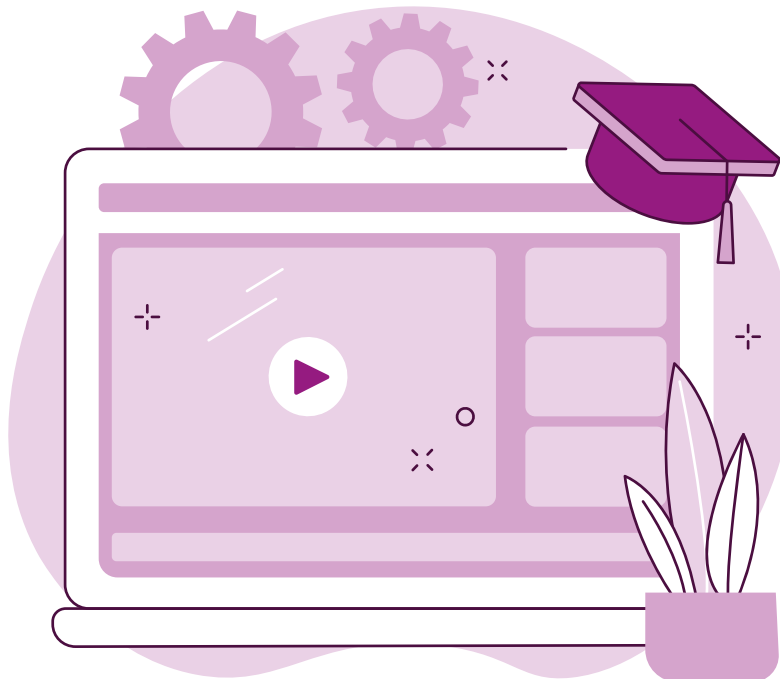
.....randomized controlled trials are costly and it often takes several years for their results to be translated into educational practice. For these reasons, there is increasing interest in naturalistic (real-world) implementation studies in flourishing research...

of cognitive and affective processing, such as attention control or emotion regulation, indicative of the self-regulatory capacity (**Kaunhoven and Dorjee, 2017**). There is also preliminary research suggesting that aspects of the self-world capacity could be assessed using electrophysiology. Electrophysiological methods are less costly than other neuroscientific methods, such as MRI, and they are portable, enabling testing in schools (**e.g., Sanger, Thierry and Dorjee, 2018**). Whilst these methods have excellent temporal resolution (timing of neuronal firing), they cannot easily locate specific brain structures generating the neural signal measured.

In contrast, MRI methods have excellent brain localization, but they do not assess neuronal firing directly as it is happening in real time (**WG3-ch2**). These methods make inferences about localization of cognitive and affective processes based on assumptions about brain structure or metabolic changes in the brain. Structural MRI can assess associations

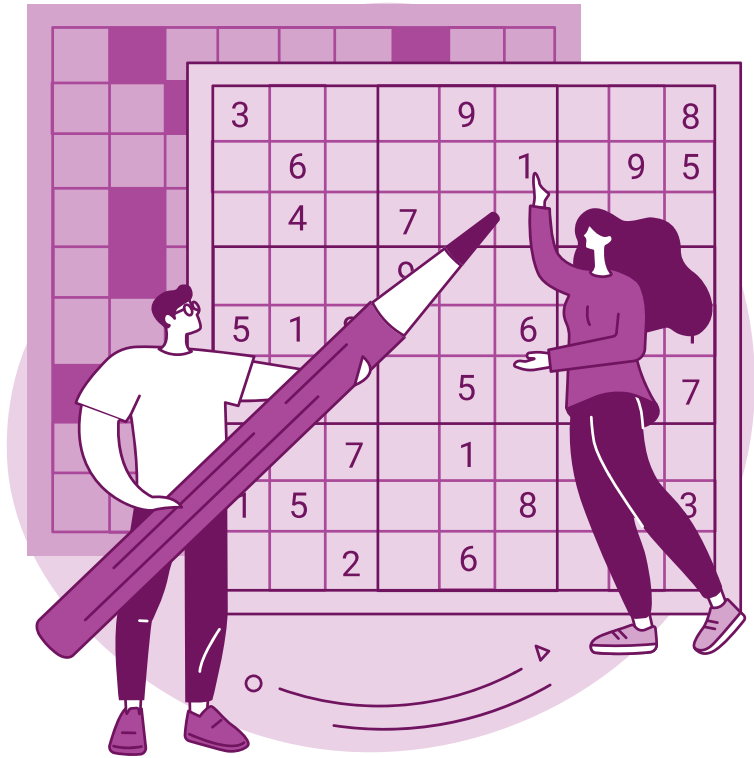
between self-reported flourishing and the volume or thickness of some brain structures. It works on the assumption that higher involvement of brain structures in a particular flourishing process will result in more frequent or more efficient use of some brain areas resulting in such anatomic changes (**e.g. Lewis et al., 2014**). This differs from the assumptions of the functional MRI, which detects changes in oxygenated levels of blood as it flows to different parts of the brain in response to changes in their metabolic demand. The assumption here is that brain areas that require more oxygen are the areas that are involved in performance of tasks participants are engaging in while their brain activity is being scanned. In studies on flourishing, researchers can, for instance, select tasks that aim to elicit empathy or compassion in participants (**Kim, Cunningham and Kirby, 2020**) or engage attention control as part of self-regulation (**Tang et al., 2014**).

Finally, one of the main questions in assessing flourishing relates to choice of research design.



Longitudinal developmental studies with repeated assessments of the same participants can provide us with better understanding of developmental changes in flourishing. Such designs would need to carefully monitor types of flourishing interventions delivered to pupils/students over time to enable inferences about the possible developmental impacts. Whilst they are most valuable for understanding developmental changes in flourishing, longitudinal studies require significant funding since they are time-consuming. Cross-sectional studies, where researchers look at flourishing at particular points in time, often in the form of a survey or in neuroscience studies, can provide further understanding of mechanisms underlying flourishing. And in

intervention research, randomized controlled trials are the golden standard, with participants allocated randomly into a training group or a control group with the two groups being compared at a baseline and then at a time point when the intervention in the training groups is completed. However, randomized controlled trials are costly and it often takes several years for their results to be translated into educational practice. For these reasons, there is increasing interest in naturalistic (real-world) implementation studies in flourishing research (**Layard and Ward, 2020**). The large-scale assessments mentioned earlier are examples of such possible assessments.



3.6

Conclusion

This chapter proposes a new developmental framework of flourishing. We suggest that flourishing can be operationalized in the developmental context in terms of key psychological needs and their underlying neurocognitive capacities linked to the six learning trajectories of education. This framework highlights the malleability of flourishing by biological and social factors, and the trainability of underlying capacities by targeted school interventions. We highlight the intertwined nature of educational context, and teacher and pupil flourishing in

education, and the importance of research-informed policy guidance and teacher training in effectively supporting pupil/student flourishing throughout the educational journey. The first step towards such flourishing-enabling educational policies needs to be acknowledgement of flourishing as a central aim of education. Any policy guidance on flourishing in education needs to take into account the multifaceted psychological and neurocognitive changes during child and adolescent development impacting on their abilities to engage with flourishing-supporting initiatives.

3.7

Recommendations

1. Flourishing development is dynamic and malleable, influenced by biological, cultural and social factors including influences of educational environment such as school ethos and teacher stress. Educational policy should reflect understanding of these influences.
2. Research suggests that the predominant focus of current educational policy on academic performance as the educational priority can undermine student flourishing. There is a lack of focus on flourishing as a central purpose of education in educational policy. This imbalance needs to be addressed to create systemic conditions for education to enable flourishing development.
3. Development of flourishing in the educational context can be understood in terms of six key psychological needs, namely autonomy, mastery, relatedness, self-transcendence, wisdom and mattering, which need to be satisfied for flourishing to manifest. These psychological needs are associated with the six pillars of education and underlying neurocognitive capacities which are elaborated in **WG1-ch4**. Policy-makers and educators need to understand these psychological needs and their neurocognitive sources and, in doing so, can guide development and implementation of effective flourishing interventions in education.
4. Formulation of educational provisions that aim to support flourishing in children and adolescents in education needs to be based on understanding of the developmental progression of flourishing determinants, psychological needs and neurocognitive capacities, including developmental vulnerabilities and sensitive periods. This will ensure that effective, developmentally appropriate ways of fostering flourishing are designed and implemented in education.

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C H A P T E R

4

A curricular framework for flourishing in education

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Abstract:

This chapter proposes frameworks for education in and for flourishing by moving from general concepts and ideas about flourishing articulated in the previous chapters to the level of educational implementation and practice. The frameworks proposed are not meant to be prescriptive, but rather to offer a grounded and broad perspective that can take an informed approach in orienting education toward flourishing and reflect sensitivity to the variety of social-cultural-political contexts within which education takes place worldwide. The chapter outlines premises stemming from previous chapters, situating education as a complex phenomenon. Guiding principles are developed to form the basis of two frameworks. The first is a framework for education in and for flourishing that identifies, defines and positions in context the components of: a) curriculum, teaching and assessment; b) learning; and c) flourishing aims and manifestations. The second is a curricular framework for education in and for flourishing based on six domains featuring six learning trajectories that expand the pillars of education introduced in the Delors Report.

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CHAPTER

INTRODUCTION

Based on the conception of flourishing outlined in **WG1-ch2** and the advancements in the scientific study of flourishing reviewed in **WG1-ch3**, the current chapter proposes frameworks for education in and for flourishing. This involves moving from the general concepts and ideas articulated in the previous chapters toward the level of educational implementation and practice. The frameworks proposed are not meant to be prescriptive; but rather to offer a grounded and broad perspective that can help develop informed ways to orient education toward flourishing. Inevitably, developing such frameworks requires some measure of abstraction, categorization and reduction and bears a risk of simplification. In order to circumvent at least some of these difficulties and arrive at a substantiated framework, after we outline premises that stem from previous chapters, we situate education as a complex phenomenon. This enables us

to promote a more informed approach tempered by reasonable expectations.

Furthermore, viewing education as complex seeks to reflect sensitivity to the variety of social-cultural-political contexts within which education takes place worldwide. The discussion of education and complexity leads to some guiding principles that support the development of two frameworks that are presented and outlined throughout the rest of the chapter. The first is a framework for education in and for flourishing that identifies and defines the components of: (1) curriculum, teaching and assessment; (2) learning; and (3) flourishing aims and manifestations, all positioned in context. The second, a curricular framework for education in and for flourishing, is based on six domains that feature six learning trajectories that expand the pillars of education defined in the Delors Report (**International Commission on Education for the Twenty-first Century, 1996**).



4.1

Considerations that underpin the development of education in flourishing

We outline the following points as premises that stem from **WG1-ch2** and **WG1-ch3** and that form a basis for the frameworks developed in this chapter. These points

will be followed by a discussion of education in flourishing as requiring an understanding of education as a dynamic system.

Education and flourishing are intertwined. We posit flourishing as both aim and means of education. Hence both the future orientation of education and the context in which learning is advanced are to be viewed through the lens of flourishing.

1. Human flourishing is the optimal continuing development of human beings' potential and living well as human beings. This means being engaged in relationships and activities that are meaningful, that is, aligned with both human beings' own values and humanistic values, in a way that is satisfying to them. Flourishing is conditional on the contribution of individuals and requires an enabling environment.

2. Flourishing is malleable. The extent to which newborns will grow into flourishing adults depends on the experiences to which they are exposed and those which they initiate. Beyond what nature endows us with and the specific conditions into which we are born, how we are nurtured can substantially impact flourishing.

3. Education and flourishing are intertwined. We posit flourishing as both the aim and means of education. Hence, both the future orientation of education and the context in which learning is advanced are to be viewed through the lens of flourishing.

4. Flourishing depends on multiple factors; broadly, it includes both individual potential, and external conditions and influences (i.e. context – local, global, economic, ecological).

5. Education can be framed as a broad system of relationships (e.g. teacher–student, self–other, self–self, self–society, self–ecology).

6. Given that flourishing is multifaceted, there is a need to inform education in and for flourishing through multidisciplinary and interdisciplinary perspectives, building on existing educational theory and practice and scientific findings that are viewed in the context of global and local challenges.

Building on these ideas that have emerged from previous chapters, we point to an additional perspective that seems necessary for proposing concrete directions for education in flourishing; that of education as a complex system.



4.1 .1

EDUCATION, FLOURISHING AND COMPLEXITY

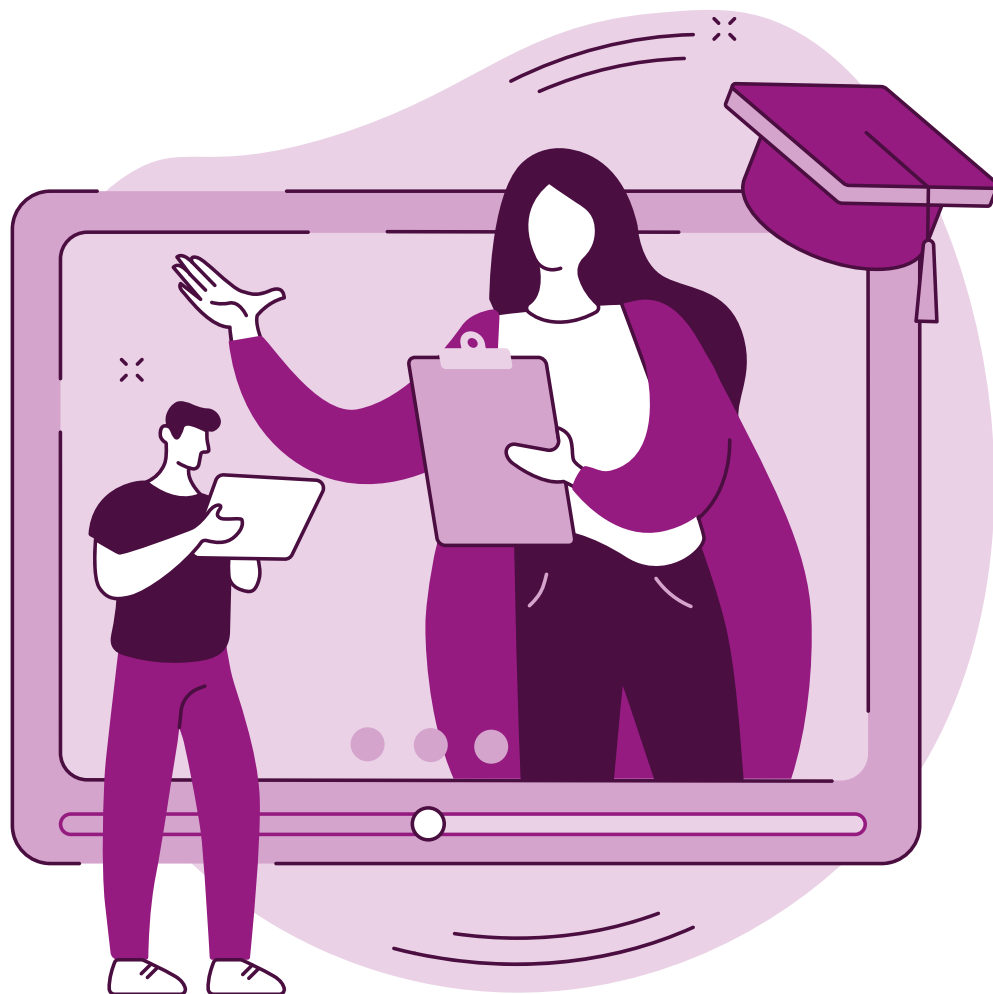
The transition from flourishing as a guiding ideal to an educational aim that can be operationalized and guide a curriculum should take into account the growing scholarly recognition that education is a 'complex system'. The term system is employed here in its broadest sense and refers to an organization of interrelationships between parts into unified and flexible wholes (Morin, 1992). The term complex system means that in a system there is a group of multiple components working both independently and interdependently that prevent the system from being fully controlled and predicted, and hence bound to evolve in unexpected ways (Radford, 2008).

The transition from flourishing as a guiding ideal to an educational aim that can be operationalized and guide a curriculum should take into account the growing scholarly recognition that education is a 'complex system'.

The 'educational system' consists of a set of human and non-human elements and the relationships between them. Human elements include not only students and teachers but also administrators, parents, policymakers, stakeholders and various others. Non-human elements comprise learning spaces – classes, schools, virtual, outdoor, textbooks and so on.

We approach education as a complex system for the following reasons.

1. Education, like other complex systems, has no clear boundaries given the variety of learning spaces in which education occurs (e.g. schools, outdoors, nature, virtual), and the fact that different elements in the system (e.g. parents, communities) can be seen as standing both within and outside the system. The lack of clear boundaries makes the system susceptible to external influences, reduces the ability to control and predict it and renders the context in which education takes place crucial (Davis and Sumara, 2014).



2. The elements that compose educational systems are myriad, interdependent and can change, learn and adapt (**Boulton, Allen and Bowman 2015**). As a result, the links between them are

often diverse, distinctive and cannot always be anticipated. This applies, of course, to the pupils and teachers in the system and the relationships between them, but it also applies to other

...findings from neuroscience, biology and psychology show that humans share common features (e.g. basic inclination toward sense gratification, stress response at times of perceived threat, as well as seeking safe, caring and nurturing relationships) and certain common conditions are known to be more conducive for education in and for flourishing.

elements in the system, such as classes, schools, districts and even national educational systems. Notably, the elements that are the makings of education systems comprise complex systems in and of themselves. Many perspectives in neuroscience, biology, psychology and phenomenology construe brain, mind and body as dynamic systems (Siegel, 2015). Equally, affective and social neuroscience demonstrate that individual behaviours and mental experiences are substantially shaped by complex interactions with others (Immordino-Yang, 2015). Moreover, education itself takes place within a complex environment. The social, political and economic systems can all be, and indeed increasingly are, seen as complex systems (Byrne, 2001; Room, 2011). Complexity in education, therefore, is present on many levels and pervades the educational system (Mason, 2008). The implications of this are that not only are no two students the same, but the interaction between two, three or more students, seated within a classroom also introduces further unpredictability into

education. This further extends toward understanding that no two classes or schools are exactly the same, and similarly, national systems differ significantly.

3. While education and some of the systems it includes have disordered elements, they are not chaotic (Morrison, 2008). Many of the elements of educational systems are regular, stable and broadly foreseeable (e.g. cycle of the year and vacations, school setting). Hence, in as much as students' development is shaped by the contingencies of individual differences and social-political-cultural context, findings from neuroscience, biology and psychology show that humans share common features (e.g. basic inclination toward sense gratification, stress response at times of perceived threat, as well as seeking safe, caring and nurturing relationships) and certain common conditions are known to be more conducive for education in and for flourishing (Noble et al., 2015; Sapolsky, 2017; Immordino-Yang, Darling-Hammond and Krone, 2019). Such is also the case when looking

at educational organizations and their functioning and development (**Senge, 2006**). They too contain ordered and disordered elements. Hence, due to the orderly elements found in them, they can be influenced and moved to advance along desirable paths, despite it not being possible for them, as complex systems, to be fully controlled (**Colander and Kupers, 2016**).

Recognizing complexity from the interpersonal to the intrapersonal, and on to the educational system, and understanding its makings as emerging both bottom-up and top-down, leads to some significant guidelines that should be considered.

Context is crucial because education is an open system that is both influenced by and influences the environment in which it is conducted.

1. The attempt to promote flourishing should be multi-scalar, from micro to macro, from that of the student to that of policy (**Boulton, Allen and Bowman 2015**). Since the different parts of the educational system are interdependent, it might not suffice to confine the promotion of flourishing merely to one level of the system, such as that of the

student, and it is best to orient the entire system towards it (**Mason, 2008**).

2. Context is crucial because:

a) Education is an open system that is both influenced by and influences the environment in which it is conducted. Embracing complexity implies that the educational system should be made more flexible and responsive to local conditions and possible changes. This often, but not always, means giving more power to those involved in the practice of education, because they are most aware of and informed on the context in which it takes place.

b) What suits and works in one place might be inadequate for another. The idea of emulating models, as well as knowledge dissemination of best practices, is hardly trivial (**Biesta, 2007**). To provide only a few examples, the interpersonal differences in the interest of the students, the variance in teachers' authority, the culture of the surrounding

Context is crucial because what suits and works in one place might be inadequate for another.

communities and the political situation in the country can all play crucial roles in how flourishing is conceived and how education can promote it (see **WG1-ch2 for definition of flourishing**). It is hence essential that education in and for flourishing be sensitive to the context in which it takes place (**Geyer and Rihani, 2012**).

3. An attempt to address complexity requires multidisciplinary and interdisciplinary approaches. No field exhausts the understanding of human beings and social systems, hence different fields and their combination provide entry points for overcoming hindrances to and promoting flourishing. A framework for flourishing needs to draw on understandings from various fields, including among others, philosophy, sociology, developmental psychology, biology and neuroscience.

Adopting complexity requires that we do not think in terms of tightly conceptualized goals. Nevertheless, acknowledging complexity does not exclude the existence of shared

goals or dismisses the ability that they can be fruitfully pursued. While promoting flourishing must be sensitive to the context in which it takes place, general directions for achieving it can be devised.

Bearing in mind the above guidelines and the limitations they pose on our ability to provide definitive direction for promoting flourishing through education, we have developed two frameworks. We view them as offering a number of links in a progression from theory toward practice. The first framework establishes the basic components of education in flourishing based on combining commonplaces of educational discourse with understandings depicted above and stemming from previous chapters. The second moves further toward practice by extending the first framework into curriculum development. **WG1-ch5** brings these ideas further into practice within educational spaces (e.g. schools).



4.2

A framework for education in flourishing

The basic framework proposed (Figure 1) depicts the process of education in and for flourishing as it unfolds based on fundamental

concepts of education, emphasizing its situatedness within a context. We elaborate on the framework proceeding



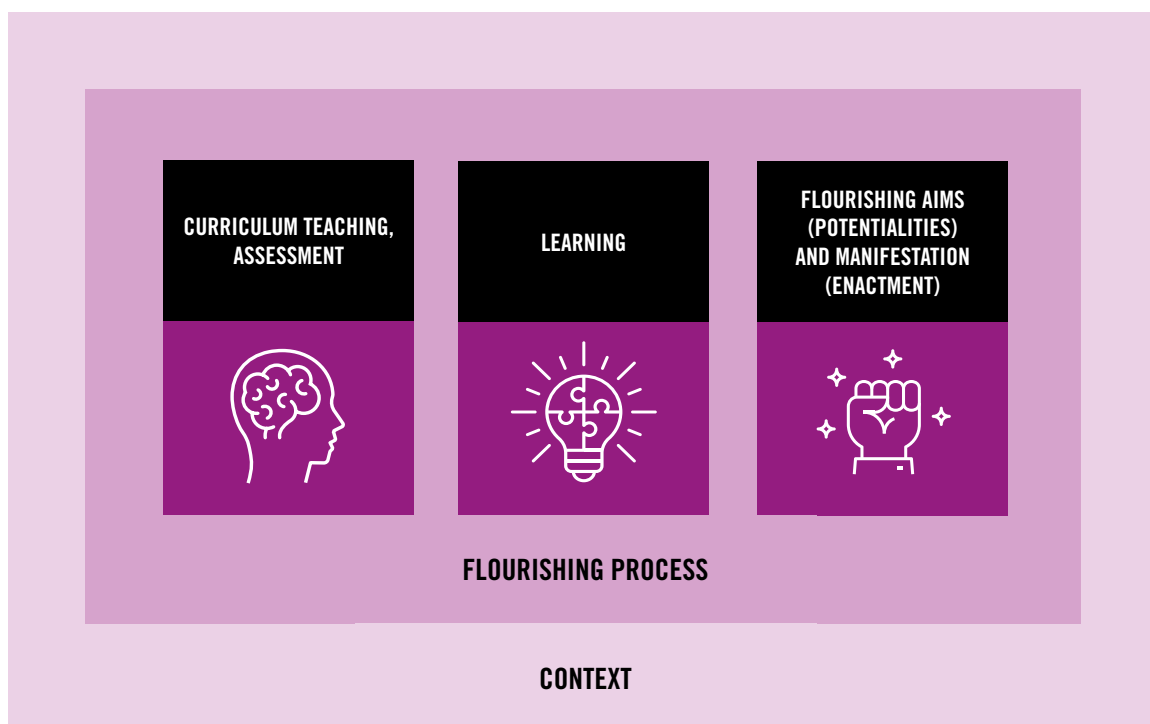


Figure 1. A framework for education in flourishing

from left to right as we highlight commonalities in educational discourse and rely on scholarship in various fields.

- Curriculum: The term ‘curriculum’ is interpreted here drawing on twentieth and twenty-first century conceptions that encompass the planned (formal), taught, assessed, hidden, inner

and null curriculum (i.e. what is omitted from it) (e.g. Pinar and Grumet, 1976; Eisner, 1979; Giroux and Penna, 1979; Schwab, 1982; Pinar, 2014; Ergas, 2017). This broad perspective proposes that the curriculum itself is a dynamic system (WG2-ch8 for a discussion on traditions and tendencies in curriculum and pedagogy development). It sees the curriculum as emerging from both top-down processes (e.g. policy-

...like teaching, we view assessment as part of curriculum and teaching; however, it is assessment is reiterated due to its substantial presence in contemporary educational practice, and its effects on the shaping of curriculum and teaching.

making, curriculum design), which are followed by school and teacher deliberations (e.g. lesson planning, learning space) and bottom-up processes that emerge from the various relationships that arise during implementation (e.g. teacher–student, student–student, student–learnings space). The latter represent the dynamism of the learning experience, which is shaped by idiosyncrasies of students and classrooms and changing day-to-day events. Curriculum can hence be seen as the object concerned with the materialization of policies and subject matters, but it is also the experience and the process (a verb if you will) that comes to life in teaching and learning. It is both the collective experience of a class and the first-person experience of a lifelong journey. It includes both the top-down elements of policy-making and teacher deliberation, as well as the bottom-up processes that are introduced into the learning experience as students interact with teachers and other students and engage formally and informally with the curriculum.

