CHAPTER

8

Curriculum and pedagogy
in a changing world

This chapter should be cited as:

This chapter explores the evolving nature of curriculum and pedagogy in a rapidly changing world. It argues that curriculum is not, and should not be, a clearly delineated concept that can be applied uniformly across different systems of education. Rather, it should be dynamic, evolving and contextual, representing specific historical and political forces and actors. To capture some of this contextual diversity, the chapter provides an evidence-informed assessment of current trends in the curriculum and pedagogy fields. It outlines the different histories and traditions of curriculum and pedagogy, noting how the many ways education has been conceived and practised leave ongoing legacies. Some of the trends and challenges confronting contemporary curriculum and pedagogy are outlined, including (neo)colonialism, economism and neoliberalism, technologization of learning and educational neuroscience. The chapter recommends some approaches to hybrid learning ecologies and the increased need for opening up spaces for emotions and 'being' in education.

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8.1 Curriculum as conversation

Curriculum, crudely speaking, constitutes the 'content' of education. But what does this content actually consist of? In much contemporary educational debate, curriculum is taken to be essentially monolithic (i.e. subject to only marginal differences across cultural or social boundaries) and inherently positive (aimed at nurturing productive, fulfilled and socially well-adapted workers and citizens). The questions posed by policy-making and commercial elites, and which inform the work of multilateral bodies such as the OECD, are therefore typically of the 'how' rather than the 'what'

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variety. Assuming that education is a necessary and desirable 'good', they focus primarily on how it can be delivered more effectively and efficiently (and how effective delivery can be verified through testing **– see WG2-ch9** on assessment**)**. And what is wrong with this? Can we not all agree that education is, generally speaking, a 'good thing'?

This chapter demonstrates that the view of education as inherently good is far too glib and simplistic (this was also noted in the discussion of conflict and education in **WG2-ch5)**. Even the most superficial reflection on recent human history should remind us that education has often been a powerfully destructive force – fomenting division, fostering hatred, fuelling conflict, and promoting a profoundly unsustainable relationship between humanity and the natural environment. And this remains true of societies across the world today. What gets taught, why, and on whose authority are therefore absolutely central questions that any analysis of the relationship

between education and 'context' must address **(see also WG2-ch9, ch5)**.

In dominant Western traditions, attempts to define curriculum have emphasized 'content' and 'objectives' to be efficiently and effectively implemented by teachers using assessment to ensure learning. Across much of postcolonial Asia and Africa, it has come to be equated with examination 'syllabuses' and related state-mandated 'standards' or 'guidelines' **(UNESCO MGIEP, 2017)**. The historic domination of the syllabus as a rigid plan of teaching is discussed by Dottrens **(1962)**, who suggests that the main objective of the syllabus is mastery of facts, which is usually binding on teachers who are not authorized or equipped to do more than adapt the content to local circumstances. In this sense, the main objective of curriculum concerns the acquisition of habits, skills, facts and attitudes that presumably will determine how children behave **(Dottrens, 1962, p. 82)**. While curriculum categories such as implementation,

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dissemination and null curriculum (what schools do not teach) have traditionally been topics of curriculum discussion **(Taba, 1962; Marsh and Willis, 2007; Tyler, 2013)**, and the above 'top-down' conceptualization of curriculum remains widespread today, this conceptualization is increasingly being challenged – **(see Rocha, 2020)** – a critique to which this chapter seeks to contribute.

The premise of this chapter is that curriculum is not a clearly delineated concept that can be applied uniformly across different systems of education. Viewed as such, curriculum can be characterized as dynamic, evolving and contextual, representing specific historical and political forces and actors. Originating over 30 years ago, the concept of the curriculum conversation has recently been reframed by some scholars as a 'complicated conversation' among teachers, researchers, students, parents, politicians and commercial actors like textbook publishers **(Pinar, 2019)**. This complicated conversation can be decoded as

what older generations choose to tell children about the world – its past, present, future (socialization) – and also what is needed for children to autonomously unfold and become in the world (subjectification), including those qualities and capacities they will need to function well in both their personal and professional lives (qualification). Given its centrality in schooling, but also as a result of differences in what kind of socialization, subjectification and qualification is deemed desirable, curricula are inevitably contested, accompanied by acrimonious debates, nested in politics and ideology and ideas about learning **(Biesta, 2010)**. By conceptualizing curriculum and pedagogy as a 'complicated conversation' in this chapter, we acknowledge the vast diversity of ethical and political perspectives that inform processes of curriculum development in different contexts, and hence the impossibility of reducing any discussion of curriculum simply to questions of 'efficiency' or 'effectiveness'.

If we view curriculum as a 'complicated conversation', then we can understand the syllabus as the start of this conversation, though at the same time the syllabus itself is the product of negotiations around ideology, planning and resource allocation; in truth, the conversation is never-ending. From the perspective of most teachers, however, the syllabus typically constitutes the starting point for conversation concerning the curriculum – a conversation manifested in pedagogical practice within the classroom. Pedagogy can be conceived of as the arrangements of spaces, actions, conduits and levers that are employed by teachers to structure this conversation, but it, too, is shaped by political, cultural and policy influences, and in many countries, by the legacies of organized religion, colonialism, imperialism and political ideologies such as fascism and communism **(Alexander, 2000)**. As the primary participants in this conversation, educators employ a wide range of pedagogical practices, often localized according to culture, informed by research, political ideology and even by idiosyncratic preferences. The intellectual independence of teachers – what is often termed 'academic freedom' – can be key in making crucial curriculum decisions and choosing appropriate pedagogical practices, but educators are inevitably influenced by their circumstances. Curriculum and pedagogy cannot be meaningfully discussed without attending to their historical, cultural and ideological underpinnings and the sometimes volatile political settings in which they are shaped.

As this chapter illustrates, the curriculum as 'complicated conversation' takes different forms depending on local and national contexts. Some scholars emphasize neocolonization, for example, in present-day China, where mainstream Han culture is being enforced on minority populations **(Leibold and Grose, 2019)**. Other scholars highlight the power of neoliberalism in dictating national curricula and forms of assessment **(Apple, 1979)**. We will come back to these different lenses later in

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this chapter, but for now it is enough to note that there are tensions between the imported and locally enforced instrumental views of curriculum and the localized, sometimes indigenous, ways of knowing that are more relational (e.g. intergenerational) and situated (e.g. place-based). In many parts of the world, the idea of what might be called a situated 'living curriculum' has been lost or marginalized. In the quest for more sustainable ways of living there have been efforts to revive or regenerate some of these more embedded ways of knowing, including in countries that colonized other countries. It should, however, be remembered that 'indigenous' approaches are not necessarily 'good'; the sanction of tradition can embed an oppressive, hierarchical social order.

To represent a wide range of voices in this complicated conversation, the coordinating lead authors of this chapter invited academics and practitioners from different regions worldwide to contribute to our understanding of curriculum and pedagogy and delineate the forces that have been shaping them. The discussion incorporates both general and more localized, contextualized empirical and conceptual studies that have informed reflections and scholarly insight on curriculum and pedagogy **(Dion, 2009)**. Methodologically speaking then, this chapter engages with diverse contributions to provide an evidence-informed assessment of current trends in the curriculum and pedagogy fields, but it should not be considered a systematic review of the literature. With grey literature (such as websites) included so as to provide the most up-to-date information, and publications in the native languages of some contributors, this chapter attempts a more inclusive and participatory approach, rather than defaulting to a conventional, Anglocentric analysis.

This chapter argues that curriculum and pedagogy should be conceived as a conversation involving different stakeholders with various ideologies and

motivations. As the scope of this chapter is predominantly the school sector, we argue for this conversation to take a normative turn towards sustainability, which can be focused around the themes of the Sustainable Development Goals (SDGs). The means to sustainability through education is formed through inculcating qualities conducive to active, engaged, democratic citizenship,

encouraging students to critique and challenge the status quo and transform society towards the goals of sustainability. While these insights may resonate with readers, they are not meant to be universally applicable or lead to prescriptions. Rather, in line with a key premise of this chapter, they are intended to open up conversations that can inform, question and encourage localized
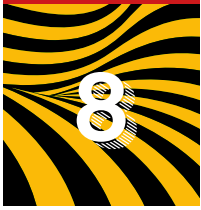
8.2 Histories and traditions

In every continent there are distinctive conceptions of what students study and what teachers teach, and they have distinctive and often complex histories: Bildung in Europe (**Horlacher, 2015)**, Conscientization in Latin America (**Freire, 1970)**, Currere in North America (**Pinar, 2011)**, Ke-Cheng in China (**Zhang, 2008)**, and Ubuntu in Africa (**Le Grange, 2012)**. These and other conceptions are both localized – recontextualized by region and country – and internationalized. Importantly, these concepts do not circulate uncontested; often they provoke conflict and contention, as well as reconceptualization. For example, 'deliberation', associated with the

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American curriculum theorist Joseph Schwab, was redefined in India by Krishna Kumar **(Chacko, 2015)**, recast as Jewish by Alan Block **(2004)**, and introduced in Chinese curriculum reform **(Xu, 1995, 2009)**. John Dewey's pragmatic curriculum theory continues to be invoked in educational debate across East Asia and elsewhere **(Zhang, 2014, p. 38)**. Soviet educational thought was (and remains) hugely influential in China, though it is a legacy that has been contested **(Zhang, 2014, p. 46)**. Marxist thought has been influential in Cuba and the Caribbean **(Kane, 2013; Massón Cruz, 2015)** and, earlier, in North America **(Giroux, 1981; Apple, 1996; McLaren, 2005)**. Still influential worldwide are Montessori, Gandhi and Tagore who offered perspectives on education as a response to the culture of war that had plagued the world in the first half of the twentieth century **(Prasad, 2005)**. They reconceptualized knowledge, pedagogy and the aims of education as part of a critique of what they considered detrimental mechanistic, instrumentalist and 'dehumanizing' approaches to schooling, whereby standardized testing and the collection of data are placed before the development of the child **(Wang, 2014; Batra, 2015)**.

Across many newly industrialized countries with long histories of colonialism (crudely referred to as the Global South), debate over what should be valued as curricular knowledge, or how a state-mandated curriculum should be negotiated by teachers and learners, has often been acutely political. In Latin America, curriculum and pedagogy are understood as traditions that collided when the field of curriculum arrived in the region in the 1950s. Pedagogy became the language that talked back to the global deployment of curriculum as promoted by international agencies like UNESCO. This global deployment was critiqued by several Latin American curriculum scholars as a form of 'acculturation' **(García-Garduño, 2011)**, specifically the forced importation of 'U.S. industrial pedagogy' **(Díaz-Barriga, 1984)** and

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the beginning of the hegemony of 'educational technology' **(Magendzo, Abraham and Lavín, 2014)**. The common understanding of these scholars seems to be that before this forced importation 'the traits of a view of education based on efficiency and productivity were absent' **(Díaz-Barrigaand García-Garduño, 2014, p. 11)**. Countering this global deployment of standardized curricula as culturally monologic was a pedagogy of listening, a pedagogy of liberation based on dialogical encounter **(Freire, 1965)**, and a pedagogy of waiting for the Other's often inexpressible revelation **(Dussel, 1976)**.

Across much of Africa, meanwhile, the legacies of colonialism and conflict have fomented a distrust in deliberative democratic action. In (South) Africa, the Council on Higher Education **(CHE, 2016)** noted that after two decades of postapartheid democracy, openness, mutual trust, and critical engagement among academics and students in the country's universities was sorely lacking. This is especially

disconcerting in the light of intensifying demands from African scholars, educators and politicians for the 'decolonialization' of school and university curricula. In a variation of the traditional notion of Ubuntu, some have invoked the notion of Cosmo-Ubuntu **(Cossa, 2018)** to advance the practice of a 'living' pedagogy and curriculum in Africa. The notion of Cosmo-Ubuntu – derived from cosmopolitanism and Ubuntu – is constituted by two aspects of human experience: firstly, that all humans are inherently considered as cosmopolitan beings whereby they openly and reflexively examine their own practices in relation to those of others to the extent that they might be altered on the grounds of their critical engagement with otherness; and secondly, that they recognize their autonomy and interdependence towards that which is still in becoming **(Waghid, 2020)**.

In Africa, and in many parts of Asia, curricular representations of values and identities often take pains to differentiate a collective national 'self' from a Western

'other'. In China, in recent decades, the Chinese Communist Party (CCP) has increasingly sought to associate itself with the glories of ancient China, celebrating 'tradition' rather than preaching a radical break with the past (as it did under Mao). This celebration of 'China's superior traditional culture' has intensified under the presidency of Xi Jinping, as the country has also sought to claim a more influential global role. The desire to promote Chinese leadership, while asserting Chinese exceptionalism, extends to rhetoric on climate change, especially in talk of 'ecological civilisation'. This represents 'harmonious' unity between man and nature as essential to Chinese culture, distinguishing it from an instrumentalist, exploitative 'Western' approach to the environment. In doing so, it ties idealization of China's ancient philosophical heritage to a vision of 'a new kind of Communist Party led utopia' **(Hansen, Li and Svarverud, 2018, p. 195)**.

The attempt to draw a stark contrast between Chinese 'harmony' with nature and rapacious 'Western modernity' draws upon and is echoed by some Western postcolonialist scholarship, which similarly pits Western exploitation against non-Western solicitude for the natural world **(see Silova, Komatsu and Rappleye, 2018; Vickers, 2018)**. However, research on China's environmental history has yielded no evidence to support such a dichotomy **(Elvin, 2004)**, while China today is the world's largest emitter of greenhouse gases. Hansen, Li and Svarverud **(2018, p. 202)** conclude that the concept of eco-civilization 'implies no ecological revolution' and 'largely ignores the environmental risks inherent in continued global growth dependency'. The discourse of 'ecological civilization', propagated through schooling and the media, may have contributed to raising environmental consciousness among the Chinese population, but it does so in service of the larger cause of the 'great revival of the Chinese nation' and the

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legitimation of CCP rule.

The foregoing examples demonstrate that there can be no simple binary between North and South or East and West, that as curriculum concepts circulate worldwide, they are appropriated locally, then recast according to local cultures, politics and policies. Crucial among the influences that continue to shape curricular discourse in societies around the world are experiences of colonialism (as perpetrator, victim, or both); legacies of conflict; nation-building agendas (often especially powerful and explicit in newly independent states); and culture or tradition (as interpreted by dominant vested interests) **(Pherali, 2016)**. Idealistic visions of education as a vehicle for collective and personal liberation, individual fulfilment, and the promotion of peace and sustainability have occasionally been invoked in curricular debate. But the history of national education systems demonstrates the inescapable centrality of politics in shaping both curricular content and state-mandated models for pedagogical

practice **(Green, 1990; Alexander, 2000)**.

8.2 .1

CURRICULUM AS A PROFESSIONAL FIELD

Politics is the story of power, and the power to define and shape curricula has been distributed in different ways in different societies at different times. In societies where educational studies (or pedagogics) have established themselves as a more or less autonomous professional field, as in much of Europe and North America, teacher training has involved induction into a tradition of practice and inquiry that often stands in tension with the educational agenda of the national authorities. In liberal democracies, curriculum frequently emerges as a battleground hotly contested by politicians and professional educators with a strong sense of their own identity and vocation. But in many other societies,

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including those whose educational institutions were bequeathed by colonial rulers or a similarly authoritarian state apparatus, government maintains a strong grip over curriculum development, and educational practitioners are treated as foot-soldiers tasked with implementing a central curricular design, rather than partners with expertise, to be consulted and involved in preparing that plan in the first place **(on China, see Wilson et al., 2016; on South Asia, see Sharma, 2020)**. Such 'vertical' patterns of curricular control contrast with more horizontally organized systems, such as that of Finland **(Pietarinen, Pyhältö and Soini, 2017)** in which the influence of an autonomous and cohesive community of professional educators is strongly institutionalized.

Theoretical issues that have informed curricular inquiry over recent years include the state of the 'individual'; the recurring question of the human subject; the pervasive influence of neoliberalism; the increasingly contentious and complex question of technology;

gender; the marginalization and alienation of minorities (of various kinds) **(Apple, 1979, 1993)**; concerns to resolve or prevent conflict **(see WG2-ch5)**; quality issues **(Kumar and Sarangapani, 2004)**; and the urgency of sustainability. Contemporary scholarly efforts to understand curriculum often emphasize history, culture, race, poverty, gender, social justice and sustainability – topics to be outlined later in the chapter. There has been considerable discussion of the often-forced alignment of curriculum with desired social, environmental and economic outcomes, with some scholars questioning the capacity of the curriculum to change the world, suggesting that studying 'emergencies of the moment' – climate change, racism, misogyny, right-wing populism, pandemics, mass migration – are justified ethically and pragmatically, in a Deweyan-sense, but not instrumentally **(Van Poeck et al., 2015)**.

Since the 1980s, issues of curriculum and assessment **(see WG2-ch9)** have increasingly been debated in managerialist terms,

on the basis of fundamentally economistic conceptions of the purpose of education. A discourse of 'accountability' has been associated with intensifying efforts to measure educational 'outputs', with implications for the kind of curricular knowledge and skills deemed worthy of being taught **(Alexander, 2000)**. Efforts to develop international benchmarks and standardized educational performance and efficiency indicators led to the development of the Programme for International Student Assessment (PISA)/OECD rankings which, in turn, have driven a culture of performativity and accountability into curriculum and pedagogy, effectively marginalizing the original intent of education **(Biesta, 2009)**. As a result, curriculum risked being reduced to content and textbooks, often closely connected to disciplinary school subjects, especially the sciences, delineating clear and measurable learning outcomes and developing adequate tests and tools to maximize 'uptake'. Likewise, pedagogy has often been confined to effective knowledge

transfer. The professional field became closely connected to subject-matter didactics, learning and instruction, educational measurement, and governmental or commercial entities such as textbook publishers, educational measurement outfits, and supranational agencies such as the OECD (PISA), management consultants such as McKinsey, and large United Kingdom (UK)- and United States (USA) based multinational educational publishers such as Pearson or Thomson Learning.