- **Teaching:** the term curriculum as outlined includes teaching; however, teaching is reiterated due to its being a fundamental relationship that permeates most conventionally understood learning spaces (e.g. schools) (Hattie, 2009). It will later be construed as a pervasive relationship that is interwoven through all six curricular domains. Following various accounts, we treat teaching as an activity in which an intention to propel changes in knowledge, understanding, behaviour, attitudes or opinions in a human being is exercised in a nurturing way through diverse forms of human expression (e.g. speech, bodily demonstration, art, silence) (Hirst, 1971; Palmer, 1998; Noddings, 2003b).

- **Assessment:** like teaching, we view assessment as part of curriculum and teaching; however, it is reiterated due to its substantial presence in contemporary educational practice, and its effects on the shaping of curriculum and teaching (Pressley and McCormick, 1995). However, we situate it as

integrated within curriculum and teaching, reclaiming its role as part of education in flourishing, instead of treating it as an external-instrumental element that is seen as merely ‘supervising’ education. We hence treat assessment as an act that occurs constantly throughout one’s life, that offers evaluation and feedback on one’s progression in relation to any problem or task. Viewed in light of these ideas, assessment is built into the brain’s proactive nature (Bar, 2009) and the mind’s functioning from the basic level of heuristics (Kahneman, 2011); it is a constant activity occurring during formal or informal teaching as a teacher evaluates student understanding and reflects on their work (Huba and Freed, 2000; Entwistle, 2003), as students reflect and regulate their own learning (Zimmerman, 1990; Panadero, Jonsson and Botella, 2017) and it is also a formal practice that occurs at the school and policy-making level (WG2-ch9; WG3-ch5).

- Learning: Moving to the middle circle (Figure 1), we take a broad perspective on ‘learning’

as well, to encompass learning as process, as experience, and as outcomes. Hence, learning is a process of active meaning-making situated in context (Bruner, 1960; Savery and Duffy, 1995), based on which relatively permanent changes occur within any one or more of the following: human dispositions, capabilities, knowledge, behaviours, values, attitudes and/or preferences (Gagne, 1970; Mayer, 1977; Gross, 2015). In our context, we seek changes that are conducive directly and indirectly to flourishing. Learning is also an experience of an individual and/or groups and communities of individuals, shaped by various spaces (e.g. outdoors, indoors) (Andersen, Boud and Cohen, 2000; Henry et al., 2003; Kraftl, 2013). Our broad approach to learning emphasizes the importance of the teaching-learning relationship as formative in affecting the experience of learning. Following the above consideration of curriculum-teaching-assessment, understanding learning-as-process also seeks to circumvent the problem of ‘learnification’ of education (Biesta, 2009) in which

..we take a broad perspective on ‘learning’, to encompass learning as process, as experience, and as outcomes



the end becomes more important than the means and is construed in ways that limit the horizon of education as a fully ‘measurable’

and predictable human endeavour. The approach proposed here is a pragmatic one, in which scientific evidence and established theories

are viewed as scaffolds that help direct education in flourishing, but do not formalize it entirely. Acknowledging the premise of education as a dynamic system implies that while we seek to do our best in directing education in flourishing, we must remain aware of the outcomes of our practice. We should continue to improve learning based on insights that potentially gain more credibility with time yet remain somewhat conjectural.

Flourishing aims (potentials) and manifestations (enactments):

The expected end result of the curriculum and teaching is the development of capacities, propensities and capabilities that contribute to the flourishing of the individual and that of others. Education should provide individuals with a range of mental, physical and practical capacities and capabilities that increase their ability to choose and follow their own path towards a flourishing life. Education should also develop the propensity to act on these spontaneously, by will or as an acquired habit. To

achieve flourishing, potential must be translated into action. Education, however, should also go beyond the flourishing of each particular individual. It should bring individuals to contribute to flourishing in broader interpersonal circles (e.g. through acts of caring). Each individual has the power to affect not only their own flourishing but that of others and education should guide individuals to promote the flourishing of others around them. In addition, education should encourage individuals to contribute to the creation, maintenance and enhancement of the conditions that facilitate flourishing (e.g. environmental, political, economic, cultural).

Based on this first framework of education in and for flourishing, we focus on a framework for curriculum followed by its relation to learning. The movement to curriculum reflects a movement from a conceptual-theoretical framework to one that is closer to practice.

Each individual has the power to affect not only their own flourishing but that of others and education should guide individuals to promote the flourishing of others around them.

4.2 .1

A CURRICULAR
FRAMEWORK FOR
EDUCATION IN
FLOURISHING

We propose six curricular domains for flourishing in education, based on understandings gleaned from previous chapters, the conception of dynamic systems discussed above and existing literature. More specifically, the conception presented here has also been inspired by Bronfenbrenner's (1979) model. Bronfenbrenner's ecosystems model nests the child in a series of circles that affect one's experience, development and, in the current context, one's learning and flourishing.

Bronfenbrenner's model was chosen because it connects us with the developmental perspective presented in **WG1-ch3** and is consistent with the understanding of dynamic systems

in acknowledging the various ways in which children are affected as they engage in various ecosystems. However, we frame our reliance on Bronfenbrenner as informing rather than dictating the framework developed. The model we present reflects a shift from a psychological model that does not acknowledge the ecological dimension to one that is aimed at developing a curriculum toward flourishing within the context of a contemporary ecological crisis, as we now elaborate (Figure 2).

1. The shift to a curricular perspective has led us to opt for a representation that separates the nested circles image to one of curricular domains. We acknowledge Bronfenbrenner's model in which all domains affect each other. We also, as mentioned, view the educational system as a complex system comprising many inter-relations. The domains, however, are represented separately in order to better convey a more systematic and concrete way to develop curricula. Hence, we recommend bearing in mind the psychological

We propose six curricular domains for flourishing in education, based on understandings gleaned from previous chapters, the conception of dynamic systems discussed above and existing literature.



nested-circles model suggested by Bronfenbrenner when considering the separate curricular domains, and after elaborating these separate curricular domains, we will provide examples of some interconnections between them.

2. We define a ‘curricular domain’ as a relatively distinct area/field that includes knowledge and practices to be learned.

3. Informed by Bronfenbrenner, as well as by understandings gleaned from **WG1-ch2** and **WG1-ch3** and based on deliberations among the International Science and Evidence based Education (ISEE) Assessment members, we arrived at six curricular domains that in contemporary times seem to be fundamental to the flourishing of individuals and groups across countries: environmental, cultural,

.....an acceleration of environmental destruction due to economic globalization..... along with empirical evidence of the effects of poor environments on the possibility of flourishing point clearly to the need foreducation in and for flourishing to help people protect and improve the environment and benefit from it.

social, technological, interpersonal and personal. Each of these domains makes its own unique and irreplaceable contribution to flourishing.

4. We postulate that engaging in each curricular domain means engaging in a relationship between the individual and that curricular domain. This engagement can be direct as in learner–curricular domain; for example, a student learning to use a certain software and interacting with technology, or indirect; that is, with a teacher who designs the students’ encounter with the content in that domain.

5. When a teacher is involved, as would be the case in most formal educational systems, at least three relationships shape the learning experience: teacher–student, teacher–curricular domain, student–curricular domain and all are affected by contextual factors.

6. In light of the definition of flourishing and the developmental perspective presented in **WG1-ch3**,

we envision a potential movement in each curricular domain toward increased flourishing as reflecting a progression from basic knowledge and understanding to meaningful engagement and ultimately to agency.

7. All curricular domains can be engaged in deliberately with an intention to learn or in a non-deliberate way in which learning can occur as an unintentional byproduct.

In the following figure we elaborate each of the six domains outlined in Figure 2 from left to right following a structure that includes these components: a demarcation of what each domain entails; a justification for the presence of the domain in the framework; an explanation of what a relationship means in each domain; a short consideration of some critical perspectives regarding the domain. Due to the differing rationale of each domain, not all discussions follow exactly the same sequences.

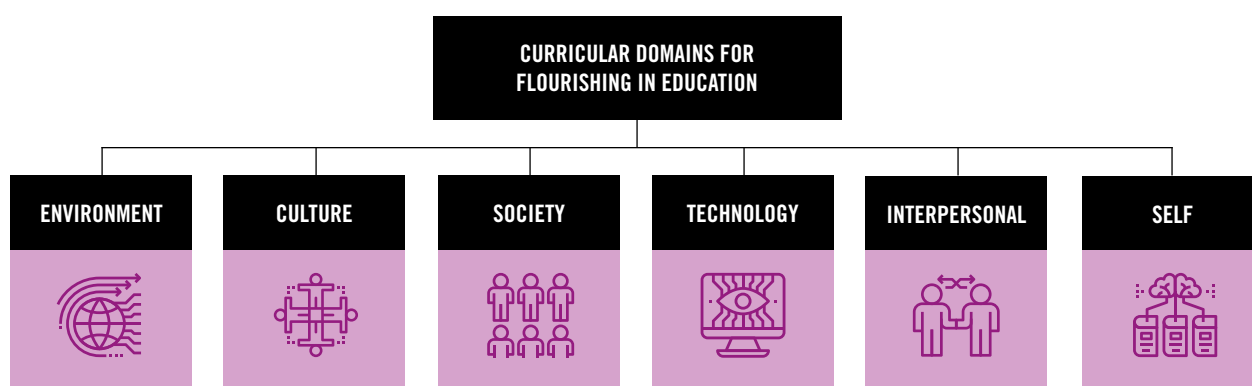


Figure 2. The six curricular domains for flourishing in education

ENVIRONMENT

We live within a human and non-human environment. Although the two are closely connected and mutually influence each other, in this section, we focus on the latter, which includes among others animals, plants, our close abiotic surrounding and the earth itself. While learning to live with and in nature has long been considered by many educationalists as a significant part of living a flourishing life (e. g. Rousseau, 1762/2001), education is now required to go beyond it. In the last few decades, it has become

evident that human actions have a destructive influence not only on the environment itself (pollution, reduction of biotic diversity, global warming etc.) but also on the ability to live a flourishing life within it (Abram, 2018). The COVID-19 pandemic is one more striking reminder that it is so (Pan and Zhang, 2020). Moreover, we are currently witnessing an acceleration of environmental destruction due to economic globalization (Abram, 2018). These observations, along with empirical evidence of the effects of poor environments on the possibility of flourishing (Checkley et al., 2004;

...it is becoming apparent that, while individuals can supposedly flourish in certain domains that concern their personal life, the ability to experience flourishing will be dramatically hindered by the effects of the ecological crisis.

Bartram et al., 2005; Owusu, 2010; Finell and Natti, 2019), point clearly to the need foreducation in and for flourishing to help people protect and improve the environment and benefit from it.

Historically, due to a deep-rooted belief in the West that science and technology are capable of managing our planet, environmental problems have often been viewed as a matter of management and control (Huckle, 1993; Mogensen and Mayer, 2005). This has led to an oversimplified perception of the role of education in relation to the environment, according to which environmental problems have clear solutions that can be taught, including a set of predetermined knowledge, attitudes and behaviours.

However, in the 1990s more radical views shifted the focus to the social-political aspects of environmental problems, viewing them as derived from the conflicting interests of groups of humans in the utilization of natural resources (Schnack, 1998). These developed understandings led to the extension of the goals

of environmental education to include, among other things, acquisition of a set of decision-making and problem-solving skills (Disinger, 1989), reactivating values towards society (Posch, 1999), promoting environmental awareness and dynamic qualities, such as initiative, independence, commitment (Posch, 1991), and education for citizenship, for critical participation and for taking personal responsibility in actions and decisions concerning the natural, social, cultural and economic environment (Mayer, 2004). These extended goals were reflected in the International Implementation Scheme for the United Nations Decade of Education for Sustainable Development (UNESCO, 2004, 2005).

In addition, with time, it became increasingly clear that effective actions of environmental protection and remedy require collective efforts (Kolstad et al., 2014). As Harari (2018) argues, it is becoming apparent that, while individuals can supposedly flourish in certain domains that concern their personal life, the

‘Effective climate change mitigation will not be achieved if each agent (individual, institution or country) acts independently in its own selfish interest, suggesting the need for collective action’.

ability to experience flourishing will be dramatically hindered by the effects of the ecological crisis. The Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report addresses this issue as a case of ‘the tragedy of the commons’ by stating that ‘Effective climate change mitigation will not be achieved if each agent (individual, institution or country) acts independently in its own selfish interest, suggesting the need for collective action’ (Kolstad et al., 2014, p. 211). As a result, alternatives to the traditional models of environmental education were developed, which were criticized as too individualistic and relativistic, thereby failing to cultivate collective social responsibility (Wals, 2010, 2011; Van Poecka, Goeminne and Vandenabeele, 2016; Blenkinsop and Morse, 2017; Franck, 2017; Jickling, 2017; Lengyel et al., 2019).

Today, stemming from the growing acknowledgement of the multifaceted dimensions of environmental problems and the need for collective

action, there are mounting calls to establish universal ethics (Curry, Whitehouse and Mullins, 2019), as the foundational basis of environmental education (Blenkinsop and Morse, 2017; Orr, 2017; Sterling, 2017; Lengyel et al., 2019). Such an ethical framework resonates clearly with indigenous approaches to ecology (e.g. Rose, 2005; Roderick and Merculieff, 2013) and recognizes that humans have an interdependency with other humans and with nature, and that these interdependencies and interconnectedness form the wholeness of human existence and flourishing (Capra, 1982; French, 1986; Abram, 2018). Orr (2017), for example, proposes the development of a curriculum based on deep humility, which acknowledges the systems’ interrelatedness and our lack of ability to fully comprehend Earth. Abram (2014), for his part, highlights the importance of being embedded in place. He also calls for rejuvenating the sense of unity with earth and highlights the importance of multiplicity of cultures. Common to many of the approaches that are currently advanced



is a shared understanding of the role of environmental education in creating in-depth embodied awareness of our interconnectedness with the more-than-human world, appreciation of its complexity, and a collective

sense of responsibility to do no harm.

To conclude, learning to live harmoniously with the environment, to appreciate it and be able to enjoy it, is a significant



aspect of living a flourishing life, one that education should facilitate. In addition, protecting the environment, and potentially even remedying it, has become essential for our ability to live a flourishing life. Seeking to live a flourishing life, we cannot ignore the dangers of environmental destruction and its potentially devastating effects and impact on future generations. They are equally entitled to seek flourishing lives just as we feel we are. If we are to achieve flourishing, the curriculum must provide us with the capacities and capabilities needed to conserve it as well as the drive to put them into practice (WG3-ch5; WG3-ch7).

CULTURE

The conception of culture embraced in this framework draws on a common typology applied in educational theory, dividing ‘culture’ and ‘society’ (the curricular domain that follows hereafter) into distinct curricular domains. Hence, following Biesta (2009), Egan (1997) and Lamm (1986),

who articulate this typology in similar ways, culture as a curricular domain involves the cultivation of humanity by engaging with the best of local and global cultural accomplishments. The content of this curricular domain includes past and present human endeavours and achievements from across the globe featured in oral and written works. It often refers primarily to the traditional understanding of humanities, arts, social and natural sciences. It encompasses, for example, among other things, being acquainted with famous literary texts across cultures, scientific theories, historical developments and artworks. This curricular domain has a universal orientation and acknowledges globalization and multiculturalism, pointing to a cosmopolitical orientation, and highlighting the need for social inclusion (Nussbaum, 1994; Hansen, 2010; Appiah, 2017).

Alongside the social curricular domain (hereafter), the cultural curricular domain is found at the heart of the formal curriculum in schools across many countries.

Learning to live harmoniously with the environment, to appreciate it and be able to enjoy it, is a significant aspect of living a flourishing life, one that education should facilitate.

There is ample room for creatively redesigning curricula in ways that maintain high standards of knowing and better contribute to flourishing.

Framed here as a relationship with culture, it entails the interaction with knowledge of past and present achievements, including humanities, arts and sciences. It also encompasses acquiring capabilities that allow a movement from being merely knowledgeable about culture to someone who can benefit from it and potentially contribute to it (e.g. appreciation of knowledge, critical thinking, cultural literacy). Many leading educationalists point to, and elaborate on, the importance of being exposed to past and present culture to expand one's potential for a flourishing life (**Dewey, 1938; Eisner, 1979; Peters, 2010**). In addition, the definition of flourishing endorsed in this report, which stresses the value of engagement in meaningful activities, reinforces the significance of culture because it is from culture that most activities draw their meaning and value. Moreover, the relationship advocated here reiterates and highlights the appreciation of non-instrumental knowing and critical thinking. In proposing culture as a curricular domain, however,

there is by no means a suggestion that the conventional fragmented disciplinary curriculum, critiqued by many (**Dewey, 1933**), is to remain the organizing framework for schools. There is ample room for creatively redesigning curricula in ways that maintain high standards of knowing and better contribute to flourishing (**Fogarty, 1991; Barbezat and Bush, 2013; Reiss and White, 2013**).

The centrality and value of the cultural domain in the curriculum, however, have been challenged, especially lately. Firstly, the association between the cultural domain and formal schooling indicates that this domain, if inadequately delivered, may lead to boredom and antagonism on behalf of students due to the imposing of specific subject matter on students. Special care then needs to be taken when selecting subject matter so as to maximize students' present and future interest, to form a healthy lifelong relationship with knowledge. Nevertheless, it must be kept in mind that the ability to appreciate and benefit from culture often requires a long

While the importance of teaching and learning is crucial in all domains, it is important to reiterate here that, eventually, it will not be the choice of subject matter or discipline that cultivates capabilities of critical thinking but rather how they are taught and by whom.

process in which one learns about it and is exposed to it (Throsby, 2001). To promote flourishing, education should, therefore, not refrain from engaging with culture, even when the benefits of it are not immediately apparent to students or parents because its value often becomes evident only after significant engagement. Importantly, however, within the great selection of cultural assets, a curriculum should include ample choice that allows students to select subject matter to their liking (O'Neill and McMahon, 2005). Secondly, today's abundance and availability of knowledge has brought a growing sense that perhaps there is no need to hold as much in the mind as was necessary decades ago. As a result, the idea that learning about culture is an essential part of the curriculum is also undermined. Research shows, however, that this is an illusion and knowledge is still essential (Yates and Young, 2010; Young, 2013). Wineburg (2018), for example, demonstrate that the very situation of abundance and availability of information, in fact, requires increased capacities for

critical thinking because along with this abundance comes the need for wise consumption, sifting and adjudicating. Wineburg (2018) hence particularly emphasizes the learning of History as a discipline, by which such skills are cultivated. Furthermore, if we hope to cultivate good thinking skills, knowledge itself cannot be compromised, for the cultivation of thinking requires the building blocks of knowledge (Nickerson et al., 2014). It is in light of such claims that cultural curricular domain cannot afford to be too narrow and/or too instrumentally focused. While the importance of teaching and learning is crucial in all domains, it is important to reiterate here that, eventually, it will not be the choice of subject matter or discipline that cultivates capabilities of critical thinking but rather how they are taught and by whom.

Thirdly, the last centuries have seen a growing emphasis on the instrumental aspects of education, especially those related to the economy (Nussbaum, 2010). For example, in some parts of the

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world, there is a process of academization of kindergartens in which arts are gradually overtaken by preparation for first grade (**Bassok, Latham and Rorem, 2016**). Another example is the way sciences have overtaken the humanities in university departments (**Newfield, 2012**). The rationale here is economic and budget pressures can often shape what students learn, especially in higher education (**Bok, 2009**). Setting aside what ought to be prioritized, trends such as these reduce the cultural domain and, as such, they directly reduce the potential for education in and for flourishing. Hence, as much as possible, a balanced curriculum should be sought, one that also acknowledges the importance of cultivating a culture of leisure time in which individuals can pursue worthwhile activities of their liking (**Noddings, 2006**). Following a point made above, however, the separation of the domains can itself be considered from a critical perspective, and designing balanced curricula that form intersections between them is a valid possibility (**Zajonc, 2006**).

To conclude, by engaging in a relationship with culture, education makes an indispensable contribution to flourishing. It opens avenues for developing potential, finding meaning, strengthening a sense of belonging and even new forms of pleasure (**Scitovsky, 1992; White, 2011; Gilead, 2017b**). Moreover, the cultural domain has the potential to strengthen interconnectedness in a globalized world. As Hansen (**2010, p. 1**) suggests ‘curriculum across all subjects can be understood as a cosmopolitan inheritance’ (**WG1-ch1**). Cultural achievements, such as a poem by Rabindranath Tagore or Pablo Neruda, allow for both cultural specificity and the transcending of gender, race, regionality, religion and other potential identities, allowing for the sharing of a common ground. Similarly, scientific advancements, such as a search for a vaccine for COVID-19, can be seen as a shared universal interest for most individuals and societies regardless of nationality. The cultural domain lends itself to a universal perspective that strives toward global interconnectedness.



SOCIETY

The social curricular domain, as distinct from the cultural curricular domain, encompasses the relationship between individuals and institutions and between individuals and groups.

It includes, among other things, the political, economic and legal spheres. Whereas the cultural curricular domain, as conceived here, has a universal orientation, the social domain is traditionally more oriented towards the community or the nation. The social curricular domain

In recent decades, scholars have placed an increased emphasis on forming critical citizens able to reflect on politics, sensitive to questions of social and economic justice and aware of power relations among individuals, groups, genders and so on.

is examined here from both a functionalist perspective (**Durkheim, 1972; Parsons, 1985**) and conflict based perspective that emphasizes powerrelations (**Marx, 2000**). The ability of an individual to take an active part in society is considered fundamental to flourishing and has traditionally been one of the main purposes of education. While individuals may differ in their need to be part of groups, to a great extent flourishing depends on a sense of belonging (**WG3-ch3**). It would be difficult to foster this sense of belonging without being immersed in one's society, which necessitates understanding of its norms and being capable of navigating one's life within these norms.

Preparing people to live in society and take an active part in it has always been seen as an essential part of education. Almost all forms of formal education are supposed to equip students with the knowledge (e.g. numeracy and literacy), skills (e.g. professional skills) and values (e.g. moral or political) necessary to successfully participate in social life (**Biesta,**

2009). Significantly, over the last two centuries, nation-states have gradually become the social entities that guide education. In its current form, the schooling system was mainly created to serve nation-states and ensure that citizens can fulfil their role in it and are faithful to it (**Green, 1990**). Hence, ideals of citizenship are often defined by the state according to its political philosophy, such as liberalism, communitarianism, republicanism and conservatism (**Beiner, 1995**).

In recent decades, however, scholars have placed an increased emphasis on forming critical citizens able to reflect on politics, sensitive to questions of social and economic justice and aware of power relations among individuals, groups, genders and so on. At the same time, it was, and is increasingly, held that citizenship education should strive to form active, responsible and participatory citizens rather than docile subjects (**Westheimer and Kahne, 2004**). Hoskins (2006), for example, argues that active citizenship should emphasize

Education is seen as necessary to create a global citizenship in which students know their place in humanity and human rights.

participation that upholds human rights and democratic principles, such as non-violence and mutual respect. However, some go even further and argue that a more transformative and human-centred approach is critical for promoting flourishing. According to this view, what is required for flourishing is active citizenship that demands that [young] people are also informed, engaged and empowered (Akar, 2019). According to this approach, citizenship is also understood in terms of degrees of agency. For Banks (2017), for instance, a transformative form of citizenship demands that students use their agency to achieve sustainable change, even if it requires violating government laws. Struggles for gender or race equality should be regarded as worthy and desirable.

In addition, it is becoming increasingly clear that, in dealing with society, education in general, and citizenship education in particular, must extend beyond the students' relationship with the nation-state. On the one hand, globalization

has increased international interdependence and brought with it the formation of communities and political institutions that go beyond the nation-state. As a result, it is claimed that education for citizenship must transcend national borders and prepare students to live in global communities (Falk, 1993). Education is seen as necessary to create a global citizenship in which students know their place in humanity and human rights (Osler and Starkey, 2005; WG3-ch4). On the other hand, the significance of groups and communities, as well as civil society and the public sphere, has been stressed by many thinkers (Habermas 1991; Taylor 1994; MacIntyre 2017). An education for flourishing, therefore, must not neglect these crucial aspects of social life (McLaughlin 1992; Meyer and Boyd 2001; Callan and White, 2002).

It must be remembered, however, that in many contexts around the world, education for active citizenship is undermined by classroom pedagogies. Freire (1970) argues that pedagogies that require children to uncritically



receive and reproduce information provided by a higher authority dehumanize them into receptacles waiting to be filled. Memorization, the avoidance of deliberative dialogues and the absence of emotion management are

prevalent in countries affected by armed conflict, especially in the global South (Weinstein, Freedman and Hugson, 2007; Quaynor, 2012; Akar, 2019). To achieve greater flourishing, then, not just new ideals but also new methods must be developed and implemented.



It is maintained that the present emphasis on economic competitiveness and productivity leads to inequalities, social tensions and the marginalization of other crucial educational aspects.