In many countries, curriculum development has become synonymous with content determination and 'didactization' (determining the best way to teach that content). It is often dominated by public, semi-private or private textbook publishing companies, and textbook reform continues to remain a major agenda for political ideologues and serious educationists. The resulting curriculum can be frozen or fine-tuned for five to ten years or even longer before a curriculum revision takes place, prompting new editions of old

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textbooks **(e.g. Ornstein, 1994)**. Ministries of education set content agendas and often collaborate with national institutes in curriculum development, institutions that in turn collaborate with textbook publishers. Depending on sociocultural histories and prevailing governance structures, the pedagogical, learning and instruction elements have been left to schools themselves or are often prescribed in the form of teacher guidebooks and teachers' in-service training. Frequent teacher-training programmes have become an integral part of curriculum processes, often leading to contradictory perspectives being prescribed to the teachers every fifth or tenth year when the curriculum is changed or 'reformed'. In countries where critical discussion is possible, there has been resistance to prescriptive tendencies, as they impede the freedom to learn and the possibility to make education more open, responsive and relational **(Giroux, 1983; Crocco and Costigan, 2007)**. There are also countries, for instance Finland and The Netherlands, where

curriculum development is viewed as an interactive process involving teachers, policy-makers, curriculum developers and content experts that takes place periodically at the national level **(Kuiper, Nieveen and Berkvens, 2013; Pietarinen, Pyhältö and Soini, 2017)**. In a way this is a formalized participatory conversation that leads to some kind of consensus about what needs to be taught in the coming years **(see, e.g., Ben-Peretz, 1980)**. On the other end of the prescribed spectrum, we find independent schools and more localized or contextualized forms of curriculum, one memorable instance of which was the Eight-Year Study **(Pinar, 2011)**. These different manifestations of curriculum development from prescribed, centralized and national towards self-determined, de-centralized and localized, bookend what takes place in schools and what knowledge is considered of most worth, and how curriculum is conceived of as a professional field. At one end of the spectrum is a more policy-driven, universal and fixed curriculum, where teachers

8.3 Power, resistance and the politics of curricular and pedagogical changes

There is a wide range of interrelated trends and challenges that sometimes slowly, sometimes abruptly, fundamentally affect curriculum and pedagogy. While these can be named and distinguished from one another, in practice they are often mixed and inseparable. They include, but are not limited to: (de) globalization; neoimperialism; economism (neoliberalism);

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economic inequality; gender; marginalization of indigenous or minority communities; mass migration; political polarization (and right-wing populism); violence; technologization; the climate crisis and pandemics; and a range of 'isms' including racism, anti-Semitism, homophobia, Islamophobia, sexism and species-ism. Below are some of the differing conceptual lenses through which the changing role of curriculum and pedagogy can be viewed.

8.3 .1

POWER AND POLITICS

The lens of neoimperialism and associated authoritarianism **(even fascism, see Thomas and Eley, 2020)**, nationalism, populism, colonialism **(including data colonialism, see Couldry and Mejias, 2019)**, patriarchy and its structuration of gender, religious fundamentalism, tends to convert education into indoctrination,

undermining democratic processes in schools and classrooms, and marginalizing and deforming certain groups in society. These trends also raise questions regarding the place and meaning of critical thinking in education. 'Critical thinking', 'creativity' and the role of humanities in promoting cosmopolitanism (or 'international understanding') are frequently invoked as objectives in curriculum documents around the world, but these notions are interpreted in widely differing ways. In policy-making circles in China and East Asia, for instance, critical thinking is often considered 'instrumentally', for example, as a skill, rather than an ethically or politically desirable quality necessary for nurturing active, engaged, democratic citizens. In other words, in some contexts, critical thinking has been promoted by policy-makers for its role in boosting 'competitiveness' in the 'global knowledge economy', even while many of the same policy-makers call for an enhanced curricular focus on (uncritical) patriotic education that promotes ethnocultural or

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religious chauvinism (**UNESCO MGIEP, 2017, chapter 3; Vickers and Zhang, 2017**).

An example of continued colonial legacies in education comes from formerly occupied countries, such as India, Brazil and African countries, where the language and structures introduced during colonial rule remained intact in education. Although most African countries gained independence in the second half of the twentieth century, there remains a 'colonial matrix of power' (**Grosfoguel, 2013**) that is reproduced through curriculum and pedagogy. Most African countries use the languages of the former colonial powers (predominantly English or French) as the medium of instruction in schools (**Obondo, 2007**). In many societies, this practice has tended to perpetuate the attitudes, norms and identities of the colonial powers at the expense of those of the indigenous people, with elite status continuing to be associated with command of the language of the former colonizers. While this has certainly exacerbated inequality

and the widespread erosion of local traditions and customs, the situation is complicated by the fact that it is often popular demand that reinforces or enhances the status of the former colonial language in the postcolonial era. In Hong Kong, for example, English has endured after 1997 thanks to its status as the dominant international language, and continues to be viewed as an essential component of a multilingual strategy that emphasizes Cantonese and Mandarin as the local and national languages. Despite consistent calls from the educational establishment in the last two decades of colonial rule for mother tongue (Cantonese/Chinese) instruction to become the default approach in local schools, local public opinion was vehemently opposed to any reduction in the availability of English-medium instruction (**Sweeting and Vickers, 2007**).

The systematic hegemony of European languages through curriculum and pedagogy perpetuates coloniality – the

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quality of being colonial – entrenching a sense of dependence, while depleting indigenous communities' social capital, which refers to stocks of social trust, and other norms that promote social justice, equality and human decency **(Potter, 2003)**. Despite many pedagogical reforms that emphasize education for self-reliance and critical citizenship **(Rwanda Ministry of Education, 2018)**, colonial world views still dominate curricular and pedagogical practices. In Africa and parts of Asia, a wave has emerged in curriculum plans that attempts to confront coloniality with decolonial alternatives. Decolonial alternatives constitute a premise on which critical citizenship develops, as citizenship education 'should help students acquire democratic values within an educational context that respects and reflects their community cultures, languages, hopes, and dreams' **(Banks, 2007, p. 1)**. The impetus for renewed interest in a decolonized curriculum in South Africa comes from recent student protests **(Disemelo, 2015)**, whereby Le Grange **(2019)** argues

that a decolonized curriculum is necessary for the following mutually inclusive reasons: to seek cognitive justice; to debunk the illusion that Eurocentric knowledge is universal; to redress the fact that colonization reduced the knowledges of the Global South to culture; the psychosocial transformation of the colonized; and challenging the fact that African schools and universities are based on Western models of academic organization.

However, calls for 'decolonization' can also provide an opening or cover for the promotion of nationalistic or chauvinistic political agendas. In postcolonial societies, as elsewhere, curriculum frequently becomes a field of contestation between nationalistic goals, corporate vested interests associated with globalization, and other interests and agendas. The curriculum framework documents of India, Pakistan and Uganda illustrate the complexity of curricula as sites of complex, interlocking conflicts. The resistance to a colonial frame has implied 'thinking

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and acting locally, decentering knowledge production and validation, emphasizing affection, relations and subjectivities, cherishing community, plurality and collaboration, submitting to other worldviews' **(Borelli, Silvestre and Pessoa, 2020, p. 303)**. This also requires embracing indigenous languages in which various forms of plurality and subjectivity are expressed, but such aspirations often run up against the challenge that school-level and higher knowledge has yet to be articulated in these languages. Therefore, many curricular plans, such as local language being the medium of instruction, remain unactualized.

Decolonization of curricula involves a range of possibilities: (1) a radical rethinking of Western disciplines, so that curriculum and pedagogy recognize the pain and anguish experienced by colonized peoples; (2) the development of transdisciplinary knowledge, based on a socially distributed knowledge system that includes indigenous communities; (3) the developmentand design of

local curricula featuring new knowledge spaces where Western knowledge is decentred and equitably compared and functions alongside indigenous knowledges; (4) encouragement of students to learn about the epistemologies that emerged from the Cradle of Humankind that Nabudere (**2011)** refers to as Afrikology; and (5) engagement in a process of unlearning in order to relearn **(Carvalho, De Carvalho and Flórez-Flórez, 2014).** There are African countries, like Zambia **(Namafe and Chileshe, 2013)**, where there have been attempts to ground curriculum and pedagogy in local communities and traditions where, ideally, students' hopes, fears and ideas are communicated in their own language and their own norms of life.

However, a thoroughgoing liberation of the curriculum from subordination to state goals – as distinct from substitution of homegrown oppression for 'alien' colonial hegemony – remains an elusive goal. Enabling teachers and educational institutions to exercise autonomy in their curricular

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planning, striking a viable balance between official oversight, the promotion of teachers' professionalism and sensitivity to the local socio-economic context, involves a complex and challenging balancing act in any society. This is especially so when capacity, in the form of a workforce of trained educators or the means to develop one, simply does not exist at the sub-national level. That absence in turn easily becomes an excuse for maintaining the overbearing command and control functions of a centralized educational bureaucracy, thus ensuring that the development of autonomous local capacity remains stunted. Breaking that vicious cycle is a challenge that demands political intervention.

8.3 .2

ECONOMISM AND NEOLIBERALISM

One manifestation of the influence of prevailing economism

and neoliberalism on curriculum can be found in national and international comparative forms of summative assessment. A prominent example of the latter is the PISA/OECD transnational measurement of 'outcomes'. The resort to metrics is also related to efforts to de-politicize debate over curriculum, suppressing discussion of politics and ideology while portraying teaching and learning as processes to be informed by insights based on 'science', 'evidence' and (technical) 'efficiency' **(see WG2-ch9)**. Evident are tensions between 'scientism' and 'economism' in educational debates and the linked discourses of 'skills' and skillification of education, and the erosion of the arts and the humanities in education **(Nussbaum, 2010)**. Crudely put, this contrast between economism and humanism in envisioning the aims of education corresponds to the fundamentally human capital-based orientation of the OECD on the one hand, and the more traditional humanistic approach of UNESCO on the other – though this distinction

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has become more blurred in the early twenty-first century. One outcome of the growing traction of an economistic, marketized, neoliberal outlook in national education policy debates has been the rise of private education across the globe, including in the Global South, and the detrimental side effects in some African countries of universal primary education **(Moussa and Omoeva, 2020)**.

The 'backwash effect' of performance metrics introduced in the name of accountability is evident in curricula at every level from kindergarten to university, as educators and institutions are incentivized to focus their teaching on 'what gets measured'. In Malaysia, for example, universities find their capacity for autonomous planning constrained by key performance indicators (KPIs) imposed by various authorities and agencies **(Universiti Sains Malaysia, 2010)**. The emphasis on intangibles and immeasurables – key intangible performance (KIP) – has been weakened by demands to fulfil KPIs and other measurable indicators in an oversimplified and naïve manner. This includes

citation count and number of publications in particular types of journals, commonly used to tabulate university rankings. An alternative KIP approach, proposed by local academics, would involve the use of a specially designed Competency Framework **(Dzulkifli and Afendras, 2014)**, avoiding a 'ticked box' exercise to which the institution is expected to conform. In its place, various 'accountability' formats related to KIP, such as story-telling and visual presentations, are accepted. In conjunction with project partners, this provides a 360-degree approach based on a range of stated domains. No academic 'grades' are assigned, but instead a competency assessment of the level of outcomes attained is given **(Dzulkifli and Afendras, 2014; Dzulkifli, 2018)**. It attempts to 'gauge' the behavioural change in students after they have learnt to apply knowledge acquired to achieve the desired impact collectively, rather than what an individual can retain and do **(IIUM, no date; Dzulkifli and Borhan, 2019)**. Students may be assessed on attributes such as teamwork, commitment

and empathy, amongst other factors. This approach, piloted at the International Islamic University Malaysia (IIUM), aspires to transcend a reductively quantitative approach to 'accountability', with its narrowing and deadening effects on curriculum and pedagogy. But whether state bureaucracies and policy-making elites will prove ready to sanction the wider use of an approach that erodes their power over educational institutions remains an open question.

Another example of the influence of economism and neoliberalism as a driver of education comes from Latin America where 1990s education reforms, influenced by key UNESCO reports **(e.g. UNESCO, 1990)**, redirected much of the education budget to elementary schooling, while defunding and restricting access to higher levels of education **(Accioly, Gawryszewski and Nascimento, 2016)**. While these policies were portrayed as progressive measures, one effect was to raise barriers for poorer students seeking to access higher education, while having no effect on access for wealthier students, who can afford to attend fee-paying private institutions. In Brazil, where secondary education became compulsory only in 2013, standardized test results have been invoked to strengthen arguments for implementing secondary education curriculum reform based on core 'competencies', decreasing instructional time spent on certain subject matter (e.g. in subjects such as social studies or the arts that are less susceptible to measurement), and emphasizing the development of behavioural 'skills' **(Jones and Moore, 1993; Duarte, 2003; Berliner, 2011; de Andrade and da Motta, 2020)**. Such 'reforms' have been associated with the militarization of schools **(de Freitas, 2018)** and restriction of the possibilities for critical education.

8.3 .3

TECHNOLOGIZATION OF LEARNING

It is perhaps not coincidental that some of the loudest and most

persistent calls for a sweeping introduction of digital technology into classrooms and the wider learning process has come from exponents of a strongly human capital-oriented, instrumental vision of education, such as the OECD. While increased dependency on technology-mediated learning experiences can be viewed as both a blessing and a curse for education (as the COVID-19 pandemic has demonstrated), it can also distort the learning process, hijacking students' attention, while funnelling profits to high-tech companies (whose tax avoidance often depletes public funding for education), fuelling the rise of powerful, unaccountable corporate actors in educational policy-making and curriculum development. What some view as the fetishization of 'EdTech' can be closely related to the dominance of scientism and economism in educational debates **(see Chapter 6 for more on EdTech)**.

Interestingly, in relation to the intensifying backlash against online learning, recent community based research and learning in Colombia has shown the potential of information and communications technologies to facilitate intercultural dialogue and learning between diverse grassroots communities and students of higher education **(Macintyre et al., 2020)**. With more and more learning moving online, however, there is also increasing recognition of our need to connect more to nature. There is thus a need (and opportunity) for blended learning approaches that connect people across political, cultural and ontological lines, and corresponding curricula tied to the needs of marginalized students and communities through political action-based change.

Ever since the rise of the network society **(Castells, 2009)**, campus-based schooling has been penetrated through the development of information technology. The boundary between campus schooling and non-campus learning has been blurred, a process accelerated by the COVID-19 pandemic. In the new computer-based

and overhead-camera-equipped classroom, nearly all of the teaching and learning activities are datafied **(Williamson, 2017)**, including private information, registering while it influences

identity information and social civility (bullying, sexting). The preferences of teachers and students can be digitized and stored. With the Internet of Things and the wide use of face

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… curriculum design and classroom teaching could deliberately leave some 'dead corners' in order to create enough 'psychological space'.

recognition technology and mobile media in daily life, everything that happens in every corner of the campus can be captured, recorded and remotely controlled, reducing schools and universities to one interconnected panopticon. These highly surveilled curriculum milieus, to use Schwab's term **(1973)**, has been widely celebrated as a technological triumph in education, but it has also been recognized by many scholars as a crisis that will lead to unpredictable privacy risks, stunted social development, increased plagiarism, political passivity and other deleterious effects **(UNESCO MGIEP, 2019; Yan, 2020)**.

Once students and teachers become accustomed to daily violation of their privacy by such a panoramic prison-style classroom monitoring system **(Zhang, 2020)**, their awareness of the protection of personal information and privacy will weaken. If children are exposed to such a panopticon from a very early stage, it will be very challenging for them to develop proper self-recognition.

Without privacy, the development of self-identity will atrophy. Furthermore, once the relatively closed classroom is turned into a public space, students and teachers will likely worry that their words and deeds will be disclosed to the public. Wary of the danger, they may intentionally insulate themselves, not showing their real selves; or they will give 'front stage' performances in class **(Goffman, 1959)**, but unfortunately without enough privacy for 'backstage' performances after class, which will surely do harm to the identification and harmony of self.

There needs to be a conversation around strengthening privacy and legislative protection, raising teachers' and students' awareness of privacy issues. In addition, curriculum design and classroom teaching could deliberately leave some 'dead corners' in order to create enough 'psychological space' **(Schwab, 1978)** for children, youth and teachers to feel free to play, and learn through trial and error.

In recent decades, LGBTQ+ concerns have been at the forefront of efforts to understand the curriculum as gendered.

8.3 .4

GENDER

Understanding curriculum and pedagogy as gendered **(Pinar et al., 1995; Hendry, 2011)** offers a crucial lens through which education can be understood as a patriarchal intervention into the intimacy of women's relationships with children, substituting objectivity and mastery for attachment and dialogue **(Grumet, 1988)**. Given that the majority of K–12 teachers are women – in the public imagination even if not in empirical fact – and the majority of politicians and policy-makers are male, 'school reform' can also be decoded as another form of misogyny, as men seek to ensure women comply with their demands **(Pinar, 2019)**. School knowledge itself can be comprehended as gendered, as the sciences –'hard' and 'objective'– are prioritized over the soft sciences, for example, the human sciences, including the arts and humanities. In recent decades, LGBTQ + (lesbian, gay, bisexual, transgender, queer or questioning) concerns have been at the forefront of efforts to understand the curriculum as gendered **(Pinar, 1998)**. Gender imbalance in the distribution of power over curriculum development, and reflected in curricular content itself, demand far more attention from policy-makers, government officials, textbook authors and other stakeholders.

8.3 .5

THE ROLE OF NEUROSCIENCE IN CURRICULUM AND PEDAGOGY

There is increasing interest in the role of neuroscience in education **(Billington, 2017)**, with the contention that understanding the neural bases of learning and memory can provide not only new and valuable scientific insights

Massive changes in the structural and functional architecture of the brain during and after the acquisition of literacy has provided evidence on the plastic nature of the brain and how learning instructions and knowledge acquisition can shape and reshape brain architecture.

into how knowledge is produced, but also how it can be applied in educational settings **(Gersmehl and Gersmehl, 2011; Nouri, Mehrmohammadi and Kharrazi, 2014)**. This field of educational neuroscience (EN), which integrates biology with cognitive science, development and education, has informed several theoretical frameworks for learning and optimal classroom practices consistent with knowledge about brain function **(Jensen, 2007; Goswami, 2008; Tokuhama-Espinosa, 2015)**.