Another notable aspect of social life to be addressed by the curriculum is the economy. The idea that education can significantly contribute to the economy dates at least as far back as the eighteenth century, but it has come to occupy centre stage in educational policy in the last four decades. Following the development of human capital theory, at the level of individuals, education is seen as essential for finding employment and increasing personal wealth (Becker, 2009). On the social level, because of its potential contribution to increasing worker productivity and generating and disseminating knowledge, education is regarded as vital to economic growth and its subsequent benefits (e.g. improved living conditions, higher employment rate) (Stiglitz and Greenwald, 2014). The centrality of the economy in determining the standards of living of both individuals and societies make dealing with the economic aspects of life into an essential component of education for flourishing. Indeed, the preparation to succeed in a competitive global economy

and employment market by equipping students with the necessary knowledge, skills, and traits has become a priority in educational systems around the world. Nevertheless, questions are increasingly raised about the way education currently relates to economic matters and specifically their prioritization. It is maintained that the present emphasis on economic competitiveness and productivity leads to inequalities, social tensions and the marginalization of other crucial educational aspects (Baptiste, 2001; Brighouse, 2006). All these have a potentially harmful impact on flourishing. In addition, it is held that to effectively promote flourishing education must encompass economic dimensions that currently receive little attention, such as consumption and how to use available resources in a way that is more conducive to flourishing (Scitovsky, 1992; Gilead, 2017a; WG1-ch1; WG1-ch2).

To conclude, formal education tends to prepare students to integrate into the political and

To promote flourishing, education should extend students learning by teaching them to think critically, exercise agency and strive to improve the political and social aspects of society.

economic aspects of social life, but this might not be sufficient for flourishing. To promote flourishing, education should extend students by teaching them to think critically, exercise agency and strive to improve the political and social aspects of society. In addition, education should go beyond the state and the economy and deal with the global and communal aspects of life. This section only touches on this briefly and it is also somewhat difficult to distinguish between the social realm and the interpersonal since the lines between them are blurred. For this reason, some aspects that may be considered as part of the society curricular domain will be examined in this report under the interpersonal curricular domain.

TECHNOLOGY

The word technology, derived from the Greek words 'techne' (artefact) and 'logos' (knowledge), refers to the artefacts that are invented or adapted with the purpose of addressing human

challenges. In this context, artefacts can assume a material (e.g. computer hardware) or non-material form (e.g. software); technology also includes associated processes that surround the use of artefacts. Over the course of history, and especially in the last two centuries, the role of technology in human life has become more central. Moreover, in recent decades accelerated technological changes and advances have made technology indispensable for almost every aspect of life, from work to leisure to personal relationships. The COVID-19 pandemic has only pushed this trend further (WG2-ch6 for further discussion on education and technology). It is, therefore, essential that education in and for flourishing takes full account of the significance of technology. That said, we frame the relationship with technology in light of both its positive potential contributions to flourishing, as well as its more contested and negative aspects and side-effects, acknowledging, for example, claims of its negative impact on attention span (Carr,

The emphasis on preparing students for the technological sphere has extended beyond techno- and media-centric conceptions to include more human-centric aspects.

2010), on consumerism and non-critical education (Postman, 2011) and on interpersonal relationships (Turkle, 2017).

Technology, as a curricular domain for flourishing in education, can be conceptualized as a domain-specific and a transversal relationship. Domain-specific technology competencies can serve as a pathway for moving from digital literacy to digital fluency, which is foundational for becoming responsible and active citizens. As a domain-specific relationship, individuals can learn about technology as a subject and develop, both within and outside schools, skills to engage in lifelong learning. New curricular directions have emerged to support learning in a new age; most notable among these is the emphasis on computational thinking, the use of digital technologies to engage in innovation and entrepreneurship and understanding how advanced AI technologies, such as algorithms, can construct our lived experiences in the digital world. On the other hand, from a transversal perspective, technology

can be seen as a means to support the achievement of other educational goals, with a focus not only on problemsolving and disciplinary learning, but also on developing higher-order thinking skills that can guide self-regulated learning and acquiring a deep understanding of the world in which we live.

Significantly, however, over the years, the emphasis on preparing students for the technological sphere has extended beyond techno- and media-centric conceptions to include more human-centric aspects. It is recognized that unchecked technological developments can have potentially detrimental impacts on many dimensions of life that are essential for flourishing, such as the environment, health and politics (WG3-ch5). As a result, education for technology, it is claimed, should be viewed as an ‘ethical practice of facilitating learning and improving performance by creating, using and managing appropriate technological processes and resources’

..in order to best promote flourishing, the curricular integration of technology should also prepare students to engage in ethical and responsible citizenship.

(Januszewski and Molenda, 2013, p.1). It should also include ‘the application of knowledge to support the development of productive, thoughtful and responsible persons’ (Spector, 2015 p. xxvii). Such views place technology as central to flourishing, acknowledge the role of technology in human activity and indicate the active relationship between humans and technology.

As in the case for all other curricular domains, the overarching goal should be seen as helping learners progress from a level of familiarity with technology, through acquiring digital literacy skills to having the ability to become an active agent in shaping technology and thus participating in its creation. The notion of empowerment should be at the center of a re-envisioned role for technology in education (Kyza, 2017). The International Society for Technology in Education (ISTE) describes seven types of standards that students need to achieve to become empowered actors in today’s complex societies. These standards

are particularly relevant to flourishing and relate to students’ abilities to:

- set personal learning goals and choose technologies that can support students in achieving them (empowered learner);
- be responsible and ethical citizens of the digital world (digital citizen);
- use diverse resources and actively engage in knowledge building (knowledge constructor);
- understand how technology works and be involved in how technology can be shaped to support collective and individual goals (innovative designer);
- employ advanced technologies to solve complex problems (computational thinker);
- select appropriate digital means to express and communicate with others (creative communicator); and



- use digital tools to collaborate with others, and to understand global challenges from multiple viewpoints (global collaborator).

Care should also be taken to ensure that relief, inclusion and democratization are not empty promises, but can be realized through technology (Macgilchrist,

2018; Buck, 2020).

Finally, in order to best promote flourishing, the curricular integration of technology should also prepare students to engage in ethical and responsible citizenship. In a conceptual analysis, Choi (2016) identifies four components of digital

It is hence essential that education does not only focus on the technical aspects of using technology, which is in themselves conducive to flourishing, but goes beyond this to secure the proper development and use of technology that serves to promote human flourishing.

citizenship that relate to Ethics, Media and Information Literacy, Participation/Engagement and Critical Resistance. Choi's claims are aligned with contemporary views of technology that dismiss perspectives of technology as value-free and unproblematic (Gonzalez, 2015) and propose a critical view of technology, call for media and information literacy education, and seek to engage students as creators not just consumers of technology. In this context, technology should be understood as a human activity to be debated, altered and shaped to meet specific needs.

To conclude, at present, technology has unprecedented significance in human life and hence in human flourishing. Education must, therefore, engage with it deliberately. Technology, however, is a double-edged sword that holds much promise but also poses grave danger to human flourishing. It is hence essential that education does not only focus on the technical aspects of using technology, which are in themselves conducive to

flourishing, but goes beyond this to secure the proper development and use of technology that serves to promote human flourishing (WG2-ch6; WG3-ch7).

INTERPERSONAL

The 'interpersonal' is the curricular domain associated with an individual's engagement with other individuals and groups. The premise underpinning the need for this curricular domain is stated in MGIEP (2020, p. xxv): 'humans are complex social and emotional beings whose well-being depends on learning to communicate their needs to each other effectively and managing their emotions in healthy ways'. While people may differ in regards to their inclination to engage with others, it is hard to imagine a flourishing life without the capabilities required for understanding others, being able to communicate and collaborate with them, or knowing how to extend and receive care. This applies across ages (Mayseless, 2015). Our view of these various relationships is informed by a

Taking relationships to be a fundamental aspect of education, this is probably the most straightforward curricular domain as it is consistent with the understanding of relationship as based on human-to-human interaction.

holistic understanding of human beings grounded in affective and social neuroscience (Immordino-Yang, 2015). That is, when considering the enhancement of our ability to communicate we rely on advancements in these fields that show the substantial role of emotions and embodied processes in determining this ability (Damasio, 2006; Singer and Lamm, 2009). We further ground our case in growing evidence of the fact that interpersonal capabilities can be cultivated (MGIEP, 2020).

Taking relationships to be a fundamental aspect of education, this is probably the most straightforward curricular domain as it is consistent with the understanding of relationship as based on human-to-human interaction. This applies to the most pervasive relationships in educational spaces (WG3-ch7) concerning teacher–student, student–student and teacher–teacher relationships; however, adopting a broader view, we acknowledge these encounters beyond the institutional form of education under this curricular

domain (WG3-ch7). Accordingly, formal, non-formal and informal relationships and encounters are to be considered here as well. In addition, the opportunities for curriculum development within this domain are diverse, spanning conventional classroom settings to outdoor activities, team sports, community projects and several others.

Concepts such as friendship and relationship building in the discourse of education date back to Aristotle and have been revisited by philosophers, such as Nel Noddings (2003a) who argues strongly that these are central and, often, even more important than various conventional topics, such as Algebra. However, despite this history and the pervasiveness of relationships in an individual's life, throughout most of the twentieth century, the interpersonal cannot be said to have been a substantial curricular domain in much of public education. This has been changing in the past three decades with the significant rise of the discourse focused on an aggregate of terms – ‘soft skills’, ‘twenty-

first century skills' and social and emotional learning (SEL), which we will adopt here given both its pervasiveness and its specific focus on the interpersonal domain (Jones and Bouffard, 2012; Durlak et al., 2015; MGIEP, 2020), (WG3-ch4). SEL has developed for a variety of reasons, including a growing awareness of the importance of social and emotional intelligence and its contribution to success in life (Goleman, 1995, 2008), evidence of the importance of nurturing relationships in childrens' and adolescents' development (Siegel, 2015) and the growing need for collaborative skills in the jobmarket (OECD, 2018). In the last decade, the focus on cultural competencies in SEL has increased based on various challenges, such as migration, racism, misogyny, poverty and mental health, which have led to a need to address the socio-emotional dimensions of educational institutions both from the perspective of preventative health and as a proactive educational orientation (Greenberg et al., 2003). The learning environment has become complex as students and teachers deal with

diverse racial, ethnic, gender, socioeconomic and language contexts (Weissberg et al., 2015).

Social-emotional capabilities grant individuals the ability to conduct themselves wisely and considerately in relationships with others. Various components have been described and featured in different models of SEL. Jones and Bouffard (2012) focus on cognitive regulation (e.g. attention control, inhibiting inappropriate responses, working memory), emotional processes (e.g. emotional knowledge and expression, emotional and behavioural regulation, empathy and perspective-taking) and social/interpersonal skills (e.g. understanding social cues, interpreting others' behaviours, navigating social situations, interacting positively with peers and adults). The Collaborative for Social and Emotional Learning's (CASEL) model features five competencies of self-awareness, self-management, social awareness, relationship skills and responsible decision making (<https://casel.org/>). MGIEP (2020) emphasizes

Social-emotional capabilities grant individuals the ability to conduct themselves wisely and considerately in relationships with others.

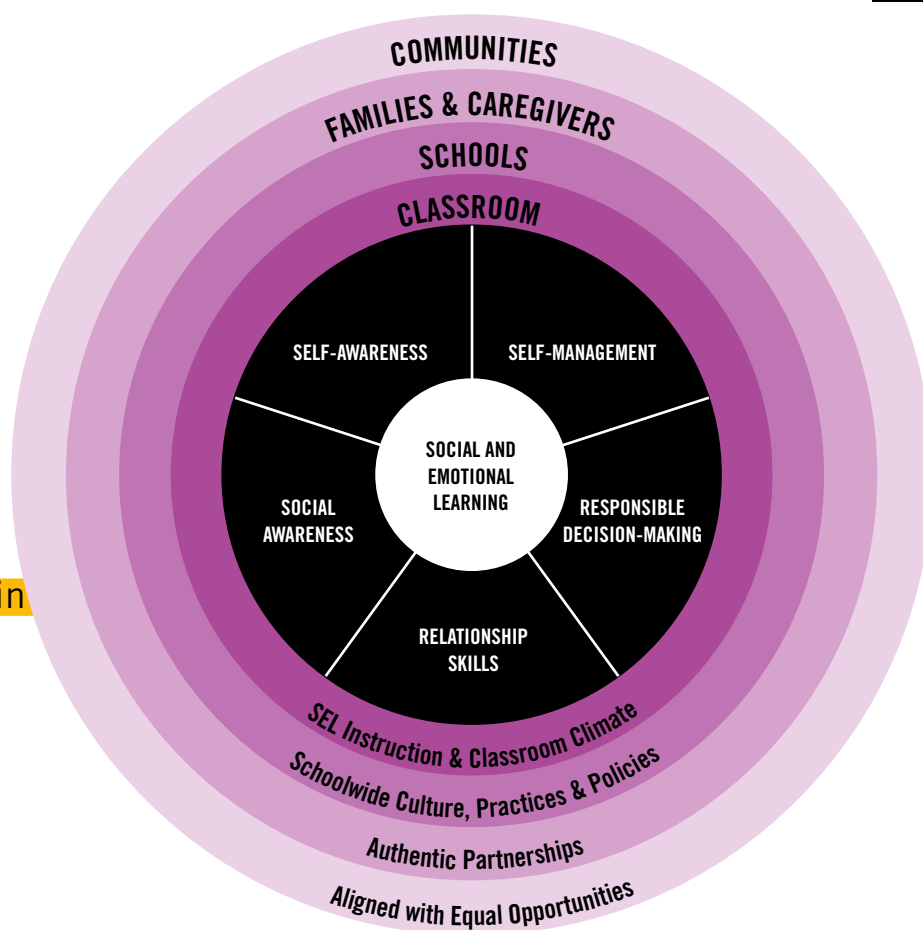


Figure 3: CASEL Wheel. Hyperlink to <https://casel.org/fundamentals-of-sel/what-is-the-casel-framework/>

empathy as the capacity to recognize emotion and to also resonate with others' emotional states such as happiness, excitement or fear; perspective taking, as the ability to consider others' points of view, which includes understanding their thoughts, feelings, motivations and intentions; compassion as the ability to take positive action to alleviate suffering in the other.

While the overarching aim of SEL is to encourage tolerance for different cultures and drive equity in learning environments, it is important to approach it with sensitivity to socio-political contexts, such as racial issues in the United States, migration in Europe, and multicultural heritage in Australasia (Repetto et al., 2007; Durlaket al., 2011; Gregory and Fergus, 2017).

...the interpersonal curricular domain intersects with the intrapersonal domain appearing hereafter as the domain of 'self'.

Importantly, the interpersonal curricular domain intersects with the intrapersonal domain appearing hereafter as the domain of 'self'. This is especially the case when focusing on faculties, such as attention and emotional regulation, which underpin social-emotional capabilities. The line that demarcates these two curricular domains is thin, and clearly some pedagogies applied toward the development of one domain can affect the other; nevertheless, the orientation and aim of the interpersonal domain is the enhancement of relationships with other individuals or groups, whereas the orientation of the domain of 'self' is inward as explained hereafter.

SELF

The proposal of 'self' as a curricular domain acknowledges the fact that individuals are in relationships not only with what is external to them but also with their own bodies and

minds. This curricular domain focuses on embodied first-person experience, which can unfold in the form of thoughts, sensations and emotions. It is hence a curriculum as perceived from the perspective of the 'self' (Pinar and Grumet, 1976). It includes what the 'self' contributes to experience by virtue of its deliberate and non-deliberate responses to that presented both inside and outside formal educational settings. Furthermore, it encompasses the deliberate engagement of subjects with themselves through practices by which attention is turned in (e.g. reflection, mindfulness, other forms of meditation) to explore one's inner experience and to cultivate virtuous living (Ergas, 2017), as well as through practices that are pursued for purposes of mental and physical health (e.g. sports).

Looking back historically, several contexts and fields not only warrant the possibility to consider such relationships in curricular terms but also point to its indispensability within a conceptual framework for

The proposal of 'self' as a curricular domain acknowledges the fact that individuals are in relationships not only with what is external to them but also with their own bodies and minds. This curricular domain focuses on embodied first-person experience, which can unfold in the form of thoughts, sensations and emotions.

education in and for flourishing and within curriculum theory writ large. The self domain hearkens back to the Delphic injunction 'know thyself', and Socrates's claim in the *Phaedrus*, 'I am still unable, as the Delphic inscription orders, to know myself and it really seems to me ridiculous to look into other things before I have understood that' (229e-230a). Twentieth century curriculum theorists have pointed to the need to reclaim this orientation in curriculum theory as part of an attempt to balance a growing preoccupation with standardization and accountability that tend to dehumanize education (Pinar and Grument, 1976; Palmer, 1998; Huebner, 1999).

During the first decades of the twenty-first century, the 'self' domain has received strong support with the development of 'contemplative science' that focuses on 'the core capacities, processes and states of the mind modified by contemplative practices' (Dorjee, 2016, p. 1). Contemplative practices, also referred to as 'technologies of

the self' (Foucault, 1988), have developed across cultures and throughout history and incorporate individuals learning to engage skillfully with their own experience toward cultivating awareness, connectedness and fulfilling lives (Roth, 2006). These practices feature a turning of the subjects' attention to, and an exercising of volitional control of, physical and mental habits (Davidson et al., 2012). The scientific study of contemplative practices and findings of their various mental and physical benefits and contributions to teaching and learning have led to an unprecedented rise in their incorporation in education (Shapiro et al., 2015; Schonert-Reichl and Roeser, 2016; Ergas and Hadar, 2019).

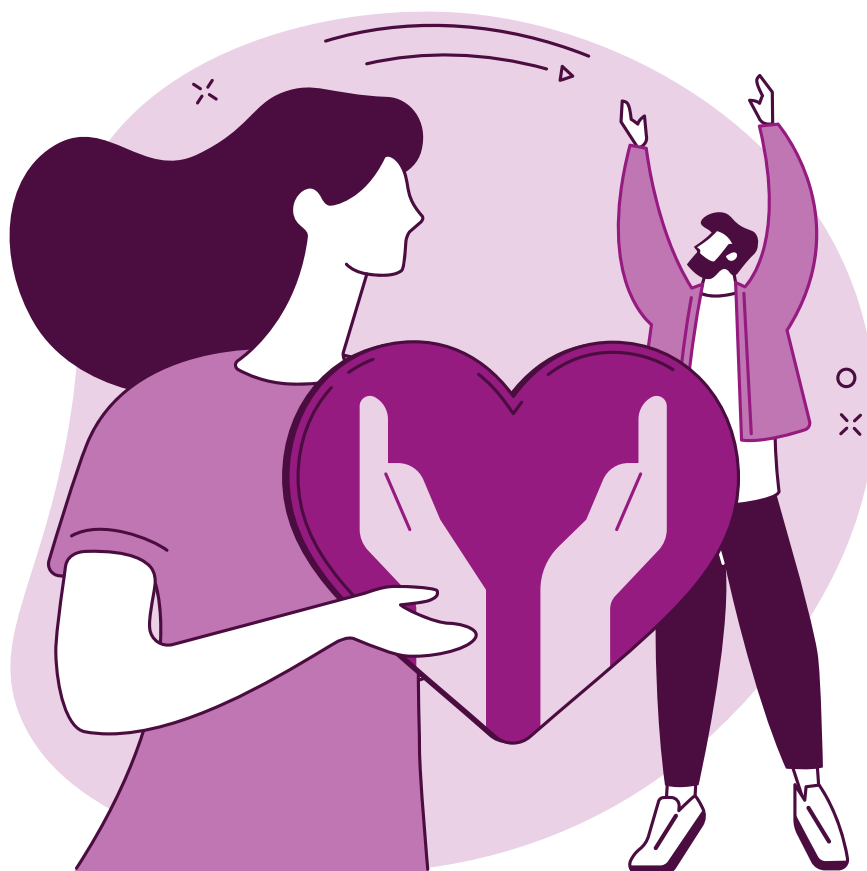
Based on the above, a variety of possibilities emerge for curriculum design concerning the understanding of 'relationships' within the self curricular domain. From a neuroscientific perspective, relationships within the self emerge due to the fact that the human brain produces a significant amount of content

Advancements in the study and implementation of a variety of contemplative practices in educational settings, including mindfulness, meditation of various forms, yoga, tai chi and several others, yield an array of pedagogical and curricular possibilities.

both as a response to what is presented to it deliberately and on its own accord, both in formal learning situations and outside them (Smallwood and Schooler, 2006; Schooler et al., 2011; Christoff et al., 2016). In the past two decades, studies demonstrate that this inner content substantially affects mental states, moods, performance, thought processes, behaviours and engagement with others, and is hence directly associated with flourishing (Bar, 2009; Killingsworth and Gilbert, 2010; Wammes et al., 2016). Diverse ‘inner’ relationships can be considered within this domain, for example, relationship with one’s body associated with bodyimage tied directly with contemporary physical and mental health issues (Kelly et al., 2018); relationship between the person one is now and the person one aspires to become or conversely with one’s past; relationship between different experiences of one’s sense of ‘self’ (Gallagher, 2000; Damasio, 2012); spirituality and inner relationship with God (James, 1985).

Advancements in the study and implementation of a variety of contemplative practices in educational settings, including mindfulness, meditation of various forms, yoga, tai chi and several others, yield an array of pedagogical and curricular possibilities (Bai, Scott and Donald, 2009; Schonert-Reichl and Lawlor, 2010; Kuyken et al., 2013; Lin, Oxford and Brantmeier, 2013; Roeser, 2014; Weare, 2019). Here students (as well as teachers) learn to engage with their own present-moment embodied experience toward cultivating various capabilities that are conducive to their development and flourishing, including self-regulated learning, self-compassion, compassion toward others, awareness and agency (Roeser and Peck, 2009; Rashedi and Schonert-Reichl, 2019).

Some have raised concerns in respect to various aspects of contemplative practices in education, including the ways in which they are sometimes detached from their original traditions, the potential of their engendering solipsism and



their association with religion/spirituality (Ergas, 2019; Purser, 2019). It is hence essential to consider how these practices are presented in secular contexts and in line with the sensitivities of local culture or community (Garcia-Campayo et al., 2017; Proulxet

al., 2020; Kumar, 2021).

In addition to the mental aspects of the self, and closely connected to them, are the physical aspects. Research has found a correlation between years of education and various aspects of health (OECD,

2010). Hence, the domain of physical education and various practices that individuals undertake to maintain and enhance health as well as those that are associated with seeking personal meaning through indoor and outdoor sports can clearly be considered within this curricular domain. It is increasingly recognized that education can make a substantial contribution to adopting a healthier lifestyle, which is central to flourishing. The contribution of education can range from bringing students to engage in physical activity and keeping a more balanced diet to how to lower the risk of infection during a global pandemic.

4.2 .2

CRITICAL ASSESSMENT OF THE CURRICULAR FRAMEWORK

At least two critical issues emerge as we consider the elaboration of

the curricular framework aimed at flourishing:

CURRICULAR DOMAINS AS REDUCTIONISTIC

The demarcation of discrete curricular domains aims to facilitate the development of a curriculum that intends to promote flourishing. We are aware that the dissection of experience into domains is somewhat reductionist and can potentially result in over-simplistic ways of thinking (Eisner, 1979). To counter this, firstly, we reiterate the need to think of the curricular domains in light of Bronfenbrenner's ecological model, in which domains interact with each other, and in light of complexity theory, which views education as webs of interconnected and mutually influencing elements. The breaking of the curriculum into domains, then, aims to aid the conceptualization of education for flourishing and is not supposed to reflect existing rigid divisions. Secondly, we briefly demonstrate how an engagement with one



...we reiterate the need to think of the curricular domains in light of Bronfenbrenner's ecological model, in which domains interact with each other, and in light of complexity theory, which views education as webs of interconnected and mutually influencing elements.

curricular domain easily intersects with other domains to a point where interrelations between them arise and ameliorate the siloed approach to some degree.

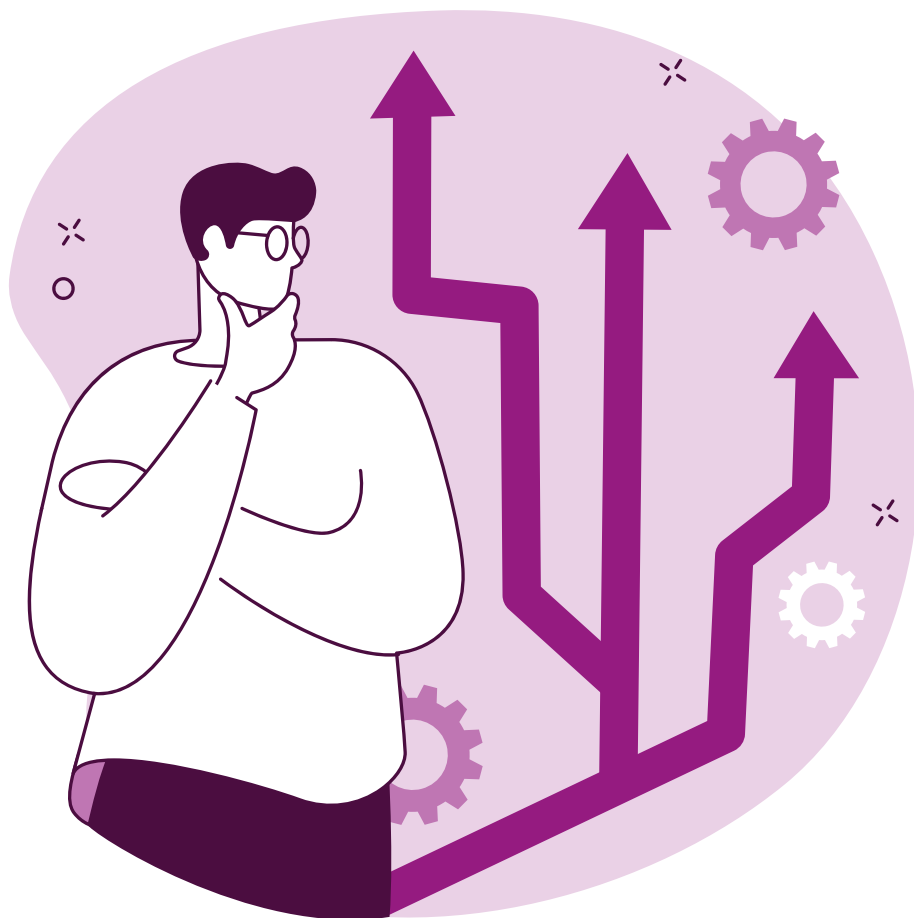
For example, when exploring the curricular domain of technology, one can easily envision an intersection with other domains, such as the social domain. Framing the learning of technology can be considered to be part of acquiring jobmarket skills; framing it in terms of socialjustice questions, such as who has access to technology and how does such access shape learning and flourishing points to intersections with social values. Intersections with the cultural domain come into sharp relief as we consider that cultivating digital literacy can be done by adjudicating knowledge presented in various websites about historical facts (Wineburg and Reisman, 2015).