Literacy and numeracy are two areas where neuroscientific evidence has increased our understanding of how the brain processes information and learning instructions to develop skills. The neurobiological basis of processing multiple languages, decoding written words and acquisition of reading skills have informed what are the optimal inputs and sensitive time periods that can help achieve language proficiency and literacy during schooling **(Kuhl, 2011; Dehaene, 2020)**. In the domain of mathematics, number representation and

numerical processing in the brain **(Venkatraman, Ansari and Chee, 2005; Ansari, 2008; Holloway and Ansari, 2009; Dehaene, 2013; De Smedt and Grabner, 2016)** and the biological basis of social maths anxiety can inform new pedagogies **(Maloney, Ansari and Fugelsang, 2011; Buckley et al., 2016; Sokolowski and Ansari, 2017)**. Massive changes in the structural and functional architecture of the brain during and after the acquisition of literacy has provided evidence on the plastic nature of the brain and how learning instructions and knowledge acquisition can shape and reshape brain architecture (Dehaene, 2011). Development of numeracy and literacy skills in the early years of schooling is imperative for learning new skills and building knowledge **(WG3- ch5)**. However, recent findings from neuroscience and behavioural research have also highlighted the role of emotion and its interaction with cognitive processes in learning, indicating the importance of awareness of learners' emotional and mental states **(Immordino-Yang and Damasio, 2007; Hinton, Miyamoto and Della-Chiesa, 2008)**. It is noteworthy that despite the emerging evidence

from EN on different domains of learning and education there is currently no framework that systematically integrates brain principles with curriculum theory and practice.

Notwithstanding the innovative research being carried out in the field of EN, a focal question is how (or to what extent) EN research can be practically translated into curriculum and pedagogy. On the one hand, translating EN findings into classroom practices and pedagogies depends on a multitude of factors, one of which is teacher training **(Wilcox et al., 2020)**. One study claims that a thirty-six-hour teacher training programme based on EN findings resulted in the improvement of teachers' lesson plans to include more enriched student-centred instructional practices **(Schwartz et al., 2019)**. However, while neuroscience findings have yielded significant advances in developing pedagogical practices for students with learning difficulties such as dyslexia, dyscalculia, autism spectrum disorder and attention deficit hyperactivity disorder **(see WG3- ch6)**, some scholars have critiqued EN's lack of focus on questions of learning and pedagogy relevant to real-world classroom practices. This includes conclusions based on small sample and effect sizes, and emphasis on replicability and generalization of research findings without considering the different sociocultural contexts in different populations **(Taubman, 2009; Spring, 2012)**. At a deeper level, there is also a debate about whether EN insights are radically transformative to mainstream educational scholars or practicing teachers **(Schrag, 2011)**, with some scholars arguing that EN findings are at best additive to the knowledge already acquired through other disciplines by explaining the biological basis of such findings **(Hille, 2011)**. EN research would then relate less to debates over what should be taught or why, but to how a given curriculum might be more effectively implemented **(Stern, 2005)**.

In addition to such technical

... neuroscience findings have yielded significant advances in developing pedagogical practices for students with learning difficulties.

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EN has a role to play in informing efforts to achieve curricular and pedagogical improvement through generating knowledge on the abilities, variabilities and constraints of the 'learning brain'.

considerations – as to whether specific neuroscientifically informed interventions seem to 'work' in terms of improving educational outcomes **(see WG2-ch7 and WG3)** – concerns have been raised regarding neuroscience as a 'discourse', or a way of talking about education and learners. Critics see EN as lending itself to a radically individuating, socially and politically decontextualized vision, with education reduced to a process of moulding and sorting learners-as-brains for roles in a taken-for-granted social order **(Bradbury, 2021)**. Whatever the fairness of such charges **(see WG2-ch1)**, the focus of neuroscience on learning as a biological process can detract from consideration of the ideological and political nature of curriculum, and the crucial role of schooling in the political conditioning of students (as distinct from their 'social and emotional' conditioning, see below).

To conclude, EN is another facet in the perennial debate as to how teachers can apply theoretical evidence to practical applications

(Hille, 2011) and how 'usable knowledge' can be translated into improved educational policies and practices **(Christodoulou, Daley and Katzir, 2009)**. But the rapid emergence of neuroscience as a field, and the massive hype surrounding it, are attributable at least as much to contemporary political and cultural conditions (i.e. the interests or proclivities of key stakeholders) as they are to purportedly 'objective' scientific developments. EN is an evolving field; many practitioners are aware of the criticisms raised here and are seeking to address them **(refer to WG3 for further reading on EN findings and critical issues in EN)**. EN has a role to play in informing efforts to achieve curricular and pedagogical improvement through generating knowledge on the abilities, variabilities and constraints of the 'learning brain' **(Stern, 2005)**. However, there is need for further research, particularly of an interdisciplinary kind, if some of the expectations invested in EN are to be moderated, and neuroscientific insights incorporated into a more holistic vision of education that

extends beyond individual brains to the social, political and cultural contexts that shape both learners and the content of the curricula they study [1].

8.3 .6

SOCIAL AND EMOTIONAL LEARNING

As noted above, one curricular area in which EN has had a significant impact relates to conceptualization of the socializing function of education – its role in preparing us as citizens and functioning members of various collectivities. Neuroscientists have pointed to increasing evidence linking emotions, social processing and self, whereby beyond cognitive aspects of academic skills, we are learning more about the reasons why we engage in specific subjects, what they mean to us, and the joy and anxiety they create in us **(O'Brien and Howard, 2016)**. The term 'social and emotional learning' (SEL) has been coined to describe the process of fostering the social and emotional 'skills' (e.g. emotion regulation, self-management, social awareness, relationship skills) of children and young people through explicit instruction in the context of learning environments that are safe, caring, well-managed and participatory **(Humphrey, 2013; Weissberg et al., 2015; see WG1-ch5 and WG3- ch4 for further discussions on SEL)**. SEL skills are portrayed as helping children to effectively navigate the social world and promote resilience to victimization, violence and other negative processes and outcomes **(Sklad et al., 2012)**, while also facilitating learning in the classroom **(Durlak et al., 2011)**.

> Neuroscientists have pointed to increasing evidence linking emotions, social processing and self.

See the previous chapter on EN. Since the 1990s, EN has grown into a field that attracts substantial funding. The 'Decade of the Brain' in the United States(1989–1999) saw massive government resources funnelled into brain research, and this initiative was subsequently emulated in many other countries, including Japan, China and Germany "https://paperpile.com/c/ss17QN/nvHnI/?locator=8-9" (Gabriel, 2017, pp. 8–9). Meanwhile, funding in most countries for the social sciences and humanities has either stagnated or gone into relative decline, especially since the 2008 financial crisis. In part, then, the fact that EN has prospered while social sciences have struggled is attributable to the categorization of neuroscience as a 'science', and of mainstream educational studies as 'social sciences', in a context where funding for the natural sciences has been prioritized over the social sciences and humanities. In 2010, the British Government abolished core public funding for arts, humanities and social sciences courses at UK universities, while maintaining funding for science, engineering and medicine courses. In Japan, the Education Minister in 2015 expressed skepticism about the value of funding humanities and social sciences in national universities. Funding was subsequently slashed, with education departments a particular target of the cuts, forcing many to close "https://paperpile.com/c/ss17QN/eYTHy/?prefix=see" (see Vickers, 2020). For further discussion of funding issues and the political context for the rise of EN, see WG2-ch7.

Learning is a social process and it thus stands to reason that improved social and emotional 'competence' will facilitate academic success. Longitudinal research supports this proposition **(Panayiotou, Humphrey and Wigelsworth, 2019)**, and indeed life course studies highlight the predictive utility of SEL skills for mental health and labour market outcomes in adulthood **(Goodman et al., 2015)**. Accordingly, effective promotion of SEL skills

Besides causing mass destruction of lives and economies, the pandemic highlighted the importance of empathy.

has emerged as a policy priority in education systems around the world. Several meta-analyses have rigorously demonstrated that universal SEL interventions implemented by class teachers can lead to meaningful and lasting improvements in a range of outcomes including social and emotional competence, mental health and academic attainment **(Durlak et al., 2011; Wigelsworth et al., 2016; Taylor et al., 2017)**.