Pointing to additional intersections, a relationship between the personal, interpersonal and social domains becomes evident when we

consider the development of SEL and contemplative practices as part of the enhancement of cognitive functions, which in turn contributes to one's performativity in the job market, or conversely as cultivating pro-social behaviours toward citizenship education (Davidson et al., 2012; Ergas, 2019).

WHY SIX DOMAINS?

The curriculum is divided into six domains based on deliberations drawing on existing educational and curricular theories and insights from conceptions of flourishing, as well as global challenges and the scientific perspective presented earlier in this report. Building on the rationale for the ISEE Assessment, these have led us to identify central domains that already draw considerable educational attention (society, culture) as well as some domains that may have been underestimated, ignored or marginalized in most educational systems. Based on this, the six domain framework seems to be effective for operationalizing



The six domain framework provides a starting point from which to think about education in and for flourishing

education for flourishing; however, we acknowledge that some may see this framework as incomplete (e.g. some countries may wish to consider 'nation-state' as a separate domain) and add further domains. This is certainly possible. Furthermore, as often happens

in education and following our dynamic systems perspective, implementation may well yield the need to reconsider, change and reassess and, like any framework, its value will need to be tested.

Nevertheless, the six domain



framework provides a starting point from which to think about education in and for flourishing. Each of the six domains makes its own indispensable contribution to the promotion of flourishing. Ideally, after adjustments have been made to the local context and conditions in which education takes place, education should touch on all the mentioned domains (with a possibility of adding others). To best promote

flourishing, education should not focus only on one or two domains, as is mostly the case today, with priority given to the economic and political aspects, while others are marginalized or neglected. An adequate level of educational engagement with each domain, which can, of course, vary according to the context, can significantly contribute towards increasing flourishing.



4.3

Learning trajectories and flourishing aims and manifestations

Further developing the curricular framework, we turn to explain the six learning trajectories (Figure 4) and how they feature in our framework for education in flourishing. This allows us to describe the shift from pillars of education in the Delors Report

(**International Commission on Education for the Twenty-first Century, 1996**) to the ISEE Assessment's learning trajectories.

Recapping on the links between curriculum-teaching-assessment, learning and flourishing aims

Recapping the links between curriculum-teaching-assessment, learning and flourishing aims and manifestations (Figure 1) we postulate a shift from pillars to trajectories.

and manifestations (Figure 1) we postulate a shift from pillars to trajectories. This shift is the result of considering education, not only as an edifice/institution requiring ‘pillars’, but also as a complex process that unfolds based on students’ relationships framed by the curricular domains (and their intersections). This process of a students’ encounter with the curriculum yields a range of learning trajectories that reflect an individual’s development through various modalities, experiences and processes of learning.

The frameworks we propose acknowledge curriculum and learning as combining top-down and bottom-up processes. The curricular domains were described as fields of knowledge, values and practices that can be designed top-down. The learning trajectories reflect the changes in an individual’s knowledge, values and practices as they engage in that curriculum, reacting and responding to it, which supports the learning experience. In doing so, a bottom-up effect is introduced to the formal

and taught curriculum. As a consequence of this encounter, the learner internalizes (some of) the knowledge, skills and values to varying extents and develops in the above-mentioned along a continuum from familiarity and understanding to agency (i.e. becoming an active contributor to the knowledge, values and practices in these curricular domains if the individual is so inclined).

Importantly, whereas the curricular domains have been demarcated as separate but intersecting, the learning trajectories are intentionally bundled together for two reasons.

1. Every curricular domain has the potential to contribute to all learning trajectories. Considering, for example, the encounter of a student with the cultural curricular domain, one can easily envision its contribution to learning to know, to learn, to think, to do and to become.
2. The dynamics of the human brain and mind as a bottom-

Following various trends and changes since the Delors Report....we have shifted focus from learning to know, to do, to be and to live together, to learning to know and think, learning to do and evaluate, learning to learn, learning to live together, learning to live with nature and learning to be and become.

up influence on the curriculum within the learning experience suggests the need to consider a broader (and more realistic) understanding of learning. When examined from the neurophenomenology of the learner's experience, we note that the mind is not merely shaped by the curriculum but also by what it attends to from one moment to the next (Ergas, 2017). When considering the example of a classroom, the personal and interpersonal domains constantly introduce content into the planned curriculum (e.g. student inner thoughts, relationships between students as they communicate among themselves within a lesson). This content can be related or unrelated to the intended curriculum; regardless, it can yield unintended learning experiences (for better and for worse). Bundling the learning trajectories accounts for these dynamic processes, the fluidity of the learning experience and its less expected and planned outcomes.

Following various trends and changes since the Delors Report (**International Commission on Education for the Twenty-first Century, 1996**), we have shifted focus from learning to know, to do, to be and to live together, to learning to know and think, learning to do and evaluate, learning to learn, learning to live together, learning to live with nature and learning to be and become. All six are discussed and defined below, but briefly outlined here. Learning to learn, which was part of the Delors Report learning to know, is given its own treatment as we acknowledge the rise of independent and auto-didactic forms of learning, which have proliferated in the past decades with the development of the Internet as well as the further development of meta-cognitive concepts, such as self-regulated learning (Zimmerman, 2002; Panadero, Jonsson and Botella, 2017). 'To think' is added to Learning to know, reflecting the discourse around higher-order thinking, as well as the variety of ways that have been embraced and implemented in educational settings in this domain (Gardner, 2000; Lipman, 2003).

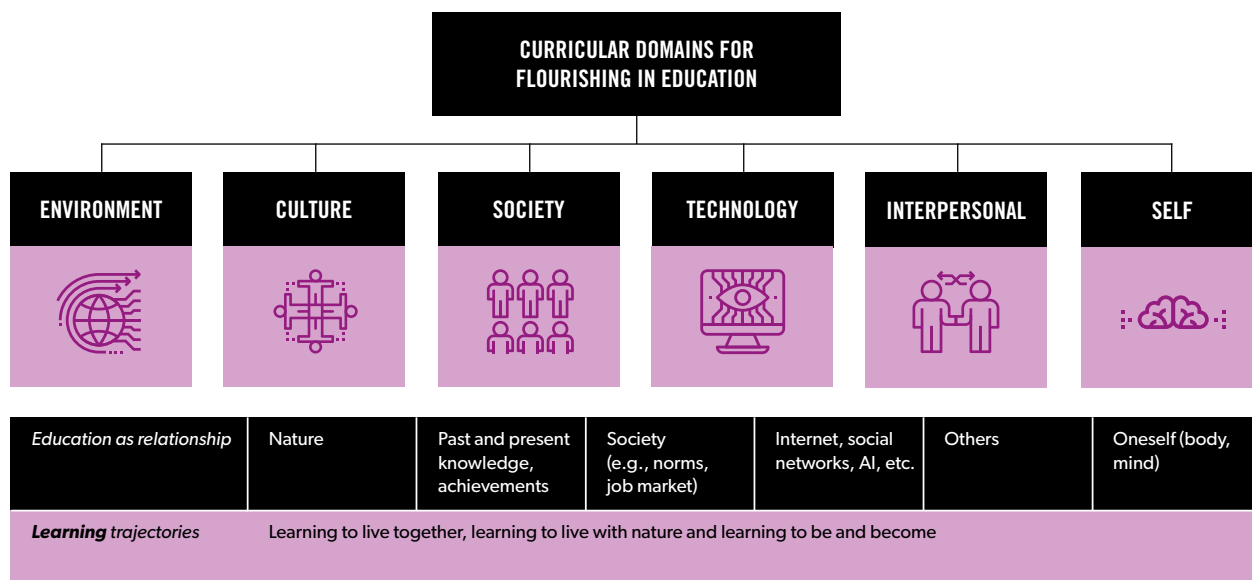


Figure 4. Six learning trajectories in the curricular framework for education in flourishing

‘To become’ is added to Learning to be, stemming from conceptions of flourishing grounded in wisdom traditions across cultures, as well as from humanistic and positive psychology (Roth, 2006; Stock, 2006; Bai, Scott and Donald, 2009; Lin Lin, Oxford and Brantmeier, 2013). Finally, ‘learning to live with nature’ is added to learning to live together to account for the need to emphasize the place of the environment in this framework.

1. Learning to know and think – reflects the trajectory of

knowledge acquisition and the ability to understand, modify and build on it. It refers to the pursuit of knowledge and the various modalities of thinking through which we advance toward broadening schemes of understanding. All curricular domains and relationships entail a variety of forms of knowledge spanning knowledge of culture, science, arts, environment and human rights to knowledge of self and other. We hence acknowledge the need to acquire knowledge but also to develop our thinking

skills by which we learn to draw connections and emerge with novel ideas, conjectures and possibilities. Learning to know and think entails both the pursuit of knowledge for preconceived instrumental reasons and also its pursuit for the mere joy of broadening one's horizons, and opening avenues for unexpected moments of understanding formed serendipitously by the human mind.

2. Learning to do and evaluate – concerns the various how-tos that are associated with deliberate action in pursuit of ethically based goals. This involves the trajectory of exercising skills, beginning with literacy, numeracy and manual skills (e.g. drawing, cutting) and extends to twenty-first century and technological skills. However, we emphasize the importance of the relationships we have with the material and mental products we create by doing, as we learn to evaluate them with a growing sensitivity to their impact on ourselves, others and the environment. The value is not merely in the doing, but in

doing that is embedded within the concept of flourishing.

3. Learning to learn – reflects the trajectory of developing sophistication, ease and/or speed in acquiring new skills and knowledge. Learning to learn is developed based on being exposed to and practising various methods of learning, developing our own ways of learning by ourselves and through externally imposed challenges. It is at the intersection of all curricular domains with the personal and interpersonal domains because it involves both cultivating meta-cognitive skills (e.g. self-regulation, attention) and capacities of collaborative learning toward ethically based ends. Learning to learn hence puts us in relation with ourselves and others, when engaged in particular learning tasks.

Learning to live together – All healthy human interactions depend on the ability to communicate, which depends on understanding and respect. Whether at the individual or at the social/national levels, our

Learning to be and become – situates the individual in relation to his or her selfhood.



ability to survive and hopefully flourish depends on how well we can talk to each other, respect others' needs and wants and jointly work toward social justice and inclusion. Learning to live together concerns the trajectory of developing all aspects of human-to-human communication and relationships, as well as the understanding of social norms within one's context.

4. Learning to live with nature – situated in the midst of an ecological crisis, with clear signs of global warming, anthropogenic climate change and species extinction, amongst others, sustainability is not a matter of choice. From young to old and across the globe, there is a need to learn about the current conditions and how we might confront them. Learning to live with nature hence involves the development of awareness and sensitivity to our place in, and responsibility for, the thriving of nature.

5. Learning to be and become – situates the individual in relation to his or her selfhood.

It stems from our situatedness in the present moment amidst its concrete demands and the trajectory of our temporality as we seek meaning in existence. This implies learning to take care of ourselves physically and mentally, which is often necessary for attending to the needs of others. It expands toward learning how to live wisely amidst change, adversity and uncertainty as we contemplate who we are and who we want to become guided by an informed sense of purpose and meaning in life. It involves learning when to actively exercise agency and to change our and others' conditions as well as when to accept things as they are. Learning to be and become also encompasses when to try to bring about change and when to allow change to happen of its own accord.

Importantly, while the learning trajectories have been bundled to reflect the fluidity of the experience of learning, the intersections between them are to be acknowledged by curriculum developers and implementers.

As a final step in the elaboration of the proposed curricular framework for education in flourishing, we explain the curricular domains and learning trajectories as leading to flourishing aims and manifestations.

4.3 .1

FLOURISHING AIMS AND MANIFESTATIONS

As a final step in the elaboration of the proposed curricular framework for education in flourishing, we explain the curricular domains and learning trajectories as leading to flourishing aims and manifestations. The following points describe the logic of our deliberations and Figure 4 presents the framework.

- Following **WG1-ch2** and **WG1-ch3** we separate flourishing aims and manifestations into those that support the conditions of flourishing and those that provide the capacities for flourishing. The conditions apply to the external aims and manifestations of education in flourishing, namely to the desired state of affairs in the world to which education attempts to contribute. Capacities apply to the internal knowledge, skills and propensities acquired by individuals that can promote their

flourishing and that of others. Education helps to enhance these within the individual as they engage in learning within the curricular domains.

- Ideally, enhanced external conditions recursively feed into education, so that the process of education is situated within a context of flourishing and is not only aimed at flourishing in an ideal future.

- Each curricular domain lends itself to certain conditions and capacities toward which it is oriented; however, here too, there will be clear intersections between domains.

- The terms that have been chosen are to be understood as illustrative and not prescriptive. We intentionally refrained from arriving at a comprehensive list of conditions and capacities for each domain for the following reasons:

- no list would be sufficiently comprehensive;

		ENVIRONMENT	CULTURE	SOCIETY	TECHNOLOGY	INTERPERSONAL	SELF
EDUCATION AS RELATIONSHIP		NATURE	PAST AND PRESENT KNOWLEDGE, ACHIEVEMENTS	SOCIETY (NORMS, JOB MARKET)	INTERNET, SOCIAL NETWORKS, AI, ETC.	OTHERS	ONESELF (BODY, MIND)
Learning trajectories		Learning to know and think, Learning to do and evaluate, Learning to learn, Learning to become, Learning to live together, Learning to live with nature.					
FLOURISHING AIMS AND MANIFESTATIONS	Conditions	Sustainability, (needs elaboration from experts), etc.	Preservation and innovation, scientific progress, etc.	Economic growth, peace, social justice, etc.	Ethical vision-based development, value-driven entrepreneurship, etc.	Inclusion, tolerance, dignity, etc.	Freedom, mobility, actualization, etc.
	Capacities	Sensitivity, environmental responsibility, awareness, etc.	Appreciation, cultural literacy, innovativeness, critical thinking, etc.	Literacy, numeracy, citizenship, human capital (job market skills), etc.	Digital literacy critical thinking, innovativeness, etc.	Empathy, perspective taking, communication skills, etc.	Agency, mindfulness, executive functions, self-regulation, growth mindset, etc.

Figure 5: Flourishing aims and manifestations

- respect for diversity and multiculturalism to grant Member States with freedom to apply culture-specific terms;
- freedom of interpretation within the bounds of the curricular domain is conducive to creative curricular design.

to reflect the learning trajectories of flourishing. Merely offering some illustrative examples, in the environment domain we would hope to see more sustainability practice; in the cultural curricular domain, more reading of literature, growing interest in arts; in the social domain, improved literacy, economic growth and higher rates of voting; in the technological domain, wiser consumption of news and reduced rates in consumption of unethical content; in the interpersonal domain, reduction in racism and growing inclusion; in the personal domain, higher levels of well-being, health, satisfaction and meaning in life.



CHAPTER



4.4

Recommendations

1) *Education is a dynamic system:* Education cannot be fully understood by reducing it to its

constitutive parts. For promoting flourishing, this implies the following.



The promotion of flourishing should be multi-scalar, and advance from micro to macro, that is, from the level of the individual student and teacher to that of policy, and vice versa.

a) *Systemic approach to change*

–The promotion of flourishing should be multi-scalar, and advance from micro to macro, that is, from the level of the individual student and teacher to that of policy, and vice versa. Interventions that are limited to one level (e.g. students only) are unlikely to create sustainable change if not supported by a systemic approach.

b) *Sensitivity to context* – It is essential that education for flourishing be sensitive to the context in which it takes place. Successful models and best practices might not be easily emulated if flourishing is the aim. Local conditions and culture need to guide the adaptation of interventions in order to increase chances of success.

c) *Embracing multidisciplinary and interdisciplinary approaches* – No field exhausts the understanding of human beings, social systems and their flourishing. Diverse disciplines and fields are necessary as different

entry points for promoting as well as overcoming hindrances to flourishing.

2. *Results of education in and for flourishing*: Education for flourishing should have three main end results.

a) *Capacities, capabilities and propensities* – Education should provide individuals with a range of mental, physical and practical capacities and capabilities that increase their ability to choose and follow their own path towards a flourishing life. Education should also develop the propensity to act on these spontaneously, by will or as an acquired habit.

b) *Interpersonal flourishing* – Each individual has the power to affect not only their own flourishing but that of others. Education should bring individuals to contribute to flourishing in widening interpersonal circles (e.g. through acts of caring or enabling others to develop their own agency).

By supporting people to engage in a relationship with culture (e.g. humanities, arts, leisure), education makes an indispensable contribution to flourishing.

c) *Conditions of flourishing*

– Education should encourage individuals to contribute to the creation, maintenance and enhancement of the conditions (e.g. environmental, political, economic, cultural) that facilitate flourishing (e.g. protecting the environment).

c) *Framework for education in and for flourishing:* Curriculum, teaching and assessment should all be coherently oriented towards generating learning that is conducive to promoting flourishing in order to reach the three end results listed above (see Figure 1).

4. *Curricular framework for education in and for flourishing:*

To promote flourishing it is recommended that the curriculum encompass the following six domains (see Figure 3). Each domain can be viewed as engaging an individual in a relationship with a different aspect of the curriculum. The curricular domains are as follows.

a) *The environment* – Learning to live harmoniously with the environment, to appreciate it and be able to enjoy it. In addition, protecting the environment and potentially even restoring it has become essential for our ability to live a flourishing life. The curriculum must provide us with the capacities and capabilities needed to conserve the environment as well as the drive to put this into practice.

b) *Culture* – By supporting people to engage in a relationship with culture (e.g. humanities, arts, leisure), education makes an indispensable contribution to flourishing. It opens avenues for developing potentialities, finding meaning, strengthening a sense of belonging and new forms of pleasure. Moreover, the cultural domain bears the potential to strengthen interconnectedness in a globalized world. The significance of engaging with culture for flourishing should not be overshadowed by instrumental and economic considerations.



c) **Society** – Education should prepare students to integrate with the political and economic aspects of social life. To effectively promote flourishing, education

should go beyond preparing students for existing social arrangements. It should also teach them to think critically about these, formulate proposals, exercise

agency and strive to improve them. In addition, education should go beyond the state and the economy and deal with the global and communal aspects of contemporary life.

d) *Technology* – Education must deliberately engage with technology and help learners progress from a level of familiarity with technology, through acquiring digital literacy skills to having the ability to become active agents in shaping technology toward ensuring that it will be in the service of human flourishing. This demands that students learn to engage with technology ethically.

e) *Interpersonal* – Education should enhance the abilities of individuals to conduct themselves wisely and considerately in relationships with others. It should contribute to the development of the cognitive, emotional and social capabilities needed for promoting relationships that contribute to the flourishing of oneself and others. Education should also strive to encourage tolerance for

different cultures and drive equity in learning environments while remaining sensitive to socio-political contexts.

f) *The self* – individuals are in relationship not only with what is external to them, but also with their own bodies and minds. This has far reaching implications for individuals' sense of flourishing. It is therefore essential that education for flourishing provide individuals with inner capacities that enable them to affect their physical and mental experiences (i.e. by means of a variety of practices that direct attention deliberately to their first-person experience).

..individuals are in relationship not only with what is external to them, but also with their own bodies and minds. This has far reaching implications for individuals' sense of flourishing.

5. *Flexibility in the curricular framework:* It is important that the six-domains curricular framework be flexible to allow modifications to the proposed domains and to adapt to the local context and needs.

a) *Adding domains:* The sixdomains framework provides a starting point from which to think

Learning trajectories:
The process of a students' encounter with the curriculum domains will be oriented towards six learning trajectories, which reflect the individual's development through various modalities, experiences and processes of learning.

about education for flourishing. Other domains can be added to it. It is recommended, however, that after adjustments have been made to the local context and conditions, education for flourishing touches at least upon these six domains.

b) *Combining domains:* We recommend using the domains both as ways to design curricula within the particular domains and to dissolve the boundaries between the domains by combining them (e.g. cultivating environmental sensitivity by means of digital literacy).

6. *Learning trajectories:* The process of a students' encounter with the curriculum domains will be oriented towards six learning trajectories, which reflect the individual's development through various modalities, experiences and processes of learning.

a) *Learning to know and think* – knowledge acquisition, understanding and critical thinking.

b) *Learning to do and evaluate* – developing skill and dexterity and cultivating an ability to evaluate their undertakings.

c) *Learning to learn* – becoming a self-regulated learner as well as a group collaborator.

d) *Learning to live together* – developing social-emotional capabilities, communications skills and compassion.

e) *Learning to live with nature* – becoming knowledgeable about and caring for the environment.

f) *Learning to be and become* – taking care of physical and mental health, finding meaning.

7. *Flourishing aims and manifestations:* The curricular domains and learning trajectory lend themselves to improved external conditions and inner capacities, which reflect aims and manifestations of education in and for flourishing (see Figure 5).

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C H A P T E R

5

Human flourishing in schools

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Abstract:

Education for human flourishing needs to foster a range of human capacities. Three relationship levels are emphasized: 1) relationships with other people; 2) relationships with ourselves; and 3) relationships to knowledge or subject matter. In doing so, we argue that education for 2030 and beyond cannot focus solely on maximizing individual cognitive potential, or simply imparting the technical know-how to be successful in the labour market. Schools and educators have a responsibility and important role in promoting values of inclusion, equality, participation and democracy through cultivating capacities at each of these three levels. These relational capacities support the capacity to make ethically-informed decisions and actions that improve individual and collective flourishing, and include being able to: tune in to one's own emotions, thoughts and feelings; understand others' perspectives; develop compassion for self and others; resolve conflicts peacefully; and engage critically with subject matter.

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CHAPTER



5.1

Overview and orientation of chapter

Education and, by extension, schools have traditionally embraced a Cartesian view of

the self; in other words, a sense of self as fully autonomous, rational, self-contained and largely



separable from the social and physical environment. With this assumption of the fundamental separateness of human beings, a primary goal of schooling was to support students to ‘think for themselves’; the individual mind was primary and relations between people were secondary or optional. Moreover, traditional schooling has tended to privilege cognitive advancement (rationality) over emotions, feelings and personal experiences. Curriculum content has tended to be taught objectively – at arm’s length from students’ own lives and experiences (**Palmer, 1983; Zajonc, 2009; Barbezat and Bush, 2014**). All of this has served to reinforce a range of fundamental separations, including between self and other, reason and emotion, mind and body and so on (**O’Toole and Simovska, in press**).

Yet, it is our embodied engagement with the world that orients us and gives meaning to the situations that we encounter. In this chapter, we draw on a range of perspectives that recognize the profoundly interdependent, dynamic and emergent nature of human development and interaction. As shown in **WG1-ch3**, it is increasingly

recognized that human beings exist intrinsically as embodied beings, and mental functions such as perception, cognition and emotion cannot be fully understood without reference to the physical body as well as the social and material environment in which they are experienced (**e.g. Gibson 1979; Varela et al., 1991; Damasio, 2000; Linell, 2009; Cromby, 2015**). Our being in the world is thoroughly interdependent with the existence of others, in that our experiences, actions, thoughts and utterances are bound up with those of other people and shaped by our perceptual grasp of what the physical and social environment affords. Thus, when students and teachers are engaged in thinking, talking, reading or trying to understand, they are interacting with each other, but also with the contributions and knowledge of other people, contexts and cultures. We include a vignette toward the end of this chapter that demonstrates the impact of a relational orientation in the real-life experiences of students and their community.

In line with the definitions of education and flourishing set out

...schools seeking to promote human flourishing need to place relationships at their centre.

in previous chapters, we argue that schools seeking to promote human flourishing need to place relationships at their centre. In the following section, we highlight the importance of relationships at three intertwined levels: 1) relationships with ourselves (or intrapersonal relationships); 2) relationships with other people (or interpersonal relationships); and 3) relationships to knowledge, subject matter or curriculum content. These three relationship levels dovetail with those discussed in **WG1-ch4**. Specifically, **WG1-ch4** highlights six curricular domains for flourishing: environment, culture, society, technology, interpersonal and self. Our ‘Relationships with Others’ and ‘Relationships with Ourselves’ align perfectly with their fifth and sixth domains respectively. However, we have collapsed their first four curricular domains (environment, culture, science and technology) and we deal with these together under ‘Relationship to Curriculum Knowledge’. In doing so, we do not suggest each element is unimportant in its own right; however, we are

interested in exploring curriculum domains in a more holistic way. We seek to explore the nature of students’ relationships with subject knowledge broadly, in ways that can be applied across subject areas. By emphasizing three relationship levels, we argue that education for 2030 and beyond cannot just be about maximizing individual cognitive potential, or about imparting the technical know-how to be successful in the labour market. At the school level, education for human flourishing needs to foster a range of additional capacities, such as the capacity to tune in to one’s own emotions, thoughts and feelings, to develop compassion for self and others, to understand another person’s perspective, to resolve conflicts peacefully, to engage critically with subject matter and for ethically informed decisions and actions to improve individual and collective flourishing. These capacities are crucial for supporting students to respond to the question of how human beings can live well together on the planet with its finite resources.

5.1 .1

INTRAPERSONAL RELATIONSHIPS (RELATIONSHIP WITH OURSELVES)

Traditional classrooms tend to engage students in knowledge about the world outside of themselves (Ergas, 2017). They are educated about mathematics or history, but have little opportunity to engage with how their minds actually work (Ergas, 2017). Gilbert and Choden (2015) note that our minds are often ‘tricky, troublesome’ and difficult to cope with. The human mind has evolved over millennia to respond to threats and challenges to survival; that we sometimes have trouble coping with the demands of contemporary living is to be expected. Yet, in traditional classrooms, academic achievement takes precedence over emotional awareness and self-regulatory skills (Davidson et al., 2012). Gilbert and Choden (2015) argue that, given

what is now known about the human mind, this is nothing short of a tragedy and highlights just how much we orient education towards fulfilling the needs of the economy and society.

More broadly, many of our decisions and actions are guided not by pure rationality (if there is such a thing), but significantly influenced by nonconscious processes, emotions, feelings and sensations, and by our perceptual grasp of what the social and material world affords (Gibson 1979; Varela et al., 1991; Damasio, 2010). This is not entirely problematic since it is well documented that people often make good decisions without conscious deliberation (Kahneman, 2003; Dijksterhuis, Bos, Nordgren, et al., 2006). Nevertheless, our non-conscious decision making is susceptible to powerful biases and social conditioning. For instance, how we interact with others is influenced by a large array of biases associated with gender, race, accents, attire and so on. Moreover, the setting of the interaction (formality, design, familiarity, etc.) will bring its own

Education for 2030 and beyond cannot just be about maximizing individual cognitive potential, or about imparting the technical know-how to be successful in the labour market

set of biases, and the concerns and emotions one is experiencing at the time of the interaction will also play an important role. Thus, our decisions and actions are powerfully shaped by often unquestioned and unconscious habitual ways of thinking. Rather than being governed by mind/body processes about which we are unaware, learning something about how the mind/body shapes subjective experience and influences our actions in the world is an important component of education for the future (WG1-ch4; WG3-ch2; WG3-ch4).

Ergas (2017) discusses this in terms of the importance of an ‘inner curriculum’ in education, which might involve tending to students’ subjective present moment experience, thereby facilitating a sense of integration between mind and body, between knowing and being, and between self and other. An education that invites students to attend to the undercurrent of subliminal thoughts/feelings/sensations offers them greater understanding of human frailties and possibilities for greater agency

over decisions and actions in their personal and civic lives.

There is now growing awareness that the cultivation of emotional balance and attentional skills is fundamental to successful learning and an increasing body of research showing that mindfulness and other contemplative methods can be effective in developing these attributes (Greenberg and Harris, 2012; Roeser and Pinela, 2014). The potential of mindfulness, social and emotional learning (SEL) and other mind/body approaches will be reviewed in section 5.4. Such approaches are not merely focused on individual skill sets or dispositions, but can also enhance empathy and compassionate connection to others, helping to foster ethical actions in the social and physical world (Zajonc, 2009).

There is now growing awareness that the cultivation of emotional balance and attentional skills is fundamental to successful learning.

5.1 .2

INTERPERSONAL RELATIONSHIPS



(RELATIONSHIPS WITH OTHERS)

Interpersonal relationships incorporate the multiple human-to-human interactions between school personnel, between teachers and students, between

students themselves, and at broader levels between school, family and community. The complexities that exist in the formation and maintenance of these relationships require recognition of the interrelatedness of individual, social and ecological systems (**Pianta, Hamre and Allen,**

...care theory broadly suggests the need to understand that the emotional and rational dimensions of our being are intertwined rather than dichotomized or separated, thus challenging the dominant understanding of the fully autonomous self.

2012). Nevertheless, as highlighted in **WG1-ch4**, strengthening the capacity for positive interpersonal relationships has not traditionally been prioritized as a central goal or purpose of schooling (Davidson et al., 2012; Schonert-Reichl and Roeser, 2016). We review extant research evidence in section 5.2 below. Firstly, we present some philosophical perspectives to inform our thinking about interpersonal relationships within the school context.

There are numerous philosophical perspectives on the nature of interpersonal relationships. Nel Noddings (2012, 2013) highlights the universal and inalienable need for care throughout one's life span. Along with other feminist and multicultural theorists (e.g. Gilligan, Walker), she asserts that children, women and men exist in relationships, but that dominant Western culture tends to underemphasize relationships and overemphasize independence and separation. She sees education as being central to the cultivation of caring in society. The teacher as the carer is concerned with the

expressed needs of the cared-for child, rather than the assumed needs of the school or the prescribed curriculum of study (Noddings, 2012). Moreover, care theory broadly suggests the need to understand that the emotional and rational dimensions of our being are intertwined rather than dichotomized or separated, thus challenging the dominant understanding of the fully autonomous self. Care theory thus recognizes the significance of students' emotional or affective development in schools, and challenges the traditional (over-)emphasis on academic achievement.

Martin Buber's (1962) dialogical philosophy provides an orientation for exploring the nature of interpersonal relationships in his famous I-Thou and I-It relational orientations. I-thou is a relation of subject-to-subject, while I-it is a relation of subject-to-object. As human beings, we strive for interpersonal relationships where I is understood in relation to You and vice versa. I-it involves distancing, whereby we separate

Martin Buber's dialogical philosophy provides an orientation for exploring the nature of interpersonal relationships in his famous I-Thou and I-It relational orientations.

ourselves from the other. Buber (1962, p. xiv) says, 'I-Thou is a relationship of openness, directness, mutuality, and presence' while 'I-It is the typical subject-object relationship, in which one knows and uses other persons or things without allowing them to exist for themselves in their uniqueness'. It is all too easy for human relationships to be characterized by I-It interaction (Morgan, Prendergast, Brown, et al., 2015) and this is something that needs to be carefully attended to, especially within the school context.

The term intersubjectivity is often used to refer to shared experiences between individuals or groups. It is a fundamental component of social communication and the new experiences that result from a shared experience (Linell, 2009). However, other people often come with a perspective that is different from one's own. That is, in addition to the emphasis on mutuality and reciprocity, relationships are often characterized by strains and tensions, differences between

people and traditions, and boundaries between communities, knowledge, norms and expectations. Buber concentrates on the close relationship between I and thou and their possibly communion-like interaction.

In contrast, Bakhtin (1986) introduces the notion of alterity to acknowledge what is strange, unknown or different about the other. Communication requires respect for different, sometimes even alien, points of view, prompting reflection and thereby possibly enriching collective knowledge. This focus on alterity is important in school contexts as they provide a space for acknowledging differences of perspective and opinion, asymmetries, and argumentation, competition and conflict, misunderstandings and misalignments.

Others focus more explicitly on power differentials within relationships. When teachers and students engage in interaction, their contributions do not carry the same weight; there is a power differential. Power is not always



negative as is evident in the case of scaffolding – when the more knowledgeable teacher supports

the less knowledgeable student within their zone of proximal development – thereby, in effect,



Freire highlights that in traditional classrooms students can be ‘dehumanized’ and treated as objects, as vessels to be filled, rather than human beings in their own right

empowering them. However, Freire (1970) highlights that in traditional classrooms students can be ‘dehumanized’ and treated as objects, as vessels to be filled, rather than human beings in their own right. Paulo Freire’s critical pedagogy explores the socio-political context where equality and de-socialization are foundational values. For Freire and other critical educational theorists (e.g. Hooks, 1994; Giroux, 2020), education should foster democratic dialogue situated in the learner’s reality, supporting the development of a critical consciousness, whereby learners become aware of the world they live in, critically consider the forces that vie for power, and discover how they can participate in the transformation of their world.

5.1 .3

RELATIONSHIPS WITH CURRICULUM KNOWLEDGE / WORLD

KNOWLEDGE

Education remains heavily biased toward third-person learning, such that students learn about subject matter in an objective way, as though the knowledge is ‘out there’, separate from themselves (Barbezat and Bush, 2014). Palmer (2017) asserts that traditional pedagogies keep students at arm’s length from the subject matter they study, creating a wall of separation between the knower and the known. This in turn creates an ethical gap between the educated person and the world that is inevitably impacted by their actions. First-person and contemplative pedagogies can begin to bridge this rift between knower and known. We explore first person approaches and the wider contribution of curriculum and pedagogy to human flourishing in section 5.3 below. Having provided a tentative orientation for this chapter, throughout the following sections we review literature and discuss how education can enhance these fundamental relationships.



5.2

Relationships with others: school relationships for flourishing

This section addresses interpersonal relationships with a focus on proximal relationships including teacher–student relationships and peer relationships. It also discusses broader school, family and community relationships. We consider the school as a complex dynamic system, emphasizing whole school approaches and the transformative potential of schools.

5.2 .1

TEACHER-STUDENT AND PEER RELATIONSHIPS

In most of the world, children and young people spend a large proportion of their waking hours at school. Their relationships with teachers are crucial not only for their engagement in

school, but also for their well-being outside of school (**Eccles et al., 1993**). A robust body of literature highlights that teacher–child relationships influence socio-emotional and cognitive development as early as preschool and continue to influence students’ social and intellectual capacities throughout childhood and adolescence (**WG3-ch4**). Students who report better quality teacher–student relationships are more likely to have higher levels of psychological engagement, academic achievement and school attendance and reduced levels of disruptive behaviours, suspension and dropout (**Lan and Lanthier, 2003; Lee and Burkam, 2003; Barile et al., 2012**).

Researchers in this area demonstrate that through their day-to-day interactions, teachers influence the quality of students’ social, emotional and intellectual experiences by addressing children’s need to belong (**Pianta, 2006; Wentzel, 1997, 1998**) by providing classroom contexts that stimulate children’s motivation and learning (**Barile, et al., 2012; Quin, 2017**), by fostering a social identity

(**Whitaker, 2020**), and by supporting the development of children’s emotional regulation, behavioural and academic skills (**Hughes, 2012; Wang, Brinkworth and Eccles, 2013; Yowell and Smylie, 1999**).

Furthermore, positive relationships matter, not just for students, but for teachers as well (**Claessens et al., 2017**). Positive relationships with students, in which high levels of affiliation prevail, afford teachers internal rewards and give meaning to their work. Indeed, they are mentioned as one of the primary reasons for teachers to stay in the profession (**O’Connor, 2008; Veldman et al., 2013**) and one of the most important sources of enjoyment of, and motivation for, teaching (**Hargreaves, 2000**).

There are numerous theoretical perspectives on student–teacher relationships, including attachment, motivation and systems perspectives, although many of these ways of thinking about the nature and impact of student–teacher relationships share a great deal of conceptual overlap and should not be considered mutually exclusive (**Pianta,**

Positive relationships with students, in which high levels of affiliation prevail, afford teachers internal rewards and give meaning to their work.

The more that teachers are able to meet students' interpersonal need for relatedness - such as ensuring students feeling cared for, supported and emotionally connected - the more they are likely to simultaneously support students' intellectual and academic needs

1999). For instance, attachment perspectives suggest that, as the interim adult caregiver, a teacher's relationship with their students is one of providing a secure base for exploration of the school environment (Ainsworth et al., 1979). In this way, a feeling of mutual affection between teacher and student may promote student engagement and buffer against negative emotions such as boredom, frustration and anxiety (Wentzel, 1997). Teachers may also serve as significant attachment figures for students who have experienced relational trauma or instability in family life (Bergin and Bergin, 2009). Attachment theory highlights how students' relationships in school may be influenced by their attachment histories with primary caregivers, which shape students' beliefs about the nature of interpersonal interaction. These beliefs may in turn shape students' engagement and participation in the classroom.

From a motivation perspective, both Maslow (1954) and Deci and Ryan (2001) highlight that relatedness or social belonging is a basic psychological need, which

influences intrinsic motivation, self-regulation and well-being (Deci, 2009; WG1-ch3). The more that teachers are able to meet students' interpersonal need for relatedness - such as ensuring students feeling cared for, supported and emotionally connected - the more they are likely to simultaneously support students' intellectual and academic needs (Allen and Kern 2017; Wentzel and Wigfield, 1998).

Relationships with peers are also of central importance to children throughout childhood and adolescence (Wentzel, 2017). They provide a source of companionship and entertainment, help in solving problems, personal validation and emotional support, and a foundation for identity development. Children who enjoy positive relationships with peers appear to experience levels of emotional well-being, beliefs about the self and values for prosocial forms of behaviour and social interaction that are stronger and more adaptive than do children without positive peer relationships. An additional finding is that children who enjoy positive relationships with their

Strengthening the capacity for meaningful relationships needs to be a central goal of schooling for 2030 and beyond. This means placing compassion and connection at the centre of school practices.

peers also tend to be engaged in, and even excel at, academic tasks more than those who have peer relationship problems. For instance, Ladd and Coleman (1997) find that the number of mutual friendships children have in their classrooms predicts changes in school attitudes (gains) over time.

An important factor in fostering positive peer relationships is promoting respect for diversity within the school environment. Craggs and Kelly (2018) link students' sense of school belonging and acceptance of individual identity by the school community. A feeling on the part of young people that their individual identities (including ethnic, cultural and religious identities) are known, understood and accepted prompted a wider sense of peer acceptance and 'fitting in' at school. For instance, Booker's (2007) investigation of sense of belonging for African-American high school students examines the extent to which students 'felt that they could freely be themselves at their school and at the same time be a welcome member' (p. 310).

Irrespective of the different theoretical positions, what is apparent from the above overview is that there exists a consilience of empirical and conceptual literature from across diverse fields, which attests to the centrality of relationships for both student and teacher well-being. The basic desire for relatedness, recognized in educational research, corresponds with the stance that human beings are fundamentally relational beings. There are many important implications for school practices. Strengthening the capacity for meaningful relationships needs to be a central goal of schooling for 2030 and beyond. This means placing compassion and connection at the centre of school practices, nurturing empathy and trust, creating a felt sense of safety and belonging at school, and responding to problems by using restorative and relationship enhancing approaches, rather than relying on coercive or controlling disciplinary approaches.



5.3

Relationships with knowledge: flourishing through what and how students learn in school

In this section, the relationship
to knowledge is explored,

highlighting the connection that
invariably exists between school



'Schools are a human invention. They have a history. They change forms either in reaction to social forces or because of our conscious attempt to change them' (Feinberg and Soltis, 2004, p.10).

and society. As Feinberg and Soltis (2004, p.10) note, 'Schools are a human invention. They have a history. They change forms either in reaction to social forces or because of our conscious attempt to change them'. This suggests the powerful influence of social context on how schools are structured and how they function, at the same time as it points toward the potential of conscientious educators to shape schooling in positive, and possibly divergent, ways toward previously unimagined futures. To the latter point, Vinson and Ross (2001, p. 52) argue 'the key to the curriculum experienced in the classroom is the teacher'.

In light of the influence of social context on education, individuals have sought to explain and understand the relationship between school and society in disparate ways, including:

- functionalism, wherein schools are viewed as the primary instruments for meeting the demands of modern political, social and economic life;

- conflict theory, wherein schools are viewed as important instruments in the never-ending struggle between different groups to hold power and status; and

- interpretivism, wherein global arguments about the role of schools in society are discarded in favour of culture-bound frameworks of particular schools that influence how and why individuals act in certain ways in those contexts.

Interestingly, despite the widely varying nature of these understandings of the purpose of schools, each shares certain commonalities. For instance, there is always a curriculum to be taught, usually rooted in academic disciplines. There is also invariably a hidden curriculum (Jackson, 1968; Longstreet and Shane, 1993), wherein the emphasis of instruction and the ways in which students are taught or treated take on immense significance. Student learning, consequently, takes place both directly and indirectly.

....in order to effectively teach for human flourishing, teachers must consider the appropriate subject much of the overt, explicit or written curriculum, the concept needs to be unpacked. To that end, disciplinary knowledge is often thought to refer to the unique ways disciplinary experts 'create, disseminate, and evaluate knowledge'.

5.3 .1

ON SCHOOLS AS A CONDUIT OF STUDENT RELATIONSHIPS WITH KNOWLEDGE

Bruner (1996, p. 27) notes how 'School curricula and classroom "climates" always reflect inarticulate cultural values as well as explicit plans; and these values are never far removed from considerations of social class, gender, and the prerogatives of social power'. Drawing from Dewey's (1916/2004, 1938/1997) work around experience and education, Singer (2003, p. 69) notes how students learn 'from the full spectrum of their experiences in school, not just the specific thing they are studying in class. They learn from what they are studying, how they are studying, who they are studying with, and how they are treated'. Hence, in order to effectively teach for human flourishing, teachers must consider the appropriate subject

matter for their lessons, the most beneficial pedagogical methods in which to engage their students and how to manage their classrooms in relation to their purpose.

As established in the previous chapter, curriculum is a broad term that can engender a wide range of meanings. At the narrow end of the spectrum, formal schooling usually involves an overt, explicit or written curriculum. This is the intentional instructional agenda that primarily draws from subject areas to provide students with knowledge and skills deemed important. There is often an imbalance here in terms of the degree to which this curriculum focuses on the transmission of standard and socially acceptable views, attitudes and behaviours in any given society, and the degree to which the focus is on the transformation of the learner through critical thinking, reflective inquiry and questioning and critiquing the status quo.

Since disciplinary knowledge represents the bedrock for much

As the de facto 'gold standard' for addressing and solving various societal problems, many think an important aim of schooling is to provide students with scaffolded practice in 'saying(writing)-doing-being-valuing-believing' (Gee, 1996) like recognized members of a discipline.

of the overt, explicit or written curriculum, the concept needs to be unpacked. To that end, disciplinary knowledge is often thought to refer to the unique ways disciplinary experts 'create, disseminate, and evaluate knowledge' (Shanahan and Shanahan, 2008, p. 48). As the de facto 'gold standard' for addressing and solving various societal problems, many think an important aim of schooling is to provide students with scaffolded practice in 'saying(writing)-doing-being-valuing-believing' (Gee, 1996) like recognized members of a discipline.

This belief in the power of disciplinary knowledge leads students to study subjects like mathematics, science, history, literature and languages from early on in their formal schooling. There is general consensus that these disciplines must be simplified for younger students to be able to engage, but even that concern has been addressed through concepts like the spiral curriculum bolstered by Bruner's (1960, p. 33) assertion that 'any subject can be taught

effectively in some intellectually honest form to any child, at any stage of development,' and that schools waste time by postponing 'difficult' topics. Embedded in the study of these disciplines seems to be the assumption that students will actively approach societal and even global problems and issues using disciplinary tools and concepts to produce knowledge, reach conclusions and make judgement, while also formulating their own stance on these issues. But such assumptions about the place of schools in helping students to form relationships with disciplinary knowledge – and how it is constructed – often do not seem to have a firm basis in what actually goes on in many contemporary schools, as will be discussed in the next section.

ON HOW WELL SCHOOLS ARE FACILITATING STUDENT RELATIONSHIPS WITH KNOWLEDGE

Education remains heavily biased toward third-person learning, such that students learn about subject matter in an objective way,

..there is evidence that the growing, seemingly global, emphasis on standards and standardized testing tends to foster acceptance of the notion of instruction as knowledge transmission, while the emphasis on accountability tends to compel teachers to engage in broad superficial content coverage.

as though the knowledge is 'out there', separate from themselves (Palmer, 1983). This in turn may create an ethical gap between the educated person and the world that is inevitably impacted by their actions. Framed another way, Newmann (1990, p. 44, emphasis in original) describes the problem of authenticity and thoughtfulness, or the lack thereof, in school classrooms as follows: 'At best, much classroom activity fails to challenge students to use their minds in any valuable way; at worst, much classroom activity is nonsensical or mindless'. Essentially, Newmann (p. 44, emphasis in original) argues that this situation is unacceptable precisely because it does little to guide students in how to apply knowledge, or how to be thoughtful, when faced with non-routine challenges. Similarly, other researchers find that students often report feeling bored and unmotivated to participate in the learning opportunities typically provided to them in school (Eccles, Lord and Midgely, 1991; Eccles et al., 1993; Jackson and Davis, 2000; Macklem, 2015; Cappella, Aber and Kim, 2016).

Further, there is evidence that the growing, seemingly global, emphasis on standards and standardized testing tends to foster acceptance of the notion of instruction as knowledge transmission, while the emphasis on accountability tends to compel teachers to engage in broad superficial content coverage (Darling-Hammond, 2004; NRC, 2012). Wineburg (1997) claims that this emphasis is problematic because both are based on a view of knowledge that has its roots in behaviourism. This view of knowledge rests on two increasingly controversial assumptions. The first, 'decomposibility', views knowledge as an aggregation of independent units, or 'bonds,' between a stimulus and a response' (Wineburg, 1997, p. 256). This assumption bolsters support for misguided 'banking' models of learning, whereby knowledge can simply be deposited with students (Freire, 1970, 1993). The second behaviourist assumption regarding the nature of knowledge, 'decontextualization,' centres on 'the notion that the skill or



knowledge one learns remains constant regardless of context' (Wineburg, 1997, p. 256). As such, once something is learned, it can supposedly be recalled and successfully employed in any other situation. Both of these behaviourist assumptions

regarding the nature of knowledge encourage teachers to think of instruction as the simple transmission of information as opposed to deeper, more meaningful inquiries with their students.

At the broader end of the curriculum spectrum, how teachers engage their students in learning and how they treat them as individuals also matters. Standards basically assert what is important to know without taking into consideration why it is important to know it. Westheimer and Kahne (2004) effectively demonstrate that the ways in which curriculum is taught can send messages to students that reinforce the relative importance of certain values, such as being personally responsible, participating in one's community to effect change or taking a justice-oriented stance to work to change unjust social, political and/or economic systems. This is also true in how teachers approach diversity in their curriculum and/or via the classroom and school environment. For instance, Nieto (1994) identifies four possible visions for multicultural education, including those grounded in monoculturalism, tolerance, acceptance, respect, and affirmation, solidarity and critique. By providing vignettes that describe how a school

embracing each vision would actually look, distinctions become evident in several important areas, including the extent to which content is inclusive of the contributions, perspective and talents of women or those outside the cultural mainstream; pedagogy is flexible and marked by active methods that provide for student choice; fair and equitable disciplinary policies are developed; and governance structures are shared and allow for community involvement. The choices teachers and schools make along these lines can send implicit messages to students about what matters, and the roles they are expected to play within societal structures. Nieto (1994, p. 69) calls for providing students with apprenticeships 'in democracy and social justice' noting how it would be unrealistic to expect students 'to be able to function in a pluralistic society if all we give them are skills for a monocultural future' (ibid). Finally, even the absence of topics or various methods of learning can send messages to students via the null curriculum (Eisner, 1994).

Finally, even the absence of topics or various methods of learning can send messages to students via the null curriculum (Eisner, 1994). Flourishing is not something that is simply achieved; 'one works at it continually (path), in concert with others (participation), and intentionally with others who are of different ideology, perspective, or culture (pluralism)'.

CURRICULUM AND PEDAGOGY FOR FLOURISHING

All of this begs the question of what kind of curriculum and pedagogy ought we consider to further human flourishing. Dewey (1938/1997, p. 91) argues that one of the central problems in formal education is that it usually fails to consider that the world that existed for one generation is not the same world that will exist for the next generation. According to Dewey (1916/2004), 'Each generation is inclined to educate its young so as to get along in the present world instead of with a view to the proper end of education: the promotion of the best possible realization of humanity as humanity'. Rejecting clear distinctions between content as curriculum and pedagogy as teaching methods (Segall, 2004), which can lead to a passive education that seems largely detached from experience, below are holistic recommendations of emphases that might guide a curriculum for flourishing. The goal here is to help students understand that flourishing is not

something that is simply achieved; 'one works at it continually (path), in concert with others (participation), and intentionally with others who are of different ideology, perspective, or culture (pluralism)' (Parker, 2008, p. 68).

To that end, mounting evidence suggests that students, at any level of their schooling, are capable of engaging in tasks that require them to interpret, analyze, evaluate and synthesize knowledge (Bloom, 1956). This ability can be harnessed toward prompting students to actively engage in socially relevant tasks like crafting position papers on foreign policy (King et al., 2009), discussing controversial public issues (Hess, 2002) and constructing historical arguments and interpretations based on primary source evidence (Levstik and Barton, 1996; VanSledright, 2002). Engaging in these kinds of tasks, especially while working with others who may have varying perspectives, emphasizes critical thinking 'designed to promote a transformation of some kind in the learner' (Thornton, 1994, p. 233). Still, Banks (2001, p. 74) maintains:



Academic knowledge and skills are essential in today's global society, but they are not sufficient. Students must also develop the knowledge, attitudes, and skills needed to interact

positively with people from diverse groups and to participate in the nation's civic life.

Stanley and Nelson (1994, p. 267) suggest the emphasis here might

Academic knowledge and skills are essential in today's global society, but they are not sufficient.

be more on facilitating 'the content, behaviours, and attitudes that question and critique standard and socially accepted views'.