Advocates of the importance of SEL have pointed to the ways in which different communities responded to the COVID-19 pandemic. Besides causing mass destruction of lives and economies, the pandemic highlighted the importance of empathy. Many ordinary citizens from across the globe have become #coronaheroes – some are running community kitchens for migrants, while others are organizing mass mask supplies for frontline workers **(Revkin, 2020)**. As such, the pandemic can be viewed as a catalyst of SEL. The National Education Association in the US put out a statement

calling for SEL to be the priority during and after the COVID-19 crisis **(Walker, 2020)** and many teachers and experts want to include SEL in all components of the current curricula **(see, e.g., Singh and Duraiappah, 2020)**. World Bank education experts agree that the SEL component has been neglected thus far and given that millions of children are out of school and families continue to suffer financial, mental, emotional and health risks, SEL must be prioritized **(Luna-Bazaldua and Pushparatnam, 2020)**. The World Bank report states that nearly half of the students surveyed in the US reported feeling worried about the potential risk of a close relative becoming infected, but they were also concerned about not learning enough at home to be ready for the next school year. The report also quotes a survey study by the University of Oregon, which shows that children are experiencing difficulties in their social and emotional development and present higher rates of disruptive behaviours than before the pandemic started **(Walker, 2020)**. At the same time, families are

There has been emphasis on the need for the design and implementation of SEL to be carried out carefully so as to minimize unintended consequences such as empathy distress.

experiencing household economic insecurity that limits their capacity to meet their basic needs. Given this, the World Bank has started a youth skilling program in Kaduna State Nigeria that gives SEL the substantial treatment it deserves **(Robinson, Sani and Aminu, 2020).**

However, there are challenges ahead for SEL discourse and practice in terms of curriculum and pedagogy. Although steadily gaining traction in education, SEL is a relatively new concept, and is only just beginning to enter curricula and school activities. There has been emphasis on the need for the design and implementation of SEL to be carried out carefully so as to minimize unintended consequences such as empathy distress **(Singh and Duraiappah, 2020).** Deeper concerns have also been raised regarding the underlying assumptions of SEL, as well as the importance of context in SEL teaching. First, as critiqued by Stearns **(2019)**, it is important for SEL not to be used instrumentally, forcing a kind of 'hegemonic positivity'

as an end-point for learning **(see also Davies, 2016).** Rather than using children's emotional and social worlds as a site of learning mastery, Stearns argues for SEL to be a participatory and on-going conversation between students and teachers, echoing the concept of a complicated conversation that frames this chapter. Another important aspect is the need for cultural sensitivity when applying SEL. As discussed in this text, learning, curriculum and pedagogy have been shaped by factors such as colonization, resulting in structural inequalities around the world. Mahfouz and Anthony-Stevens **(2020)** note that in teaching SEL in Indigenous communities in Canada, there is a disconnect between the well-intentioned focus of SEL to help Indigenous children become more resilient, and the contextual reality of marginalized cultural groups who traditionally prize 'other' forms of knowledge. This highlights the need to nuance universalized understandings of SEL with place-based learning requirements.

The focus of SEL on individual 'learners' or sociability within small groups is attractive to many policy-makers as SEL skills are widely seen as contributing to more balanced individuals who are resilient in the face of increasing pressures in the labour market. However, we must be careful that this does not distract our attention from contentious social and political issues, involving the relationship between citizens and the state, civic and human rights, and the demands that citizens should feel entitled to make of their governments **(MGIEP, 2017; Bradbury, 2021)**. Whether responding to a pandemic or addressing the myriad other crises confronting humanity, we rely not only on local 'coronaheroes' or the selfless actions of individual empaths, but also (and significantly) on effective political action. A depoliticized focus on sociability as a matter of individual 'skills' and 'competencies' is thus no substitute for the pursuit of citizenship education grounded in a critical and contextualized understanding of politics, history and culture.

> According to Freirean philosophy, all pedagogy is political and requires radical transformation of teaching and learning.

ONTOLOGICAL POLITICS AND TRANSFORMATION

According to Freirean philosophy, all pedagogy is political and requires radical transformation of teaching and learning **(Giroux, Freire and McLaren, 1988)**. Fundamental to bringing about such transformation is connecting a critical awareness of unsustainable norms in society with place-based learning **(Gruenewald, 2003)**, appreciating that we must engage with the world to transform it. Such learning can be transformative, and even transgressive, when it engages with the ontological aspect of different ways of 'being in the world', and especially when engaging in the political dynamics of such encounters **(Chaves et al., 2017)**. An example of an ontological turn in education is provided by Ubuntu/currere, which brings together

the African notion of Ubuntu and the North-American signifier for curriculum, currere. Pinar **(1975)** first invoked the Latin word currere, which means 'to run the course'. Currere privileges the individual because each of us is different – in our genetic makeup, in our upbringing, in our families and more broadly in our race, gender, class, and so on **(Pinar, 2011)**. Ubuntu is derived from aphorisms in African languages and means that our being and becoming is dependent on others. In contrast to Descartes's, cogito, 'I think therefore I am', Ubuntu means, 'because we are therefore I am' **(Le Grange, 2019)**. This relationality between humans (Ubuntu) is emblematic of the relatedness of all things in the cosmos.

> An important dilemma in bringing about transformations in 'what' and 'who' we are, is history education in conflict societies.

An important dilemma in bringing about transformations in 'what' and 'who' we are, is history education in conflict societies. As societies recover from past violence, history education becomes embedded in the complex interrelations between changing systems of power and

a redefined national identity. When facing the question of how to teach students about a recent violent history, recovering societies encounter some major dilemmas and choices **(Korostelina, 2016)**. For example, there is a dilemma between teaching critical history that helps to transform society, and teaching monumental history that increases loyalty to the nation and submission to the ruling elite. Although such a 'monumentalistic concept of the past' **(Blustein, 2008, p. 13)** can help create a sense of cultural identity and security, it also **(Blustein, 2008, p. 13)** legitimizes the ruling regime and develops loyalty among the younger generation. In other words, historical narratives are based on explicit judgements about the importance of specific events in the history of a particular nation or ethnic group. Although such judgements can be critical to past events, they are influenced by the ideology of a ruling regime that favours some events over others because they are deemed a significant and essential foundation for the regime's ideas and goals. On the contrary, in

critical history, narratives can be recounted through the process of confronting and considering alternative narratives **(Ricoeur, 1995)**. During this process, stories of different groups and communities within the nation are put together, including dominant and marginalized narratives, allowing multiple interpretations and analyses of the roots and causations of violence, as well as a reconfiguration of dominant narratives through a process of consensus or agonistic dialogue.

These issues reflect the rapidly changing and volatile global, national and local contexts in which schools must function; they place new demands on curriculum and pedagogy and lead to different responses. The new demands include, but are not limited to: finding ways to engage learners in complexity and ambiguity; teaching them how to grapple with moral and ethical questions; and helping them develop competencies and qualities to find healthier and more equitable ways of living and being while being mindful of planetary problems. The different responses vary from 'denial' or trying to keep education as is, to adding new topics to the curriculum, to 'building in' or trying to integrate emerging topics and competencies into the curriculum, to a 'whole system redesign' where policy-makers, school systems and schools are rethinking the whole curriculum in light of global

8.4 Curriculum and pedagogy in light of emerging global challenges

As we draft this report in 2021, a wide range of interrelated global challenges and crises impinge upon considerations of curriculum and pedagogy – of what we should teach our children to prepare them for a world undergoing unsettling transformation. Since comprehensive coverage is clearly impossible, we limit ourselves to a few key challenges that relate to the UN's Agenda 2030 and its seventeen SDGs.

> ... those who are illiterate are not even considered in discussions of curriculum and pedagogy, even though they have a deep yearning to find a way into the world of education and have much to offer.

8.4 .1

RISING INEQUALITY AND POVERTY

Many schools and the communities they serve are affected by rising inequality and poverty in a variety of ways which can be mutually reinforcing. Schooling and learning are impacted in multiple ways as many children and youth lack adequate food and nutrition and suffer from poor health which also undermines their learning. The curriculum often ignores these existential conditions, and there is little opportunity available to make these conditions a subject of education itself **(Chege et al., 2020)**. Inequality and poverty can produce parallel tracks: the poor attend public school when they can, while those not suffering from poverty and in some cases even benefiting from it, are in a position to always attend, even to choose private education, thus further exacerbating inequality.

Inequality is also born out of marginalization and exclusion. An important instance of this is when those who are illiterate are not even considered in discussions of curriculum and pedagogy, even though they have a deep yearning to find a way into the world of education and have much to offer. There is a great deal to be gained from involving illiterate people from the start rather than holding them at arm's length. In Somalia and its internationally unrecognized breakaway region Somaliland, for instance, illiterate people have been research co-production partners on the impact of COVID-19 on education **(Herring et al., 2020)**.

It is important to guard against the curriculum's complicity with narrow nationalisms organized around ethnicity and language. For example, the narratives of Somali origins in the Arab peninsula have been associated with the standardization of the Somali language, neglecting the Somali Maay dialect **(Eno, Dammak and Eno, 2016)**. Worldwide, languages of indigenous peoples

...climate change has been shown to have a moderate to low prevalence in education policy and curricula...

face marginalization and even extinction, and including provision for teaching most of the remaining local languages and dialects in the curriculum is a daunting educational challenge **(see WG3-ch5, WG3-ch6 for more on this).**

Finally, there are issues of migration resulting from inequality and poverty that also affect education. **(UNESCO (2019)** shows the implications of different types of migration and displacement for education systems, as well as the impact that reforming education curricula and approaches to pedagogy and teacher preparation can have on addressing the challenges posed by migration and displacement. In communities where there is a net loss of people, as people try to move elsewhere for a better future, the infrastructure for education further erodes as resources, including professional educators, become scarce. At the same time, communities that experience a net gain of people as a result of poverty and inequality-related migration are pressed to

find ways to integrate refugees and other migrants into what may have been relatively homogeneous communities. Here there might be resistance but also a lack of competence in creating inclusive and welcoming classrooms and communities.