Further to this, as discussed above, much of the overt, explicit or written curriculum of formal schooling is derived from disciplinary content and knowledge. Although the term 'discipline' suggests that clear fields of study exist and each is defined by its own discrete methods of inquiry, this is not always the case. Nelson (2001, p. 22) argues that 'those experienced in academic politics and those with intellectual interests beyond any individual topic of study recognize that academic disciplines are not obviously distinct areas of knowledge with clear boundaries and unique bodies of literature or modes of scholarly inquiry'. Foucault (1972, p. 224) went so far as to claim that 'disciplines constitute a system of control in the production of discourse, fixing its limits through the action of an identity taking the form of a permanent reactivation of the

rules'. Regardless, one thing is clear. Individuals do not go out into the world and interact or try to engage with situations by only drawing from a single discipline or field of study at a time. Our engagement is holistic and not able to be predicted in advance.

For this reason, educators increasingly cite the value of interdisciplinary approaches to education. As established in **WG1-ch4**, six curricular domains seem particularly relevant for students as they relate to the concept of human flourishing. These domains include environment, culture, society, technology, interpersonal and personal. Interdisciplinary instruction accounts for the overlapping nature of these domains insofar as it involves presenting knowledge of constituent disciplines and their relations, connections to other domains and uses in the everyday world. Generally intended as a complement to specialization, this kind of instruction is often justified as a preparatory method for people to consider factors together that are usually



treated in isolation (Bailis, 2002). According to Haynes (2002, p.xv), the nature of these approaches requires one to ‘move away from an absolutist conception of truth to a conception of truth that is situated, perspectival, and discursive and that informs and is informed by the investigator’s own sense of self-authorship’. Interdisciplinary instruction, then,

is not synonymous with a single process, set of skills, method or technique. Instead, ‘it is concerned primarily with fostering in students a self-authorship and a situated, partial, and perspectival notion of knowledge that they can use to respond to complex questions, issues, or problems’ (Haynes, p. xvi).

Service learning typically involves a reciprocal relationship that meets or addresses a community need, purposefully integrates academic content into the experience, prompts students to question, explain and co-construct solutions to various societal issues, and encourages participants to reflect and connect understandings to their personal perspectives.

Closely related to interdisciplinary instruction, inquiry-based, problem-based and project-based approaches represent student-centred approaches to holistic learning that offer choice and encourage meaning-making through active exploration, investigation and application of knowledge to new situations and problems. According to Darling-Hammond et al. (2020, p. 100), the kind of learning that flows from these approaches requires ‘strong self-regulation, executive functioning, and metacognitive skills; resourcefulness, perseverance, and resilience in the face of obstacles and uncertainty; the ability to learn independently; and curiosity, inventiveness, and creativity’. These approaches support higher order thinking and the application of intrapersonal and interpersonal skills that are broadly applicable and relevant into adulthood (NRC, 2012). Shared learning approaches such as these provide opportunities for students to collaborate and learn from peers.

being able to work together to respond to complex questions, issues or problems, there might also be good reason to think about how students can apply developing their knowledge and skills in the community outside of the school walls. One increasingly popular approach to this can be found in service learning. Service learning typically involves a reciprocal relationship that meets or addresses a community need, purposefully integrates academic content into the experience, prompts students to question, explain and co-construct solutions to various societal issues, and encourages participants to reflect and connect understandings to their personal perspectives (Novak et al., 2009). A major benefit of service learning is that it places teaching and learning directly in a social context, facilitating socially responsive knowledge (Conway, Amel and Gerwien, 2009). This can encourage metacognition and the development of transferable knowledge and skills to other kinds of contexts.

In keeping with the theme of



5.4

Relationship to self: support for learners' social emotional well- being as a necessary condition for flourishing

In this section we turn to the intrapersonal level, with close

attention to social and emotional learning (SEL) and mindfulness



as vehicles for flourishing. This inner dimension connects to both of the other levels of relationship, affecting relationships with others, as well as with knowledge and subject matter.

The potential for flourishing applies to all children, and schools play an essential role. However, we must acknowledge the disparity in access to resources and exposure to trauma that are a reality for many. Sadly, not all children enter school with their basic needs – like food and shelter – met on a regular basis. And some children experience a lack of physical and/or psychological safety in their community and/or home. It is very challenging for a student to focus on learning when they have not eaten a nutritious meal or their family faces housing insecurity. Similarly, emotional and psychological distress also interfere with learning (**Shankar and Park, 2016**). The first step in closing the gaps is to ensure that these basic needs for food, shelter and safety are met through school and community resources.

Schools are a microcosm of the macrocosm of society that can disrupt or perpetuate inequities (**Shedd, 2015; WG2-ch5**). Educating children who will enter a world fraught with disparities and challenges requires a reimagining of what is possible. We talk about modelling for children – but, to varying degrees in the United States and other developed countries, it is worth asking what we are modelling when we look at the budget for education compared to defence, the drastic difference in per pupil spending between affluent and impoverished communities, the global climate crisis, a prison system overcrowded and overrepresented by people of color, a health care system that many have no access to, and a pharmaceutical industry that profits from people. We need to truly value education, not as a means of producing workers to feed the economy, but as humans who each have value and the potential to disrupt and reimagine a deficient system. Just as we track GDP, we can examine gaps in health and well-being, across racial groups and the socioeconomic

The potential for flourishing applies to all children, and schools play an essential role.

To promote flourishing in children requires attending to their development holistically.

spectrum, as benchmarks of a nation's success.

To promote flourishing in children requires attending to their development holistically. Children's development is multifaceted, encompassing many distinct yet related areas, including cognitive, physical, social, emotional and spiritual. Growth and development in any one area necessarily impact upon every other area (Diamond, 2007). Given the complex and interrelated nature of the development of this biopsychosocial organism that is a human being, it is to be expected that no single approach holds all the answers. In this section, we review approaches that address multiple dimensions of children's growth, with particular attention to social emotional capacities. These skills are sometimes referred to as non-academic or co-cognitive skills. We prefer the latter and will use the term co-cognitive where relevant, because these skills are inextricably linked to the process and outcomes of learning (WG3-ch4).

SEL offers a powerful tool to promote flourishing in education. It encompasses a host of co-cognitive capacities essential to learning and well-being. These skills, including self and other awareness, responsible decision making and relationship skills are embedded and reinforced across domains from classrooms and schools to the home and community (CASEL, n.d.). SEL is taught in a variety of ways, including through explicit instruction, teacher modelling of behaviour and skills, and integration with academic subjects. According to a landmark meta-analysis that aggregated findings across 213 studies of universal school-based SEL programmes involving over 270,000 K-12 students, SEL instruction is most effective when taught by the classroom teacher and programme activities are sequenced, active, focused on social or personal skills and explicit in targeting SEL rather than general positive development (following the acronym SAFE; Durlak et al., 2011). SEL programmes showed benefits across a range of

social and emotional outcomes and increased students' academic performance by 11 percentile points. A meta-analysis of follow-up effects from six months to 18 years later found lasting benefits of SEL programmes in social-emotional skills and well-being that held across differences in students' racial and socioeconomic background (Taylor et al., 2017).

The Collaborative for Social and Emotional Learning (CASEL) curates a clearinghouse of SEL programmes for different grades that are informed by research (CASEL, n.d.). Programmes tend to be more widely available for elementary age students, with fewer stand-alone SEL programmes available for upper grades. However, there is a recognition that SEL can and should be woven into academic instruction. For example, empathy can be practised through literature by understanding and taking on the perspective of different characters. Subject matter curricula like Facing History and Ourselves can promote greater social and personal awareness

through exploring connections between historical and modern day events, in addition to empowering students to become advocates for social change. It is possible and necessary to cultivate SEL outside of formal programmes, a topic that will be further explored later in this chapter.

A related emerging area is transformative SEL, which intersects with social justice and is concerned with advancing equity in access to resources and outcomes in education. Transformative SEL competencies focus on identity, intersectionality, agency, belonging and engagement as central to furthering social-emotional development and achieving equity in education (Jagers, Rivas-Drake and Williams, 2019). Strategies identified as promoting these transformative social and emotional competencies are culturally infused SEL skill development, project-based learning and youth participatory action research. Also relevant to a discussion of equity are disciplinary approaches.

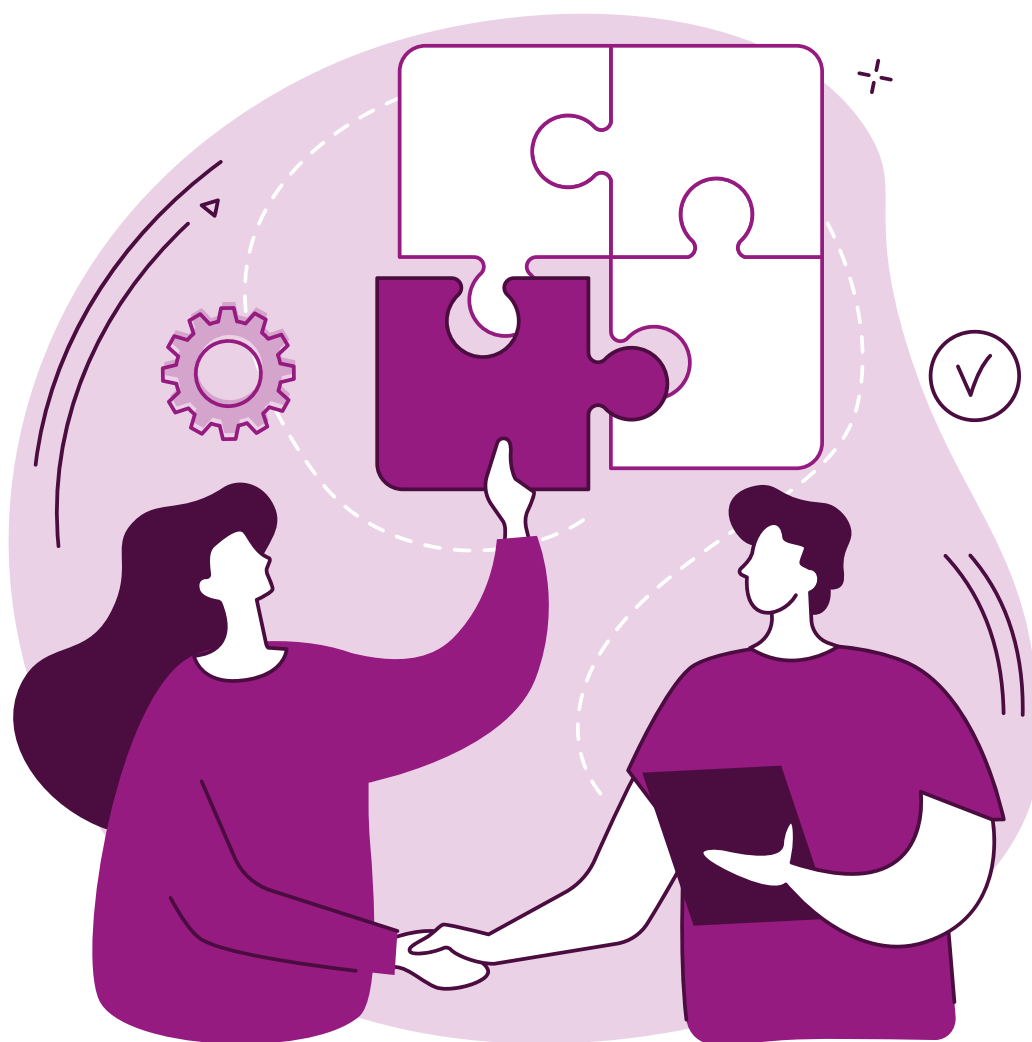
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Closely linked to a discussion of SEL is recognizing the relevance of emotion for learning and creating space for emotions like joy, interest and engagement to promote flourishing through education.

Restorative practices for resolving conflict and behavioural issues offer an inclusive approach to counteract exclusionary, punitive measures that disproportionately marginalize students of color. Research evidence suggests that restorative approaches teach students skills for conflict resolution and help students become better integrated into the school community (Wearmouth, McKinney and Glynn, 2007; Morrison, 2013).

Closely linked to a discussion of SEL is recognizing the relevance of emotion for learning and creating space for emotions like joy, interest and engagement to promote flourishing through education. The role of emotion in cognitive processing and behaviour is supported by multiple lines of research, including evidence from neuroscience and social and cognitive psychology (Immordino-Yang, Darling-Hammond and Krone, 2019). Positive emotion facilitates memory and learning (Fredrickson and Branigan, 2005; Fredrickson, 2013). Therefore, creating conditions that allow for enthusiasm and curiosity

to emerge is essential, for example, through interest driven learning (Edelson and Joseph, 2004). Another finding highlights the salience of interpersonal relationships for learning and eliciting positive affiliative emotions – as such, educators can cultivate relationships with students and facilitate peer groups to deepen learning and social connections (Christenson and Hvasy, 2004; Lieberman, 2012; Wentzel and Watkins, 2011). A third finding is that self-transcendent emotions like compassion, gratitude and awe are linked to prosocial behaviour (Bai et al., 2017; Stellar et al., 2017) – finding ways to bring these emotions into the classroom may play a role in fostering a positive classroom climate. Another line of research from educational neuroscience posits that learning environments optimize social and emotional development by engaging students in three types of activities, each linked to a specific neural network: 1) attention and productivity on tasks; 2) reflection and meaning-making; and 3) making learning emotionally relevant (Immordino-Yang, Darling-Hammond and Krone, 2019).



Another potential approach for cultivating flourishing in education informed by neuroscience is mindfulness. Recognized for its impact on

cognitive as well as affective dimensions of well-being, mindfulness has burgeoned over the last several decades in both the mainstream and as a

In terms of research evidence, meta-analyses of mindfulness in on mindfulness in education is still at a relatively early stage, the evidence base is growing.

topic of scientific inquiry (**Ergas and Hadar, 2019**). Mindfulness is sought after for its stress reducing and wellness enhancing effects. Mindfulness practices tap cognitive processes (attention and executive functions) as well as social-emotional skills (prosocial behaviour, emotion awareness). The promise of mindfulness approaches recognizes that these are fundamental capacities for human flourishing. Furthermore, mindfulness and SEL can be applied in complementary ways (**Schonert-Reichl, Hanson-Peterson and Hymel, 2015**). A distinction that has been made is the relative emphasis on training inner capacities with mindfulness and outer capacities with SEL (**Lantieri and Zakrezewski, 2015**).

In terms of research evidence, meta-analyses of mindfulness in school settings indicate beneficial impacts for students across cognitive, social and academic areas of functioning. In a meta-analysis that included 24 studies in school settings, of which 13 were published, the largest effect sizes emerged for cognitive

performance ($g=.80$), stress ($g=.39$), and resilience ($g=.36$) (**Zenner, Herrnleben-Kurz and Walach, 2014**). Another meta-analysis that included 76 school-based studies examined follow-up results and found that effects were stronger at follow-up than at post-test with estimates of effects ranging from $g=.31$ -.32 at post-test and $g=.40$ -.46 at follow-up (**Klingbeil et al., 2017**). This meta-analysis found the strongest effects for mindfulness ($g=.51$), meta-cognition and cognitive flexibility ($g=.40$), followed by emotion regulation ($g=.32$) and attention ($g=.29$) among factors categorized as process variables, and outcomes variables yielded the largest effects across academic achievement and school functioning ($g=.39$), internalizing problems ($g=.39$) and social competence and prosocial behaviours ($g=.37$). While research on mindfulness in education is still at a relatively early stage, the evidence base is growing.

Mindfulness has as its foundation awareness of breath, body, mind (thoughts and emotions) and phenomenal experience. The

Mindfulness has as its foundation awareness of breath, body, mind (thoughts and emotions) and phenomenal experience.

seven attitudes of non-judgment, patience, openness, trust, non-striving, acceptance and letting go support mindfulness (**Kabat-Zinn, 2013**). Considerable research evidence has documented an array of physical and mental health benefits, which has led mindfulness and its extensions to be applied in virtually every sector, including the field of education. Mindfulness programmes in school settings have been investigated across a range of ages from pre-K to high school. Of 447 empirical and theoretical papers published on mindfulness in education between 2002 and 2017, 37 were empirical studies of K9–K12 students, 40 of K5–K8 students, 40 of K1–K4 students and seven of pre-K students (**Ergas and Hadar, 2019**). While there is variability in programme structure, prototypical offerings for students are held in the classroom from one to four times per week for 20–30, 40–60 or 90 minutes per session over 8–12 weeks (**Mendelson et al., 2010; Flook et al. 2015; Schonert-Reichl, Hanson-Peterson and Hymel, 2015; Bluth and Eisenlohr-Moul, 2017**).

Programmes typically include movement practices as a key activity along with awareness to the breath and body as anchors. Although practices are applicable across development, the length and emphasis on specific practices can be adapted for particular groups of students. For example, it may be appropriate to increase the length of practices as students mature (in terms of age and developmentally), and certain practices like noticing thoughts may resonate more with older students as their cognitive processing and mental world becomes more complex. Physical props and visual aids can assist younger students in practising, for example, by drawing attention to the breath through blowing on a pinwheel or placing a light object on the abdomen to notice how the belly moves up and down with in and out breaths (**Kaiser-Greenland, 2010; Center for Healthy Minds, n.d.**). In general, practices can be adapted and are relevant across development considering that the basic capacity of attention spans developmental stages. Complementary practices



invoking care for oneself and
others, such as loving kindness

and compassion practices,
explicitly address prosocial

It is not only a question of what children learn but how they apply that knowledge and skill in their lives and the world beyond school.

skills. Such kindness practices promote a sense of connection and can be particularly helpful for teenagers who may be prone to self-judgment and self-criticism. Mindfulness and caring practices are wholly compatible and reinforce one another. In addition, teacher modelling and direct experience with training is recommended as a component of classroom mindfulness (Hulburt, Colaianne and Roeser, 2020).

In addition to facilitating academic learning, social-emotional skills are valuable in and of themselves. Rates of mental health afflictions surge in adolescence, and the experience of stress is reported even among elementary age students – these indicate a need for attending to well-being early on in life (Deighton et al., 2019; Wagner et al., 2017). Learning to manage difficult emotions, forming and maintaining healthy relationships, and caring for oneself and an ever-widening circle of others are essential to flourishing. Ideally, approaches to fostering flourishing will be able to grow with children,

and have applicability in their lives both in and outside of school, with skills being reinforced and modelled by adults at school, home and in the community.

It is not only a question of what children learn but how they apply that knowledge and skill in their lives and the world beyond school. How does their emotional well-being and the well-being of others figure into their choices as they go through life? We can have the same knowledge but apply it in vastly different ways. Preparing children to thrive in a global and interconnected world requires more than rote learning. Co-existing and caring for ourselves and others is necessary for thriving. We are surrounded by reminders that living in ways that are self-focused is not sustainable. We need a more well-rounded education to live and fulfill our potential as human beings, recognizing and honouring our interdependence on each other and the earth. Education for flourishing is not complete without an inner education.



5.5

The importance of
educators in creating
a climate that
promotes flourishing
in educational spaces
through social and
emotional learning
approaches

SEL interventions and skill development should occur within supportive classroom and school environments, as well as help to create such a climate.

Finally, we round out this review by stepping back to look at the broader context in which flourishing for children is fostered. Supporting the educators who work with children on a daily basis is fundamental to creating an environment in which students can flourish. Classrooms and schools operate as systems, and decades of research suggest that the unique culture and climate of classrooms and schools affects how and what students learn (Thapa et al., 2013). Whereas school culture refers to a general set of norms, beliefs and practices or ‘the way things are done around here’ (Hemmelgarn, Glisson and James, 2006), school climate ‘is based on patterns of people’s experiences of school life and reflects norms, goals, values, interpersonal relationships, teaching and learning practices, and organizational structures’ (National School Climate Council et al., 2007, p. 4). Culture and climate in combination influence the interactions and relationships among administrators, teachers, school staff and students, and of their approaches to teaching

and learning (Gottfredson et al., 2005). Therefore, any approach to promoting SEL needs to take into account both school culture and climate and systematically and intentionally embed SEL into the fabric of a school.

SEL interventions and skill development should occur within supportive classroom and school environments, as well as help to create such a climate. Additionally, successful SEL-related school and classroom activities foster active student voice in decision making, problem solving and engagement for lifelong learning. Researchers also have shown that effective programmes provide repeated opportunities to practise new skills and behaviours within the programme structure and beyond to real-life situations. That is, providing opportunities to practise within classroom lessons is important, but actual opportunities to practise in real-life situations are likely to have even more impact (Nation et al., 2003; Durlak et al., 2011; Weare and Nind, 2011).

Systemic SEL is an approach to create equitable learning conditions that actively involve all Pre-K to Grade 12 students in learning and practicing social, emotional, and academic competencies.

5.5 .1

SYSTEMIC SEL

Educators are a central component of a systemic approach to promoting SEL in schools as a means to advance human flourishing in the education system. Consistent with WG1-ch4, which highlights education as a dynamic system, recently researchers have shown that promoting the social and emotional competencies and flourishing of students is most effective when explicit attention is given to all levels of the system, including educator SEL (Mahoney et al., 2020). As recently espoused by Mahoney et al. (2020, p. 1),

‘Systemic SEL is an approach to create equitable learning conditions that actively involve all Pre-K to Grade 12 students in learning and practicing social, emotional, and academic competencies. These conditions require aligned policies, resources, and actions at state

and district levels that encourage local schools and communities to build the personal and professional capacities of adults to: implement and continuously improve evidence-based programmes and practices; create an inclusive culture that fosters caring relationships and youth voice, agency, and character; and support coordinated school-family-community partnerships to enhance student development.’

Especially noteworthy in the above description of systemic SEL is that any approach to promote social and emotional competence in students must consider the interpersonal and intrapersonal capacities of the adults in the education system.

Several organizing frameworks have been proposed for systemic SEL, each one outlining a variety of components that influence SEL, such as school culture and climate, or teachers’ pedagogical skills. Each framework identifies similar student outcomes, such as greater academic achievement and improved social-emotional

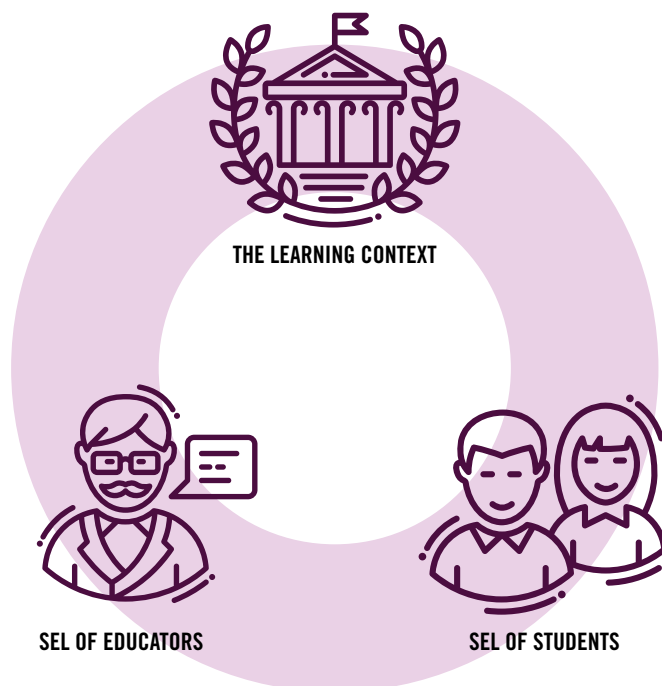


Figure 1. Three essential ingredients of systemic SEL

competence. Many of these frameworks share three distinct and interrelated dimensions – the learning context, students’ SEL and teachers’ SEL – and any discussion of SEL needs to include all three. In Figure 1, these three dimensions are portrayed in a circle to illustrate their interconnectedness and to highlight that each dimension influences and is influenced by the others.

THE LEARNING CONTEXT

To be effective, SEL interventions and skill development should occur in a safe, caring, supportive,

participatory and well-managed environment – that is, an environment that supports students’ development and lets them practise the skills they learn. The learning context encompasses such factors as communication styles, performance expectations, classroom structures and rules, school organizational climate, commitment to the academic success for all students, district policies, and parental and community involvement.

TEACHERS AND SEL

A confluence of research has emerged in recent years

contending that teachers are the engine driving SEL programmes and practices in classrooms and schools (**Schonert-Reichl, Kitil and Hanson-Peterson, 2017**). Yet until recently, their role in explicitly promoting SEL, as well as their own social and emotional competence and well-being, have received scant attention (**Hadar et al., 2020**). What do we know about the well-being of teachers? How does teachers' social-emotional competence influence students' SEL, and how can we promote it? And do prospective teachers receive any information about SEL and their own social and emotional competence in their teacher preparation programmes? The importance of these questions should not be underestimated. If we do not accurately understand teachers' own well-being and how teachers influence students' SEL, we can never fully know whether and how to promote SEL in the classroom. Such knowledge could not only guide theory, it could also give us practical information about how teachers can set students on a trajectory toward being socially skilled and well-

rounded citizens who are ready to responsibly navigate their personal and professional pathways to adulthood. Given recent empirical evidence demonstrating the strong association of teachers' well-being with students' well-being (**Braun, Schonert-Reichl and Roeser, 2020**), to promote flourishing in students, it is essential to first identify the ways to cultivate flourishing in teachers.

Effective SEL interventions and skill development occurs when teachers have the requisite social and emotional skills to create an environment that is safe, caring, supportive and well-managed, and have the competencies and knowledge to effectively implement SEL programmes. Teachers' own SEL competence and well-being play a critical role in influencing the learning context and the infusion of SEL into classrooms and schools (**Jones, Bouffard and Weissbourd, 2013**). As stated earlier in this chapter, classrooms with warm teacher-child relationships facilitate deep learning among students (**Merritt et al., 2012**), and when children feel



...when teachers poorly manage the social and emotional demands of teaching, students demonstrate lower levels of performance and less on-task behaviour.

comfortable with their teachers and peers, they are more willing to grapple with challenging material and persist at difficult learning tasks. Conversely, when teachers poorly manage the social and emotional demands of teaching, students demonstrate lower levels of performance and less on-task behaviour (Marzano, Marzano and Pickering, 2003; Braun, Schonert-Reichl and Roeser, 2020). Hence, it is essential that efforts are made to support the development of teachers' SEL competencies in order to optimize their classroom performance and their ability to

promote SEL in their students (Jennings and Frank, 2015). Similarly, Jennings and Greenberg's (2009) Prosocial Classroom Model suggests that teachers' social-emotional competence and well-being affect the classroom management strategies they use, the relationships they form with students and the quality with which they implement SEL programmes and practices. These factors, in turn, can contribute to a healthy classroom climate that then leads to students' social, emotional, and academic success.

In the context of education, teachers can experience stress when they appraise a situation as threatening and yet have limited ability to change or improve it.

5.5 .2

TEACHER WELL-BEING: THE PATHWAY TO PROMOTE FLOURISHING IN CLASSROOMS

‘Classroom teaching . . . is perhaps the most complex, most challenging, and most demanding, subtle, nuanced, and frightening activity that our species has ever invented. In fact, when I compared the complexity of teaching with that much more highly rewarded profession, ‘doing medicine,’ I concluded that the only time medicine even approaches the complexity of an average day of classroom teaching is in an emergency room during a natural disaster’ (Shulman, 2004, p. 504).

Why is it important to consider teacher well-being in discussions of the promotion of flourishing in students? If teachers support SEL,

what might prevent them from implementing SEL strategies and programmes in their classrooms? Decades’ worth of research shows that teaching is one of the most stressful professions in the human service industry (Montgomery and Rupp, 2005). Work-related stress encompasses the detrimental physical and emotional responses that arise from a mismatch between a job’s requirements and a worker’s capabilities, resources or needs (Kyriacou, 2010). In the context of education, teachers can experience stress when they appraise a situation as threatening and yet have limited ability to change or improve it. Take, for instance, the case of teacher autonomy. Among professional occupations, teachers rate lowest in feeling that they have a say in what happens in the workplace (Gallup, 2014). The percentage of teachers who report low job autonomy increased from 18 per cent in 2004 to 26 per cent in 2012 (Sparks and Malkus, 2015). The proportion of teachers who report significant levels of on-the-job stress is also rising. In a recent Gallup Poll (2014) on occupational



stress, 46 per cent of teachers reported high daily stress – on par with nurses and just above doctors. Teachers and nurses had the highest levels of reported stress among all occupational groups.

Why does teacher stress matter for our understanding of SEL? High levels of chronic stress can lead to occupational burnout – characterized by emotional exhaustion, depersonalization and a low sense of accomplishment in one's work (**Maslach, Schaufeli and Lieter, 2001**). Teacher stress has also been linked to decreased job satisfaction, poor instructional practices and poor student outcomes (**e.g. Schwarzer and Hallum, 2008**). Taken together, there is evidence that the occupational stress of teachers can thwart efforts to promote flourishing in students.

Chronic work stress and exhaustion among teachers is also associated with negative changes in biological indicators of stress. Recent research has found that teachers who report chronic stress demonstrate atypical patterns of

physiological stress reactivity, as assessed via daytime levels of the stress hormone cortisol (**Katz et al., 2016; Wolfram et al., 2013**).

Recent research also shows that, like other emotions, stress is contagious and can spill over into the classroom. That is, when teachers are stressed, students are the collateral damage. Evidence of this comes from a recent large-scale study examining the relationship between classroom environments and students' mental health in over 10,000 first grade students and their teachers. More specifically, Milkie and Warner (**2011**) find that, in classrooms in which teachers reported higher levels of stress in the form of not having access to material resources and not feeling respected by their colleagues, higher numbers of students experienced mental health problems. That is, when teachers did not have access to key ingredients for teaching, ranging from basic resources such as paper and pencils and heating to child-friendly furnishings and computers – students experienced

Recent research shows that, like other emotions, stress is contagious and can spill over into the classroom



higher levels of externalizing problems (e.g. arguing, fighting, impulsivity), interpersonal issues (e.g. expressing emotions, resolving conflicts) and internalizing problems (e.g. anxiety, sadness, low self-esteem). Additionally, when teachers did not receive the support of colleagues, students also suffered.

More recent research lends

support for stress contagion in the classroom and the potential detrimental role of teacher stress in predicting student well-being (**WG2-ch5; WG2-ch10**). Drawing from the stress-contagion framework, Oberle and Schonert-Reichl (2016) examined the link between teacher burnout and student stress in a sample of fourth and seventy grade children in Canada. To assess teacher burnout,

Research on teacher attrition provides some interesting insights into the value of understanding the ways in which social and emotional teaching and learning dimensions affect teachers.

teachers completed the Maslach Burnout Inventory modified for Teachers (Maslach et al., 1996). To assess student stress, students' salivary cortisol was collected as a biological indicator of students' stress reactivity. Biological stress reactivity is frequently assessed via the reactivity of the hypothalamic-pituitary-adrenal (HPA) axis, a homeostatic system that follows a circadian rhythm and is activated in response to cognitive (e.g. fear, excitement, anxiety) or non-cognitive (e.g. infections) stressors (Jessop and Turner-Cobb, 2008).

Cortisol levels found in saliva or blood can be used as an indicator for HPA axis activity. The integrity of the HPA axis is essential to human health. In a typical diurnal HPA-axis regulation pattern, cortisol levels rise within 20–45 minutes after waking and then gradually decline across the day. Inappropriately low or elevated levels of cortisol can compromise HPA axis functioning (Jessop and Turner-Cobb, 2008). Students' salivary cortisol was collected from children at 9 a.m., 11.30 a.m., and 2 p.m. in the classroom setting. Analyses revealed that, after

adjusting for differences in cortisol levels due to age, gender and time of waking, higher morning cortisol levels in students could be significantly predicted from higher levels of self-reported burnout of classroom teachers. Although these findings were correlational, the research conducted by Oberle and Schonert-Reichl (2016) was the first to show that teachers' occupational stress is linked to students' physiological stress regulation. What is not yet known is the direction of the stress contagion. That is, does teachers' burnout lead to higher levels of stress in students? Or do students who enter the classroom with higher levels of stress lead to increased teacher burnout? Only future research determining this causal relationship will lend further clarity to this relationship.

Research on teacher attrition provides some interesting insights into the value of understanding the ways in which social and emotional teaching and learning dimensions affect teachers. The evidence is now clear that teacher burnout and attrition is a major

...empirical evidence has emerged suggesting that when teachers receive training in the behavioural and emotional factors that impact teaching and learning in the classroom, they feel better equipped to propose and implement positive, active classroom management strategies that deter students' aggressive behaviours and promote a positive classroom learning climate.

problem that poses a threat to efforts to improve teacher quality. According to a report from the National Commission on Teaching and America's Future (**Barnes, Crowe and Schaefer, 2007**), teacher turnover costs the United States up to \$7 billion a year, with the negative impact of teacher turnover being greatest at low-performing, high-poverty, high-minority schools. Stress and poor emotion management rank as the primary reasons why teachers become dissatisfied with the profession and leave their positions (**Darling-Hammond, 2001**). Another contributing factor is student behaviour (**Ferguson, Frost and Hall, 2012**). One study, for instance, indicated that of the 50 per cent of teachers who leave the field permanently, almost 35 per cent report reasons related to problems with student discipline (**Ingersoll and Smith, 2003**). Problems with student discipline, classroom management and student mental health emerge at the beginning of teachers' careers, and first-year teachers feel unprepared to manage their classroom effectively and are unable to recognize

common mental health problems such as anxiety (**Siebert, 2005; Koller and Bertel, 2006**). On a more positive note, empirical evidence has emerged suggesting that when teachers receive training in the behavioural and emotional factors that impact teaching and learning in the classroom, they feel better equipped to propose and implement positive, active classroom management strategies that deter students' aggressive behaviours and promote a positive classroom learning climate (**Alvarez, 2007**).

As can be surmised, the majority of extant studies have focused on teacher well-being through a deficit lens by examining the teacher stress and burnout (**Spilt, Koomen and Thijs, 2011; Collie et al., 2015**). This research has been in concert in showing a general lack of teacher well-being among teachers across the globe (**Kyriacou, 2011**). Moreover, the research has shown that higher levels of teacher stress and burnout is associated with concomitant levels of student problem behaviour (**Hoglund, Klinge and Hosan, 2015**) and lower student

Moreover, the research has shown that higher levels of teacher stress and burnout is associated with concomitant years have seen the emergence of interventions specifically targeted at improving teachers' SEL and stress management.

academic achievement (e.g. McLean and Connor, 2015; Herman, Hickmon-Rosa and Reinke, 2018). Although these findings are valuable, one criticism of examining teacher well-being through a deficit lens is that it fails to identify the influential factors within a school system that serve to strengthen teacher well-being (Collie et al., 2015).

Reviewing the evidence linking teachers' social and emotional competence and student outcomes, Jennings and Greenberg (2009) point to the importance of quality teacher–student relationships and effective student and classroom management skills (as well as implementation dosage and fidelity) in obtaining the best outcomes for students. Accordingly, they recommend the development and implementation of interventions designed to specifically address teachers' SEL competencies, reduce teacher stress and burnout and improve teacher well-being. The past few years have seen the emergence of interventions specifically targeted at improving teachers' SEL and

stress management, although these are limited. For example, two programmes designed to promote teachers' SEL competence by incorporating mindfulness-based approaches are CARE (Cultivating Awareness and Resilience in Education) and SMART-in-Education (Stress Management and Resiliency Training). Mindfulness is typically described as an attentive, non-judgemental and receptive awareness of present moment experience in terms of feelings, images, thoughts and sensations/perceptions (e.g. Kabat-Zinn, 2013). Both programmes aim to increase teachers' mindfulness, job satisfaction, compassion and empathy for students, efficacy for regulating emotions, and decrease stress and burnout. Initial research to date has supported the effectiveness of both the CARE (Jennings et al., 2011; Jennings et al., 2018) and SMART-in-Education (e.g. Benn et al., 2012; Roeser et al., 2013) programmes in promoting teacher SEL competence and well-being. Nonetheless, further research is needed to examine whether such positive changes in teacher well-being spill over

Mounting research points to why and how teachers must develop solid social and emotional competence in order to foster SEL effectively, and positively impact the well-being of their students.

into the classroom and lead to improvements in students' SEL competence.

Recent evidence from recent research on the CARE programme provides evidence that a programme focusing on promoting teacher well-being has spillover effects for students. Specifically, a randomized controlled trial (RCT) was conducted to evaluate the CARE programme with 224 teachers who taught at urban elementary schools within a high poverty region of New York City (Jennings et al., 2017). Participants were randomly assigned to the intervention group (CARE) or a waitlist control group. The study revealed that those in the CARE group showed greater improvements in self-reports of adaptive emotion regulation and mindfulness, as well as greater reductions in psychological distress and feelings of time urgency than those in the control group. Additionally, observations revealed that teachers who received CARE training were better able to maintain levels of emotional support for

students across the school year, while those who did not receive CARE training declined in their level of emotional support. Taken together, programmes such as SMART-in-Education and CARE address the need for 'holistic' approaches to education because they address the importance of an ecological approach that considers both teachers and students.

5.5 .3

SEL AND TEACHER PREPARATION

In order to understand the conditions under which the effective promotion of students' social and emotional learning and development can occur, institutional factors that may impact SEL promotion need to be addressed. Therefore, an important issue is to what extent pre-service teacher education provides the necessary information, coursework and/or experiences that prepare teachers



to address dimensions relevant to SEL, including information on theories and research on the social and emotional development and the knowledge and skills necessary for creating classroom learning

contexts that are well-managed (Hadar et al., 2020). Mounting research points to why and how teachers must develop solid social and emotional competence in order to foster SEL effectively, and

...caring classroom and school contexts can be created when explicit attention is given to implementing SEL programmes and practices for students and when teachers also attend to the development of their own social and emotional competence and well-being.

positively impact the well-being of their students (Jennings and Greenberg, 2009; Roorda et al., 2011; Brackett et al., 2012). Yet, in the vast majority of teacher preparation programmes, SEL is marginalized, if addressed at all (Bridgeland, Bruce and Hariharan, 2013; Fleming and Bay, 2004).

Findings from a research scan – Social and Emotional Learning (SEL) and Pre-service Teacher Education: A Scan of SEL Content in Certification Requirements and Teacher Education Programs Across the U.S. and Canada – confirms that only a small handful of US university-based teacher education schools attempt to explicitly integrate SEL into their educator preparation programmes (Schonert-Reichl, Kitil and Hanson-Peterson, 2017). This phenomenon reflects how the current dominant systemic focus on (metrics) has mostly left social-emotional learning/development on the sidelines of education discussion, policy and practice.

5.5 .4

PROMOTING FLOURISHING IN SCHOOLS: THE STORY OF THE BREAKFAST CLUB

As can be surmised, caring classroom and school contexts can be created when explicit attention is given to implementing SEL programmes and practices for students and when teachers also attend to the development of their own social and emotional competence and well-being. Yet, promoting students' flourishing may sometimes occur outside of a specific evidence-based SEL programme. That is, students' flourishing can be fostered organically when teachers provide students with opportunities to have a voice in the creation of a caring classroom and school context. What does this look like in practice? The following vignette is illustrative of what can happen

when a teacher engages students in cultivating a caring classroom and school context and allows them the space to put theory into practice to promote flourishing in education.

In 2006 a group of teachers in Western Canada attended a session on social responsibility in which one of the authors (KSR) served as a facilitator. At the session, the teachers learned about the research on happiness (Lyubomirsky, King and Diener, 2005) and the ways in which it could be cultivated and promoted. One of the findings discussed with the teachers was from research that illustrated that when individuals engage in altruism – random acts of kindness – they become healthier and happier. Following the session, one of the teachers, who taught eighth graders in a school characterized as high risk, shared with her students the research on happiness. With their interest piqued, the students decided to conduct an experiment to determine if they could promote their own happiness by helping others. That school day they then

went on to engage in ‘random acts of kindness’ for their teachers; holding doors open, offering compliments and helping teachers with various projects. At the end of the school day the students returned to their classroom with great excitement and reported to their teacher that performing random acts of kindness ‘was fun!’

The students wanted to continue their ‘experiment’ and perform even more acts of kindness anonymously. They decided to name themselves The Breakfast Club and proceeded to do many more acts of kindness for the teachers and staff at their school, beginning first with writing an anonymous letter to all of the teachers telling them how much they were appreciated. The students’ next random act of kindness came with the help of the community. The students asked, ‘what do all of our teachers really like? Starbucks coffee!’ The students then went to their local Starbucks and asked if they would donate coffee to all of their teachers. The Starbucks’ employees said yes. The students then placed

..students’ flourishing can be fostered organically when teachers provide students with opportunities to have a voice in the creation of a caring classroom and school context.



a letter on the principal's desk indicating that coffee was in the staffroom for the teachers and signed it 'The Breakfast Club.'

Over the course of the school year, the Breakfast Club's enthusiasm and engagement for performing random acts of kindness for teachers, staff and

their peers blossomed. They continued to do random acts of kindness with the generous support of the community via donations (e.g. pizza, donuts, chocolates). Moreover, the local newspapers become aware of the activities and covered the story of the Breakfast Club in their papers. More donations from the

SEL can unfold when there is an explicit focus on creating the contexts and conditions in which students are given the power, love and support to follow their heart to make the world a kinder and more compassionate place in which we all can live.

community poured in, including several anonymous donations. All members of the school community – administrators, teachers, staff, and students – were engaged in discussions in which they speculated about who the members of the Breakfast Club might be.

After the school holidays, the Breakfast Club decided to take their efforts further and have their classmates engage in random acts of kindness with them. They assigned each classroom in the school to another as their ‘anonymous givers’ and gave each classroom a breakfast name (e.g. Cheerios, Blueberry Muffins). Shortly thereafter, anonymous acts of kindness were occurring all over the school.

A couple of months went by and the students from the Breakfast Club decided to take their acts of kindness even further. They wanted to spread their giving to the community. They decided to give a challenge to members of their school community: ‘Raise 1,300 food items for the local

food bank and we will reveal ourselves!’ The school far exceeded that goal – students from every classroom in the school donated items for the food bank. During the final assembly, the food was displayed and the Breakfast Club students stood up one by one to increasing applause from members of the entire school community. This joyous moment was captured on film and can be seen at: https://www.youtube.com/watch?v=0Lj5pWWA_MY&t=140s.

The story of the Breakfast Club illustrates an important lesson about SEL. That is, SEL is not only concerned with the promotion of students’ social and emotional competence through the implementation of school and classroom-based programmes. SEL can unfold when there is an explicit focus on creating the contexts and conditions in which students are given the power, love and support to follow their heart to make the world a kinder and more compassionate place in which we all can live.



5.6

Conclusions

Relationships are at the heart of flourishing in education. Flourishing is promoted through multiple, interweaving relationships at the interpersonal, curricular and intrapersonal levels. Strengthening the capacity for positive interpersonal relationships with teachers and peers is consequential for students developing motivation, a sense of belonging and identity. As

put forth by care theory, teachers who act as carers, tending to the needs of their students, facilitate students' social and emotional development. Interpersonal relationships provide crucial opportunities for practising communication that entails respect for different points of view, prompting reflection, clarification and a shared understanding that enhances collective knowledge.



Pedagogy characterized by flexibility and active student engagement that allows for community involvement and shared governance is critical to engendering a global consciousness in students that enables ethically informed decisions and actions to improve individual and collective flourishing.

Systemic SEL takes into account the learning context and prioritizes teachers' SEL as a foundation for creating a safe, caring, supportive, participatory and well-managed environment to nurture students' SEL.

Disciplinary knowledge is a facet of relationship to curriculum and knowledge. Alongside content itself, the capacity to engage critically with subject matter is central and conveyed through how teachers engage students with the curriculum. The how and why of curricula are arguably as important as, if not more important than, the content itself. Instructional approaches like inquiry-based, problem-based and project-based approaches engage learners in tasks that emphasize mastery and essential skills including interpretation, analysis, evaluation and synthesis of information. Pedagogy characterized by flexibility and active student engagement that allows for community involvement and shared governance is critical to engendering a global consciousness in students that enables ethically

informed decisions and actions to improve individual and collective flourishing.

Turning inward with mindfulness and compassion are ways to encourage self-knowledge. Students become students in the fullest sense, not just of academic subjects, but of themselves. Studying oneself allows for observing the patterns of mind and interrupting unconscious habits and biases. Through contemplative self-study students learn to be receptive to their embodied sensory experience, bringing together the mind and body, thus piercing Cartesian duality. A compassionate and mindful stance practised inwardly further enhances these qualities in relationship with others, honouring our fundamental interconnectedness as social beings. Further, critical pedagogy and transformative SEL empower students as agents of social change through developing critical consciousness to understand and transform societal inequities. Each aspect of this relationship triad reinforces the other, and

A transformation in education is unfolding across the globe catalyzed by pioneering research demonstrating that a high-quality education should promote human flourishing and not only academic competencies of students.

collectively – relationships with others, knowledge and self – are crucial for supporting students to respond to the challenge of how human beings can sensibly live with purpose and meaning on this planet.

A transformation in education is unfolding across the globe catalyzed by pioneering research demonstrating that a high-quality education should promote human flourishing and not only academic competencies of students such as reading, writing, math, social studies and science; schools today need to cultivate positive human qualities in students that will equip our future generation with the skills and competencies to thrive in an ever changing world. Indeed, the past decade has witnessed a burgeoning empirical literature supporting the contention that a systemic approach and explicit integration of programmes and practices that promote students' social and emotional competencies and human flourishing into all levels of the education system can not only deter educational failure (e.g.

school dropout), and behaviour problems (e.g. aggression, mental illness), but can provide the conditions in which all students thrive.

Alongside this empirical evidence, there is also now widespread agreement among educators, parents, students and the public at large that schools should be a place that nurtures the development of positive human traits and human flourishing in all students – developing students' interpersonal and intrapersonal relationships (Greenberg and Turksma, 2015; Jazaieri, 2017; Roeser, Colaianne and Greenberg, 2018).

To create a world characterized by caring, cooperation, empathy and compassion among all people – one that has at its core the promotion of flourishing – it is essential that educators, parents, community members and policymakers work together to promote students' personal and social competence, support educators' flourishing by supporting the development of their own social and

Although much has been learned in the past decade about programmes and practices that promote human flourishing in schools, the field has much further to go before firm conclusions can be drawn about the specific ways in which a comprehensive and systemic approach to promoting flourishing in schools advances students' short-term and longterm school and life success.

emotional competencies, create curriculum that is engaging and developmentally appropriate and embed a focus on flourishing and SEL into pre-service teacher education. Indeed, it is critical that we make intentional efforts to devise the most effective educational practices that promote flourishing at all levels of the system. Such efforts must be based on strong conceptual models and sound research.

Although much has been learned in the past decade about programmes and practices that promote human flourishing in schools, the field has much further to go before firm conclusions can be drawn about the specific ways in which a comprehensive and systemic approach to promoting flourishing in schools advances students' short-term and long-term school and life success, particularly in relation to ethical dimensions of development, such as compassion in relationships with themselves and others. Indeed, many questions still remain regarding the ways in which programmes and

practices designed to promote students' social and emotional competencies and flourishing can forecast their future success. For example, what are the processes and mechanisms that lead to successful improvements in students' prosocial and kind behaviours across areas of the school curriculum? What role does context play? Which programmes and practices work best for which students in helping them flourish and thrive? What role do educators play and how does their own well-being influence the well-being of their students? And under what conditions is optimal development fostered? What role does technology play, and what technological advances can foster or deter these efforts? These are the types of questions that are being asked among educators, researchers and policy makers, and are the types of questions we need to answer in order to determine the factors that lead to the development of students' flourishing in schools.



5.6

Recommendations

Education for flourishing in schools should take into account three relationship levels: (1) relationships with other people; (2) relationships with ourselves; and (3) relationships to knowledge or subject matter. The traditional focus of schooling, on maximizing individual cognitive potential and imparting technical know-how needed for success in the labour market, is insufficient for

advancing human flourishing. Schools seeking to promote flourishing need to foster a range of additional capacities. These include, but are not limited to, the capacity to tune in to one's own emotions, thoughts and feelings, to understand another person's perspective, to resolve conflicts peacefully, to develop compassion for self and others, to engage critically with subject matter

Social and emotional learning (SEL) that helps students to manage difficult emotions, form and maintain healthy relationships, and care for themselves and an ever-widening circle of others is essential to flourishing.

and to make ethically informed decisions and actions that can improve individual and collective flourishing.

Based on evidence and examples reviewed in this chapter, we make the following assertions and recommendations for policies and practices to support human flourishing in schools.

1. Many educational policies across the world emphasize competitiveness, efficiency, accountability and rigorous academic testing regimes. As a result, the 'softer' aspects of flourishing and social-emotional learning/development are mostly sidelined. To promote human flourishing there is a need for greater systemic support for fostering social and emotional competencies in school.

2. Schools that seek to support flourishing need to incorporate an inner education. Students need to be supported to tune in to mind/body processes such as thoughts, feelings, perceptions

and sensations and recognize how these shape their choices and actions in the world.

3. Mindfulness is an important resource for cultivating flourishing in schools by engaging cognitive processes (executive functions and attentional skills), as well as social-emotional skills (prosocial behaviour, emotion awareness). Meta-analytic research on mindfulness in school settings indicates beneficial impacts for students across cognitive, social and academic areas of functioning.

4. Social and emotional learning (SEL) that helps students to manage difficult emotions, form and maintain healthy relationships, and care for themselves and an ever-widening circle of others is essential to flourishing. Approaches to fostering flourishing need to be able to grow with children and have applicability in their lives both in and outside of school, with skills being reinforced and modelled by adults at school, home and in the community.

Since the potential for flourishing applies to all children, it is necessary to acknowledge the disparity in access to resources and exposure to trauma that are a reality for many.

5. Since the potential for flourishing applies to all children, it is necessary to acknowledge the disparity in access to resources and exposure to trauma that are a reality for many. Not all children enter school with their basic needs, like food, security, safety and shelter, met on a regular basis. The first step in closing the gap is to ensure that students' basic needs are met through school and community resources.