8.4 .2

CLIMATE CRISIS

The Climate Emergency is one of the most prominent manifestations of systemic global dysfunction that affects all life on Earth **(IPCC, 2018)**. It connects with all other global challenges as it impacts health, poverty, migration, biodiversity, democracy, and more. Many schools and universities are looking for ways to meaningfully engage students in this rather complex topic, if only because young people are demanding that they do so **(Boulianne, Lalancette and Ilkiw, 2020; WG2-ch2)**. The contexts in which schools are doing this varies greatly, from a flooding delta in Bangladesh to a wildfire-

> **... community-based learning initiatives are experimenting with innovative pedagogical models, such as transformation labs, to promote place-based narratives of climate change resistance.**

prone county in California, from a desertifying arid region in Ethiopia to a wealthy community along the Oslofjord with a very high per capita ecological footprint. And then there are schools operating in contexts where trust in science and government is very low, the power of the fossil fuel industry is very high, and where climate change is considered a natural phenomenon and is downplayed as a non-issue, or a highly exaggerated risk.

The curriculum responses are equally diverse: from denial and 'education-as-usual' to the acknowledgement of climate change as an important topic in some school subject areas, to it being a cross-cutting theme for interdisciplinary learning and problem-oriented education, and a critical part of a so-called 'whole school approach' to sustainable development **(Mogren, Gericke and Scherp, 2019)**. The latter refers to a more systemic approach to working with wicked problems, such as climate change, by not only looking at the implications for the 'written' curriculum but also paying attention to the

implications for pedagogy and learning, school-community connections, a school's own ecological footprint, and the professional development of teachers and other school staff. Despite climate risk being a serious problem recognized by the UN and many national governments **(IPCC, 2018)**, climate change has been shown to have a moderate to low prevalence in education policy and curricula **(see UNESCO MGIEP, 2017, p. 48 for Asia)**, and when it does, it still fails to address the underlying causes **(Kagawa and Selby, 2010)**. More recently, schools and universities have also been discussing how to deal with the climate anxiety and associated feelings of despair that many young people are experiencing and bring to the classroom **(Besley and Peters, 2020; Todd, 2020)**. In response to challenges in formal education, community-based learning initiatives are experimenting with innovative pedagogical models, such as transformation labs, to promote place-based narratives of climate change resistance **(Macintyre et al., 2019)**.

8.4 .3

EROSION OF DEMOCRACY AND TRUST IN INSTITUTIONS

Although the relationships between governance, educational freedom, student participation and democracy are highly complex and play out differently in different sociocultural settings, there are certain seemingly universal patterns. While, arguably, there has been a global spread of democracy in the decades after the Second World War, recently there has been considerable 'backsliding' and the creation of a 'democratic deficit' in long-established democracies **(Wals and Peters, 2017)**. In many countries, economic liberalism has crowded out political liberalism, essentially reducing democracy to market principles: policies as products, voters as passive consumers, politicians as producers, elections as markets **(Wals and Peters, 2017)**. Across the globe, privatization of public education ('school choice', vouchers and charter schools; **see WG2-ch3)** involves a deliberate shrinking of the government's role in the development and protection of civil society. Turner **(2014)** points out that as a pedagogical model, this historical project submits youth to the logic of hyperindividualism and disengages them from community and society in general and, as a result, makes them less prepared and less able to cope collectively with the consequences. Deliberative democracy and associated local participation have been eroded by neoliberal reforms that minimize the role of the government and leave key decisions and choices to the markets and the actors that control them. As noted above, promotion of SEL may be complicit in attempts to depoliticize education's socializing role, shifting the focus to the adaptation of individual learners to a given socio-political status quo, rather than encouraging them to press for political and

> Education, especially when it is based on action pedagogies, can play a significant role in joining up a deliberative ecological democracy with new forms of activist science and the rapidly growing forms of citizen science.

social change in the interests of justice and sustainability.

Some scholars point out that with this erosion the educative power and its pedagogical force intrinsic to a deliberative democracy is lost, making it difficult if not impossible to teach students to reason about ecological issues and to accept responsibility for their daily practices and actions **(Selby and Kagawa, 2014)**. The deliberative nature of ecological democracy has strong roots in grassroots participation in civil society. In philosophical terms it is indebted to John Dewey **(1923)**. Free and open debate in society and the classroom is a necessary condition for the legitimacy of democratic political decisions based on the exercise of public reason rather than simply the aggregation of citizen preferences as with representative or direct democracy. Education, especially when it is based on action pedagogies, can play a significant role in joining up a deliberative ecological democracy with new forms of activist science and the rapidly growing forms of citizen science

that encourage the use of empirical evidence and logic in a post-truth world driving community-based science projects and encouraging linked-up international scientific agendas that promote collection of data and careful evaluation based on systematic observation and experiment **(Wals and Peters, 2017)**. Some UNESCO declarations and statements emanating from CONFINTEA (CONFérence INTernationale sur l'Education des Adultes: International Conferences on Adult Education) hinted at this when they described adult education as 'a consequence of active citizenship and a condition for full participation in society' **(UNESCO Institute of Education, 1997, p.1)** and 'a powerful concept for fostering ecologically sustainable development, for promoting democracy, justice, gender equity, and scientific, social, and economic development, and for building a world in which violent conflict is replaced by dialogue and a culture of peace based on justice' **(UNESCO Institute of Education, 1998, p. 3)**. However, it is hard to see how the school curriculum

Curriculum and pedagogy tend to reflect the social, political and cultural context beyond the school gates. In societies where political pluralism and free speech are generally restricted, it is therefore highly unlikely that curriculum will become an effective instrument for transforming the status quo.

can function effectively as the bearer of liberal democratic values in societies where the political and legal context severely limits the scope for active democratic citizenship; the educational ramifications of Hong Kong's 2020 National Security Law dramatically illustrate this point. Curriculum and pedagogy tend to reflect the social, political and cultural context beyond the school gates. In societies where political pluralism and free speech are generally restricted, it is therefore highly unlikely that curriculum will become (or be allowed to become) an effective instrument for transforming the status quo.

The loss of trust in both science and government, and the cultivation of chaos, fear and doubt by groups in society who see emerging global challenges such as pandemics, migration and climate urgency as an opportunity to strengthen their power and expand their reach, also further undermines the possibilities for more deliberative and dialogical forms of education. Schools struggle in finding ways to

navigate the tensions and develop the kind of critical literacy their students need to see what lies underneath and the risks this cultivation poses for people and the planet **(Selby and Kagawa, 2020)**.

8.4 .4

LOSS OF BIODIVERSITY

The recent Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) **(Brondizio et al., 2019)** and World Wildlife Fund **(WWF, 2020)** reports confirm that we are currently in the midst of the sixth wave of mass extinction of species. Not only is this a moral issue, as one single species determines the fate of virtually all others, it also puts the survival of homo sapiens at risk as the loss of biodiversity also implies the loss of vital ecosystem functions and the self-healing and regenerative capacities of Earth. Biodiversity loss is deeply connected to all we do: mining, forestry, diet, energy use, even our increased

An emergent pedagogical approach to restoring and regenerating healthier connections between people and the planet is ecopedagogy.

reliance on technology, which demands energy, space for data storage centres, rare earth metals, and the type of attention that disconnects people from their physical surroundings, lead them to sacrifice 'green time for screen time'.

Much like climate change, schools and communities are affected differently by this loss, just as they are contributing differently to this loss. Schools and the people who make up schools are entangled in biodiversity, often without realizing it. One challenge is to make these connections more visible while also learning how to positively influence biodiversity locally. This might require conversations about the greening of school grounds **(Harvey, Gange and Harvey, 2020)**, the harvesting of rainwater **(O'Donoghue, 2018)**, the (re)considering of diets, the creation of school and community gardens **(Fischer et al., 2019)**, and finding ways to link these conversations to the more formal curriculum and the more informal relationships between the school and local actors who can support

schools **(Holland, 2004)**. At the same time, critical analysis of the structures and mechanisms that lead to massive species extinction on a global scale must also find its way into such conversations.