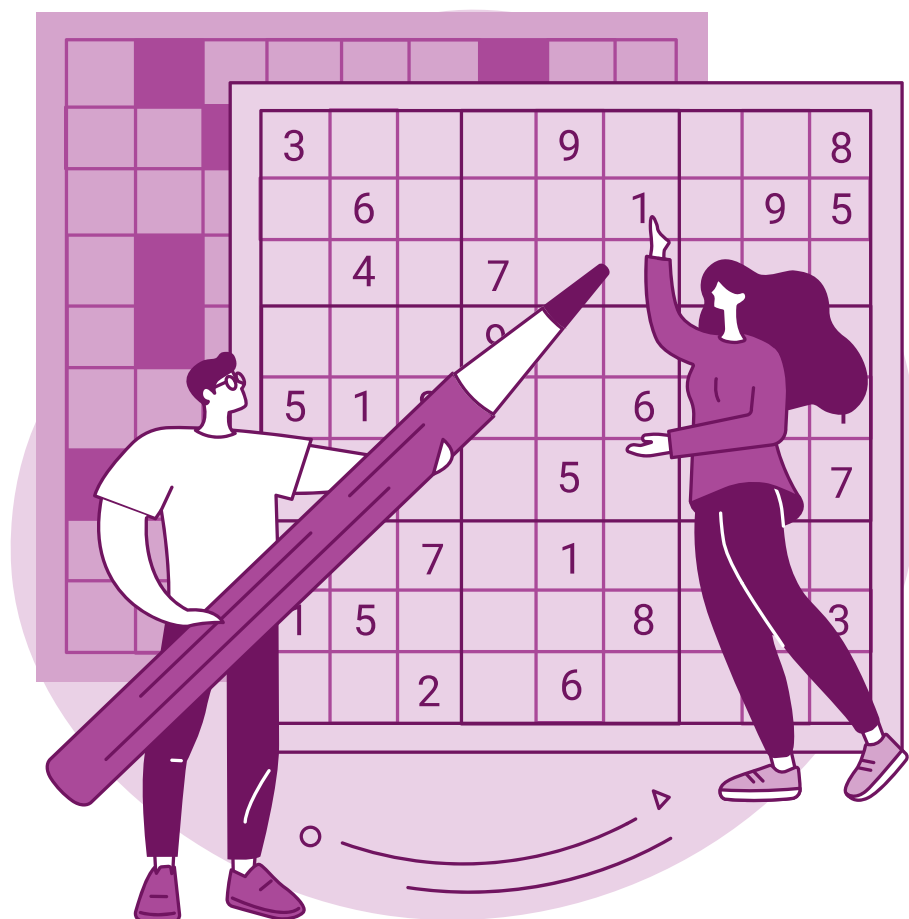
6. Schools have an important role in promoting values of inclusion, equality, participation and democracy. Transformative SEL that offers concrete strategies for advancing these values in school settings should be embraced.

7. To advance flourishing, active learning approaches that encourage meaning-making and 'first-person' engagement with curriculum content should be adopted. Examples include interdisciplinary instruction, service learning, and inquiry-based, problem-based and project-based learning.

8. Most curricular knowledge is not absolute. It is, therefore, recommended that students in schools have opportunities to engage with different perspectives on 'truth' and knowledge; to appreciate perspectives and world views that are different from their own; and to participate in their communities to effect change, and consider their role in challenging unjust social, political and/or economic systems.

9. It is recommended that school and classroom activities foster active student voice and democratic participation. Promoting shared decision making and democracy in the classroom can facilitate socially responsive decisions outside the classroom walls helping to promote the types of ethically informed actions that nurture individual and collective flourishing.

10. Teachers' well-being should be enhanced. When teachers themselves possess social and emotional skills, when they embody the values of mindfulness, and when they



appreciate the importance of self-compassion, they are better able to create school and classroom environments that are safe, caring and supportive. It is, therefore, required that teachers receive support through all stages

of professional development, from pre-service to in-service, that recognizes and prioritizes teacher well-being as an essential ingredient to flourishing in education.

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ACRONYMS

ABC

AAC: Augmentative and Alternative Communication

ADHD: Attention Deficit Hyperactivity Disorder

ABI: Acquired Brain Injury

AI: Artificial Intelligence

AIED: Artificial Intelligence in Educational Development

ALE: Activation Likelihood Estimation

ASC: Autism Spectrum Condition

ASC: Autism Spectrum Disorder.

AT: Assistive Technology

CA: Canada

CCA: Canadian Council for the Arts

CCE: Climate Change Education

CCL: Canadian Council on Learning

CDA: Cognitive Diagnosis Assessment

CNAT: Clasby Neurodiversity Assessment Tool

CPS: Collaborative Problem Solving

CRPD: Convention on the Rights of Persons with Disabilities.

CSCL: Computer Supported Collaborative Learning

CVT: Control-Value Theory

DEF

DBCFSN: Detroit Black Community Food Security Network

DESD: Decade of Education for Sustainable Development

DfE: Department for Education

DFID: Department for

International Development

DH: Department of Health.

DI: Differentiated Instruction

DNA: Deoxyribonucleic acid

DSD: Department of Social Development

DSM: Diagnostic and Statistical Manual of Mental Disorders

DSMMD: Diagnostic and Statistical Manual of Mental Disorders

DT: Design Thinking

DTI: Diffusion Tensor Imaging

DWCPD: Department for Women, Children and Persons with Disabilities

EBE: Evidence Based Education

ECCE: Early Childhood Care and Education





ECE: Early Childhood Education	Commission	HPA: Hypothalamic Pituitary Adrenal
EdTech: education technology	fMRI: functional Magnetic Resonance Imaging	ICD: International Classification of Diseases
EE: Environmental Education	fNIRS: functional Near-Infrared Spectroscopy	ICT: Information Communication Technology
EEF: The Education Endowment Foundation	GHI	IEA: International Association for the Evaluation of Educational Achievement
EEG: Electroencephalography	GDP: Gross Domestic Product	IDEA: the Individuals with Disabilities Education Act
EFA: Education for All	GEB: General Ecological Behaviour	ILO: the International Labour Organization
EFL: English as a foreign language	GHG: Greenhouse Gas	ILSA: International Large-Scale Assessment
EfS : Education for Sustainability.	GIRFEC: Getting It Right for Every Child	IoB: Internet of the Body
EI: Education International	GNP: Gross National Product	IOM: International Organization for Migration
EN: Educational Neuroscience.	GWAS: Genome-Wide Association Study	IPBES: Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
ePEN: Electronic Performance Evaluation Network	HCT: Human Capital Theory	
ESD: Education for Sustainable Development	HDT: High Dosage Tutoring	
ESE: Environmental and Sustainability Education	HESD: Higher Education for Sustainable Development	
FEC: Futures of Education		

ACRONYMS

IPCC: the Intergovernmental Panel on Climate Change

IPS: Intraparietal Sulcus

IQ: Intelligence Quotient

IRT: Item Response Theory

ISSEE Assessment: The International Science and Evidence based Education Assessment

ISTE: The International Society for Technology in Education

JKL

J-PAL: Abdul Latif Jameel Poverty Action Lab

KBS: Keep Back Straight

LA: learning analytics

LATAM: Latin America

LMICs: low- and middle-income countries

LTD: Long-term Depression

LTP: Long-term Potentiation

LUOTS: Lightning Up the Old Train Station

MNO

MA: Millennium Ecosystem Assessment

MBE: Mind, Brain and Education

MDG: Millennium Development Goal

MDES: Minimum Detectable Effect Size

MEG: Magnetoencephalography

MOOCs: Massive Open Online Courses

MRI: Magnetic Resonance Imaging

MTSS: Multi-Tier Systems of Support

NAPLAN: National Assessment

Program – Literacy and Numeracy

NCEE: National College Entrance Exam

NCP: Nature's Contribution to People

NEA: National Education Association

NEP: New Ecological Paradigm

NGO: Non-Governmental Organisation

NCLB-Act: No Child Left Behind-Act

NRC: National Research Council

OECD: Organisation for Economic Co-operation and Development

PQRS

PBL: Project-based Learning

PERMA: Positive emotions, Engagement, (positive) Relationships, Meaning, and



Accomplishment	RtI: Response to Intervention	TUV
PET: Positron Emission Tomography	SCS: Sustainable Community Schools	TALIS: Teaching and Learning International Survey
PFC: Prefrontal Cortex	SDGs: Sustainable Development Goals	TBI: Traumatic Brain Injury
PGS: Polygenic Score	SEAL: Social and Emotional Aspects of Learning	TFI: Teach for India
PISA: Programme for International Student Assessment	SEL: Social and Emotional Learning	TPB: Theory of Planned Behaviour
PISA-D: PISA for Development	SEND: Special Educational Needs and Disabilities	UDL: Universal Design for Learning
PTE: Pearson Test of English	SES: Socioeconomic Status	UK (or U.K.): United Kingdom
PTSD: Post-Traumatic Stress Disorder	SLD: Specific Learning Disability	UKABIF: United Kingdom Acquired Brain Injury Forum
RAN: Rapid Automatized Naming	SOGIE: Sexual Orientation and Gender Identity Expression	UN: United Nations
RCP: Representative Concentration Pathways	STEAM: Science, Technology, Engineering, Arts and Mathematics	UNCRC: United Nations Convention on the Rights of the Child
RCT: Randomised Controlled Trial	STEM: Science, Technology, Engineering, and Mathematics	UNDESA: United Nations Department of Economic and Social Affairs
REM: Rapid Eye Movement		UNDESD: United Nations Decade of Education for
ROI: Return of Investment		

ACRONYMS

Sustainable Development

UNEP: United Nations
Environment Program

UNESCO: United Nations
Educational, Scientific and
Cultural Organisation

UNESCO MGIEP: UNESCO
Mahatma Gandhi Institute
of Education for Peace and
Sustainable Development

UNFCCC: United Nations
Framework Convention on
Climate Change

UNICEF: the United Nations
International Children's
Emergency Fund

UNPF: United Nations
Population Fund

UNPFA United Nations Fund for
Population Activities

US(A) (or U.S.A): United States
of America

USSR: Union of Soviet Socialist

Republics (in short: Soviet Union)

VRU: Violence Reduction Unit

VUCA: Volatile, Uncertain,
Complex and Ambiguous.

WXYZ

WEIRD: Western, Educated,
Industrialised, Rich and
Democratic

WG1: Working Group 1 (of the
ISEE Assessment)

WG2: Working Group 2 (of the
ISEE Assessment)

WG3: Working Group 3 (of the
ISEE Assessment)

WG4: Working Group 4 (of the
ISEE Assessment)

WHO: World Health
Organization

WSSD: World Summit on
Sustainable Development

WW2/WWII: World War Two

WWF: World Wide Fund for
Nature

ZPD: Zone of Proximal
Development



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4R framework

The 4R framework refers to four ways through which education can promote peacebuilding 1) equitable distribution of educational resources and services (Redistribution); 2) representation of diverse communities in educational decision-making (Representation); 3) recognition of cultural diversity in the curriculum (Recognition); and 4) by promoting conflict-sensitive and reconciliatory pedagogical approaches to address legacies of conflict (Reconciliation). See also: diversity, curriculum

ABC

Amygdala

The amygdala is a subcortical brain structure and is part of the limbic system (as are the hypothalamus and hippocampus). The amygdala is critical for learning (e.g., forming memories) about the emotional significance of (positive and negative) stimuli, emotion processing and emotional responses, but has also been implicated in processes such as memory processing, motivation, anticipating reward, and decision making. The amygdala - therefore - is involved in all learning, most notably social-emotional learning. Furthermore, the amygdala is closely linked to activity of the HPA-axis. See also: hippocampus, HPA-axis

Anthropocene

The term 'Anthropocene' refers to the period of time during which human activity started to influence planetary systems in highly detrimental ways.

Assessment in the context of learning and education

Assessment in the context of learning and education operates at various levels of education systems: students, teachers, schools and entire systems themselves. Assessment can be seen as a constant activity occurring during formal or informal teaching as a teacher evaluates student understanding and reflects on their work, and as students reflect on and regulate their own learning (learner or student assessment). Assessment occurs constantly throughout one's life and offers evaluation and feedback on one's progression in relation to any problem or task. Furthermore, assessment is also a formal practice that occurs at the teacher, school and policy-making level.

Assessment as learning

Assessment as learning refers to the process whereby students are able to learn about themselves as learners and become aware of how they learn. This form of assessment often includes self-assessment and peer-assessment.

Blended learning

Blended learning combines traditional classroom learning methods with online

GLOSSARY

WORKING GROUP- 2

learning modalities.

thoughts, intentions and actions.

Citizen Science

Citizen science is a scientific approach that brings in members of the general public to design and implement research projects with viable and useful data.

Context (in education)

In the ISEE Assessment, we conceptualise 'context' in education at three stages that shape educational practice and are important for educational transformation: 1) macro-level cultural, social, political, historic, ethical, economic, and environmental forces operating on the global and national levels, 2) the 'political economy of education', challenges posed by diversity (in various forms) and conflict, technological change, and developments in EN, and 3) contextual matters of immediate relevance for day-to-day teaching and learning (i.e., curriculum and pedagogy, assessment and the teaching profession. Although conceptually distinguishable, these contextual factors operate in the same societal spaces and mutually influence each other. See also: assessment, curriculum, pedagogy

Colonialism

Colonialism is a practice or policy of control by one people or power over other people or areas, often by establishing colonies. In the process of colonisation, colonisers may impose their education systems and practises, and other cultural practises upon the people or areas that are colonised.

Conflict (in education)

In the ISEE Assessment, we conceptualise 'conflict' in education broadly in physical, cultural and structural forms - from disruption of learning and experience of violence, to exclusionary policies, inequitable access to educational resources, and educational practises that involve cultural repression, misrecognition and stereotyping of socially disadvantaged groups.

Cosmopolitanism

Cosmopolitanism refers to international understanding showing an interest in different cultures, ideas, etc.

Cognitive empathy

Cognitive empathy is the ability to put oneself in 'other people's shoes' (perspective taking) to understand their

COVID-19 (pandemic)

COVID-19 refers to a coronavirus that first emerged in December 2019 and has led to a pandemic in 2020-2021 (which is still continuing at this time of writing) resulting in lockdowns and school closures across the world.



Cultural context

The cultural context refers to systems of collective expression that show variations around the globe in various societies.

Cultural neuroscience

The field of cultural neuroscience takes into account how cultural variation across the globe might influence not only how people think and act, but also how this influences brain functioning.

Curriculum

Curriculum constitutes the content of education. Curriculum is not necessarily a predetermined program of activities and goals that need to be implemented, but rather is seen as a “complicated conversation” among teachers, students, parents, politicians and commercial actors like textbook publishers.

See also: teaching and learning

DEF

Digital divide

Digital divide in the ISEE Assessment refers to inequalities in access to and use of EdTech. In education, the digital divide is currently discussed at three levels: (1) access/infrastructure; (2) skills/uses; and (3) mastery/outcome

Distance learning

Distance learning is characterised by an information delivery mechanism where the educator and learner are separated in both time and space.

Diversity

Diversity is defined in this Assessment as differences that make social groups and individuals different from the majority “normal”, and include race, ethnicity, language, tribe, religion, gender, sexuality, social class, disability, and neurodiversity (learning difficulties/learning disabilities), as well as intersectionality among diversity types. See also: neurodiversity, learning disabilities.

Ecopedagogy

Ecopedagogy is an emergent pedagogical approach to restoring and regenerating healthier connections between humans and the planet.

Economic context

The economic context refers to systems of capital exchange, often in the form of entrepreneurship, commercialization and capitalization.

Education

Education is a societal process that shapes human behaviour and social action. It stands for three central types of activities of teachers and students, namely teaching, learning and evaluation, that each express a particular relationship with the actors

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WORKING GROUP- 2

involved. Education can be framed as a broad, complex system consisting of a set of human and non-human elements and the relationships between them, e.g., teacher-student, self-other, self-self, self-society, self-ecology. Human elements include students, teachers, administrators, parents, policymakers, stakeholders and various others. Non-human elements comprise learning spaces - classes, schools, virtual, outdoor, textbooks, etc. The term complex system entails the presence in the system of a group of multiple components working both independently and interdependently that prevent the system from being fully controlled and predicted, hence it is bound to evolve in unexpected ways.

Education for Sustainable Development

Education for Sustainable Development (ESD) empowers learners to take informed decisions and responsible actions for environmental integrity, economic viability and a just society, for present and future generations, while respecting cultural diversity. See also: diversity.

Educational Neuroscience

Educational neuroscience (EN) researches the brain to understand mechanisms of learning to improve learning outcomes and experiences by informing teaching and learning practises.

Education Technology (EdTech)

Technology refers to the artefacts which are invented or adapted with the purpose of addressing human challenges. In this context, artefacts can assume a material (i.e. computer hardware) or non-material form (i.e. software); technology also includes associated processes that surround the use of the artefacts. Education Technology (EdTech) refers to any technology (process or tool) applied in an educational context or as a solution to an educational problem.

Emotional (Affective) empathy

Emotional Empathy and Affective Empathy are used interchangeably and defined as the capacity to respond with an appropriate emotion to another's mental states. It is based on emotional contagion.

Emotion regulation

Emotion regulation refers to recognizing and managing emotions.

Empathy

Empathy is an emotion through which one shows compassion for another person's distress. Empathy also refers to the ability to understand and share the emotional and cognitive states of others. It is a key social relational function that acts as a pathway to higher-order prosocial behaviour, including bonding and forming meaningful relationships, cooperation, and moral decision-making.



Empathy for nature

Empathy for nature is the ability to (imaginatively) share the emotional experience of the natural world.

Environmental education

Environmental education (EE) is an educational movement which develops and enhances environmental attitudes, values, and knowledge, builds skills that prepare individuals and communities to collaboratively undertake positive environmental action, and facilitates connections between actionable research findings and on-the-ground practises.

Equity (in education distribution)

Equity, or merit-based equality, in the distribution of education indicates that opportunities for further study should be given to those who demonstrate the most potential to benefit from them, and that rewards for 'merit' motivate individuals to achieve excellence.

Equity in education

Equity in education means that personal or social circumstances, such as gender, socioeconomic status, ethnicity, migrant background, age, special needs, or place of residence, do not hinder the achievement of one's educational potential and that all people reach at least a minimum level of skills.

Executive functions

Executive functions are a class of cognitive processes that are thought likely to facilitate academic performance. Executive function abilities are defined as a set of separable, but overlapping, cognitive skills comprised of: 1) working memory, defined as the ability to hold information in mind and update it; 2) inhibitory control/response inhibition, defined as the ability to inhibit a highly learned response to a stimulus in favour of a less dominant response; and 3) cognitive flexibility/set shifting, defined as the ability to attend to distinct but closely related aspects of a given set of stimuli, such as the ability to group a set of objects by the dimension of colour and then by the dimension of shape. Collectively, these skills enable individuals to focus attention, regulate impulses, switch between competing demands, and engage in goal-directed activities.

Formative Assessment

Formative assessment or "Assessment for Learning" is a form of educational assessment used to (daily) monitor students' learning progress and provide feedback over the course of an instructional unit to identify students' learning needs and adjust teaching accordingly to improve students' achievement and enhance ongoing learning.

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Formal education

Formal education refers to the structured education system that runs from primary (and in some countries from nursery) school to university, and includes specialised programmes for vocational, technical and professional training.

reactions to stress as well as many body processes. HPA-axis activity follows a circadian rhythm and is activated in response to cognitive (e.g. fear, excitement, anxiety) or non-cognitive (e.g. infections) stressors. Furthermore, the HPA-axis is closely linked to activity of the amygdala and hippocampus. See also: amygdala, hippocampus.

GHI

Hippocampus

The hippocampus is a brain structure located in the allocortex and is part of the limbic system (as are the amygdala and hypothalamus). The hippocampus is primarily involved in memory processes and learning. Furthermore, the hippocampus is closely linked to activity of the HPA-axis. See also: amygdala, HPA-axis

Human Capital

Human capital refers to people's knowledge, skills and abilities that can increase production and contribute to economic growth and employment. The human capital approach to education proposes that education has a vital economic role. It (therefore) sees the domains of reading, mathematics and science (as opposed to, e.g., the arts, humanities, physical education, and social skills) as critical for preparing individuals to fulfil their productive potential and thus contribute to maximising national or corporate economic performance.

Holism in educational neuroscience

In educational neuroscience, a holistic or emergentist mode of explanation refers to the idea that the brain is a complex, dynamic system. In this paradigm, brains are coordinators of dynamic patterns of embodied (sensori-motor) interactions with one's surroundings. Thus, in this paradigm the brain's context is taken into account.

Human Flourishing

Human flourishing is both the optimal continuing development of human beings' potentials and living well as human beings. Living well as a human being means being engaged in relationships and activities that are meaningful, i.e. aligned with both their own values and humanistic values, in a way that is satisfying to them. Flourishing is conditional on the contribution of individuals and requires an enabling environment (e.g., fulfil basic biological and existential needs). It can be regarded

HPA-Axis

The Hypothalamic Pituitary Adrenal (HPA)-Axis is a biological stress system (i.e., neuroendocrine system) that controls

as a particular interpretation of well-being. Furthermore, flourishing involves community and is an interpersonal, not a personal pursuit.

Information literacy

Information literacy is the ability to properly handle information and involves ability to a) determine the nature and extent of the information needed, b) effectively and efficiently access needed information, c) evaluate information and its sources critically and to incorporate the information into the personal knowledge base and value system, d) summarise and synthesise the main ideas to be extracted from the information and to construct new concepts, and e) use information effectively to accomplish a specific/ethical purpose.

Interdisciplinary/Multidisciplinary/Transdisciplinary

Three terms used interchangeably in the ISEE which refer to combining and/or involving several academic disciplines or professional specializations in assessing education and learning.

JKL

Learning

Learning refers to coming to make sense of what one is taught and happens when students' potentialities are evoked to come to understanding in agential ways of

being and acting. Learning would fail to be learning, if students' potentials are not evoked in the quest to gain understanding, insight, and be encouraged to embark on an academic, political, economic, social and environmental journey with a quest for human flourishing. The broad perspective of learning encompasses both learning as process, as experience, and as outcomes. Learning is a process of active meaning-making situated in context, based on which relatively permanent changes occur within any one or more of the following: human dispositions, capabilities, knowledge, behaviours, values, attitudes, and/or preferences. Learning thus involves relational, embodied, affective and non-conscious ways of knowing and is inherently social, emotional, relational and affective. Learning is heavily influenced by cognitive, emotional, motivational and social brain processes that are all interdependent, as well as by culture (e.g., value and belief systems and practises shared by groups) and other environmental factors (e.g., socio-economic status/SES).

(Specific) Learning disability

A (specific) learning disability (SLD) traditionally refers to any (neurobiological) condition that impairs a child's ability to learn. They arise when persistent difficulties acquiring academic skills are unexpected in the context of age and grade level standards. Most common learning disabilities are in the areas of reading (dyslexia), mathematics (dyscalculia), and/or written expression

GLOSSARY

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(developmental coordination disorder or dysgraphia). This 'pathology', 'deficit', or 'medical' model views neurological differences as impairments and deficits, and has recently been complemented with the view of atypical learning or neurodiversity. See also: atypical learning, neurodevelopmental disorder, neurodiversity

Low, Middle, High income countries

Using the World Bank Atlas method, low-income economies are defined as those with a GNI per capita of \$1,045 or less in 2020; lower middle-income economies are those with a GNI per capita between \$1,046 and \$4,095; upper middle-income economies are those with a GNI per capita between \$4,096 and \$12,695; high-income economies are those with a GNI per capita of \$12,696 or more.

MNO

Marketization of education

Marketization refers to new forms of educational governance (quasi-markets) that seek to make educational organisations more efficient, responsive and innovative by exposing them to market pressure. See also: privatisation of education.

Merit-based equality

The merit-based distribution of education or "performance principle" guides the

distribution of slots in higher levels of schooling and universities through the assessment of performance (e.g., academic). The basis of this principle is that opportunities for further study should be given to those who demonstrate the most potential to benefit from them, and that rewards for 'merit' motivate individuals to achieve excellence. Merit-based distribution is variously called the 'performance principle' and is also known as 'equity'.

Meritocracy

Meritocracy is an ideology which claims that social opportunities and economic rewards should be distributed solely on the basis of individual achievement, talent or merit, and not on extraneous factors such as social origin, gender, ethnicity or sexual orientation. It is one of the most influential educational and social ideals of modernity.

Mindfulness

Mindfulness refers to "both a mental state and a set of practises that are characterised by two components: 1) the self-regulation of attention, so that it is maintained on immediate experience, thereby allowing for the increased recognition of mental events in the present moment; and 2) the adoption of an orientation towards one's experiences in the present moment, characterised by curiosity, openness, and acceptance. Mindfulness has as its foundation awareness of breath, body, mind (thoughts and emotions), and

phenomenal experience. Mindfulness practises tap cognitive processes (attention and EFs) as well as social-emotional skills (prosocial behaviour, emotion awareness).

Natural capital

Natural capital refers to the world's renewable and nonrenewable natural assets such as fisheries, forests, agricultural land, fossil fuels, and minerals.

Nature's Contributions to People

Nature's Contributions to People (NCP) refers to all the contributions, both positive and negative, of living nature (i.e. diversity of organisms, ecosystems, and their associated ecological and evolutionary processes) to the quality of life for people.

Neo-Colonialism

Neo-colonialism is the practice of using economic imperialism, globalisation, cultural imperialism and conditional aid to influence a developing country. See also: Colonialism.

Neoliberal educational paradigm

Neoliberalism is a cluster of politico-economic ideas that relate individuals (citizens, consumers) to power (governments) and money (economies). At its simplest, neoliberalism is a vision of small government that commodifies

more and more areas of society to bring them into the market economy for profit and capital accumulation. A neoliberal approach to or view of education sees education as based in a human capital orientation: education is a rich terrain for commodification, commercialization and capital accumulation. The neoliberal educational paradigm promotes a decreasing role of the government and an increased role of marketization and the private sector in education, as well as national and international comparative forms of formative assessment/ performance metrics (such as the enhanced role of PISA). See also: human capital, formative assessment, PISA

Neuroplasticity

Neural plasticity (or neuroplasticity) refers to the anatomical and functional changes of the brain underlying cognitive and behavioural changes during development in relation to place, time and context-specific experiences or in response to an intervention, e.g. learning or training.

Neuromyth

A neuromyth refers to a misconception generated by a misunderstanding, a misreading or a misquoting of facts scientifically established (by brain research) to make a case for use of brain research, in education and other contexts. Neuromyths, broadly, are overly simplified facts about the brain which lead to suggestions about learning in general as well as teaching practises that are incorrect. Their mythical status means they are enduring: even when the claims are repeatedly shown to be false, they



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