An emergent pedagogical approach to restoring and regenerating healthier connections between people and the planet is ecopedagogy. Ecopedagogy, as described by Kahn **(2010)**, combines the critical pedagogy of Freire **(1970)** with future-oriented ecological politics, and learning rooted in existential issues that demand critical analysis of the discourses surrounding sustainability, including issues around food, social justice and biodiversity, and which require different forms of dialogue. An example of ecopedagogy comes from Colombia where project 'Pan Rebelde' (rebel bread) aims to reconnect humans with nature by facilitating students' connection to food through local gardening, and the sharing of recipes and traditional food dishes in informal, intergenerational spaces of culinary transformation. Through

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Emerging post-human perspectives on education propose more relational forms of learning that decentre humans to open up spaces for entanglement with other species, including non-human animals.

this process and these spaces, critical awareness is promoted in students, encouraging them to reflect on and transform the reality of their consumption habits **(Bauman, 2007)** in the perspective of food sovereignty and health **(Anderson, 2018)**. Pan Rebelde reiterates the fact that eating is a political act, whereby growing, cooking and sharing local food is an exercise in civil resistance towards the detrimental influence of the global food industry in people's daily lives. As such, Pan Rebelde constitutes a way for students to enter into relationships with social actors such as 'seed guardians' and peasant markets, learn practical skills such as food production and cooking, and encourage autonomy from the global market system.

The question of biodiversity in education is also a question of how humans connect with non-human animals and the more-than-human world. Emerging post-human perspectives on education propose more relational forms of learning that decentre humans to open up spaces for entanglement with other species, including non-human animals. It is suggested that development and enactment of such forms of learning will help recognize that the human species is not superior to other species but rather part of a living web of highly interdependent sentient creatures whose well-being should not be undermined or compromised **(e.g. Malone, Tesar and Arndt, 2020)**.

8.5   <u>Implications for curriculum and pedagogy</u>

The trends and challenges analysed in this chapter, and discussed in more depth in the earlier chapters of this report, reflect the rapidly changing and volatile world situation in which schools and other educational institutions are forced to function in the early twenty-first century. No single chapter can aspire to a comprehensive survey of the implications for curriculum and pedagogy, and we invite the reader to explore other chapters in this report which particularly relate to curriculum and pedagogy, such as a curriculum framework for flourishing in education **(WG1-ch4)** and learning disabilities **(WG3-ch6)**. To conclude this chapter, we contribute some important components of the 'complicated conversation' that we consider curriculum and pedagogy to be in light of global sustainability challenges.

> ... hybrid learning ecologies, which combine different forms of learning, ways of knowing, multiple technologies and conduits for learning.

8.5 .1

REORGANIZATION OF THE CURRICULUM TOWARDS HYBRID LEARNING ECOLOGIES

There is an urgent need for more placebased, rooted curricula, which address those existential questions educators and students face. The notion of a 'living curriculum' connects existential questions that people in and around the school community are facing with practical, local action, while always exploring how the local is nested in the wider world. This offers the possibility of making education relevant, responsive and reflexive as many of these questions do not have definitive answers but require a continuous rearticulation of the question in light of what is encountered and learnt. We can understand such curricula as hybrid learning ecologies **(Barnett and Jackson, 2019)**, which combine different forms of learning, ways of knowing, multiple technologies and conduits for learning. They involve working with different stakeholders, building school–community connections and using alternative forms of assessment – linking science and technology and society in (re)generative ways. These are curricula that respect and recognize the traditional knowledge of indigenous peoples, ancestry and intergenerational dialogue as crucial for the sustainability of life on Earth. They are also directly opposed to any form of ethnic, racial, gender and class oppression, as well as ableism, ageism, and the exploitation of human labour, fauna and flora species, and the environment. Such a values based education moves away from mechanical/materialistic 'tangibles' towards organic 'intangibles', seeking a more humanized approach to education. The emphasis is on doing better things in life rather than just doing things better for the marketplace. Thus it is imperative that education is based on the three core values of sympathy, empathy and compassion, as

is demonstrated in the above example from the IIUM.

8.5 **.2**

RESPONSIBLE EDUCATION-DRIVEN SCIENCE AND TECHNOLOGY UTILIZATION

Responsible research is a 'new' approach that anticipates and assesses potential implications and societal expectations with regards to research and innovation. It aims to encourage the design of inclusive, sustainable research and innovation, and create spaces and opportunities for socially desirable approaches undertaken in the public interest. In this respect, it is important to balance the current fetish for technology-driven innovation (EdTech), with an emphasis on ensuring human rights such as water, sanitation, quality food and housing, as

well as disease prevention, free vaccination and universal access to health care. Critical actors in this endeavour are teachers. To play their role as agents of curriculum reconstruction, and to model the autonomy, creativity and criticality we expect them to impart to students, teachers need to be freed from the tyranny of textbooks, test-driven teaching, and panoramic surveillance and managerialism. Teachers need to benefit from and be supported by technological advances, rather than mechanized and disempowered. This might entail competency-based teacher curricula as well as responsibly designed lifelong learning systems, resulting in wider public recognition of teacher professionalism in their practical work, alongside adequate policies to protect the esteemed status of teachers.

Responsible research aims to encourage the design of inclusive, sustainable research and innovation, and create spaces and opportunities for socially desirable approaches undertaken in the public interest.

8.5 .3

PARTICIPATION, DEMOCRACY, PARTNERSHIPS AND CRITICAL LITERACY

In the midst of political polarization and educational neoliberalism, there are hopeful signs of new alliances towards more equitable and just societal outcomes. The partnerships between schools and universities with grassroots movements such as Black Lives Matter, and peasant movements such as La Vía Campesina (in Latin America) and The Landless Workers' Movement (in Brazil), among others, demonstrate potential benefits for the learning of citizenship, participation, collective decision-making, and for the democratization of educational institutions. To avoid maintaining the status quo, such partnerships need to move away from the instrumentalist language that continues to dominate policy-makers' conceptions of curriculum and pedagogy. Such language includes performative

words like 'aims', 'objectives', 'curriculum development', 'achievement' and 'assessment' to the invocation of non-performative words and phrases such as 'curriculum/pedagogical improvisation' and 'curriculum/ pedagogical experimentation'. Important here are concepts such as 'indigenization' and 'decolonization' (confronting and challenging the colonizing practices that have influenced education), and being inspired by new vistas of knowledge that have been marginalized or forgotten, such as values-related knowledge and wisdom leading to more life-oriented educational processes that are sustainable, culturally based and locally relevant.

In response to a mainstream human capital approach to skills acquisition, which is proving increasingly incompatible with a changing world of uncertainty, it is important to broaden curriculum and pedagogy to include understandings of SEL that incorporate empathy for our shared home on Earth as an extension of empathy for each other, and which links individual and community resilience to environmental resilience. But SEL focused on the skills and competencies of individual learners needs to be integrated into a curriculum that alerts students to the complex challenges of politics, economics, cultural diversity and environmental sustainability. This can help raise awareness of how issues like environmental degradation and biodiversity loss pave the way for the spread of deadly pandemics like COVID-19, droughts that cause mass hunger, and other human challenges including climate change and the climate fear and anxiety which is affecting young people across the globe. Story-telling, role-playing, place-

... it is important to broaden curriculum and pedagogy to include understandings of SEL that incorporate empathy for our shared home on Earth as an extension of empathy for each other.

8.5 .4

CREATING SPACES FOR EMOTIONS AND 'BEING' IN EDUCATION (SUBJECTIFICATION)

8.6 Concluding thoughts

Appreciating curriculum and pedagogy as political, social, cultural and, indeed, ecological – evolving with the unexpected twists and turns of a changing, uncertain, ambiguous and volatile world – helps us engage in what is, essentially, a complicated, albeit fascinating, conversation. As this chapter demonstrates, there are diverse traditions of how curricula have been developed, but they are all influenced and shaped by a range of interrelated globalizing forces that include: commodification of nature and the public good; the technification of learning; runaway climate change; and the loss of democracy coupled with rising inequality. Counter-movements and transition niches tend to represent forms of decolonization, localization and 'off-the-grid' development that seek more autonomy and space for self-determination, a deeper connection with self and place, a search for meaning

and happiness, and a (re) turn to values of community, solidarity and care. While these movements are small and the niches are still scarce, resistance towards prescribed nationalized curricula that emphasize cognitive learning and are preoccupied with assessment and measurement is growing among all stakeholders in education: pupils/students, teachers, school administrators and parents, and, albeit with some delay, educational policy-makers. The idea of more localized 'place-based' curricula, co-shaped by the members of the school community, working with the local environment and the life-world of the learnings, is becoming more appealing. Interest in fields such as SEL, and critical explorations into a decolonized curriculum, are also rising. With the increasing flow of information, up against the need for more conversation concerning complex societal challenges, there is the need for more 'dead corners' and 'spaces in between' where students, teachers and learners have the opportunity to organically experiment with alternatives to current mainstream approaches to education.

In conclusion, the authors acknowledge the difficulties involved in the practical implications of engaging with a 'complicated conversation' in teaching and learning. Rather than undermining the particularity of learning contexts through standardized curricula, which tend to ignore culture, politics and history, this chapter highlights the emerging tendencies of engaging with the diverse views, perspectives and values of stakeholders in what is most definitely a complicated conversation. Rather than the idealistic goal of reaching a consensus around the curriculum table on what is an increasingly polarized society (e.g. what voice should we give climate change denialists and anti-vaccine activists?), a more practical route is taking a reflexive approach to 'muddling through' curriculum and pedagogy issues towards provisional accommodations, accepting the inherent tensions so as to keep disparate agencies involved in the conversation.

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