Chapter Thirteen: A Strategic Approach to Advancing Human-Centred Education in Complexity

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Introduction

The world today faces unprecedented complexity and deep-seated challenges which, in some instances, are accelerating unabated. These global challenges threaten our continued human and planetary existence and span all dimensions of sustainable development: politico-legal; social; economic and the environment. In 2025 alone, a range of macro disruptions with attendant power imbalances are evident. Geo-political and economic conflict with rising populism and nationalism are changing established world orders; poverty and inequality within countries, across countries and across regions remain unaddressed and drive breakdowns of social cohesion; and the worsening impacts of climate change threaten humanity's future sustainability.

At country levels, complexity is informed by global forces and macro developments, as well as by multifaceted in-country dynamics. In the South African context, for example, in addition to dynamics in the macro environment, high levels of poverty, inequality and unemployment are aggravated by rampant corruption with a decline of the institutions that are needed to maintain and strengthen societal integrity. Losses from the public fiscus through wastage, mismanagement and corruption depletes the resources needed to bring about transformative change. The consequence is that complexity and the severity of challenges increase, while the ability to respond to them decrease, creating a vicious cycle of decay.

Global and national challenges with their attendant complexity are acutely experienced in the lives and well-being of people at community levels. This is particularly the case for those who are marginalised or

vulnerable. As within the national landscape, complexity and the conditions experienced are also influenced by specific community-level issues.

Across this hierarchy of complexity, we are clearly dealing with 'wicked problems' as articulated by Rittel and Weber (1973: 161–162) over five decades ago. The issues and challenges faced are inextricably linked to each other across spatial and temporal dimensions. Navigating and resolving such complexity, thus, cannot happen through linear or singular approaches, and central to bringing about transformative change, applying the concept of leverage is essential.

Quality education is well recognised as a critical vehicle to positively change the life opportunities of individuals and their communities. It thus, serves as a powerful source of leverage, which can be applied across the complexity hierarchy from local communities to national, continental and global levels. Testimony to the relevance and importance of education as a lever, is it being the primary focus of one the United Nations' (UN) 17 global sustainable development goals (SDGs)—SDG 4. Notwithstanding limitations of the SDGs, including the rapid approach to their term in 2030, they represent a collaborative effort across an expansive coalition of countries in pursuit of a shared and sustainable future. This is outlined in the 2015 declaration 'Transforming our world: the 2030 Agenda for Sustainable Development' (United Nations 2015). In the broader sustainable development context, quality education traverses the politico-legal, social, economic and environmental dimensions of human and planetary co-existence.

Coupling human-centredness to quality education seeks to reconnect us with our basic humanity and to ensure that the solutions we individually and collectively generate are both relevant and attuned to improving the human condition. In this chapter we explore human-centred education in the context of complexity, the leadership and culture imperatives that create the conditions for a human-centred approach and propose a possible framework to advancing human-centred education in complexity.

Human-centred education at different orders of complexity

Exploring the relationship between human-centred education at different orders of complexity is a necessary starting point. Quality education (SDG 4) and its interfaces within the SDG framework represent first order complexity, whereas its linkages and dependencies in the broader sustainable development landscape represent second order complexity (Chicksen 2025).

Human-centred education within the SDG framework—First order complexity

In the 2015 UN declaration, the SDGs are presented discretely, without detailed clarification of the inevitable linkages and dependencies between them. Exploring their inter-relationships helps to make more sense of them and begins to identify opportunities for leverage to navigate complexity.

Acknowledging that there may be various ways of describing relationships between the goals, in 2021 the University of Pretoria developed a conceptual framework to advance accelerated action towards achieving the goals (University of Pretoria 2021). The framework is anchored on the belief that sustainable development and the SDGs are centred on the human condition. Critical and sequential components of the human condition include meeting the minimum requirements of our basic humanity—on being human; achieving the conditions and advancing the efforts needed to realise our full human potential; having realised our full potential, using our talents and skills to improve our human existence; advancing development in ways that are mindful of, and respect our planetary boundaries; embracing co-existence with all forms of life; and leveraging partnerships to amplify impact across the raft of SDGs. The 17 SDGs are clustered within these different categories as shown in Figure 12.1.

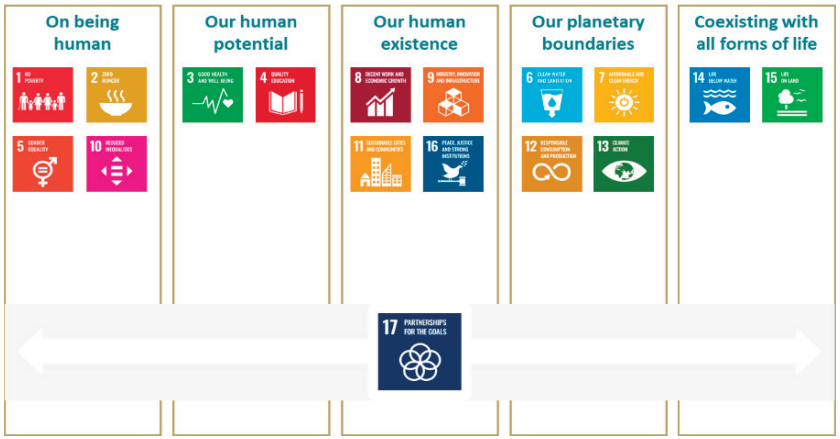

Figure 13.1: The UP SDG organising framework
Source: University of Pretoria (2021: 10)

Within this organising framework, the primary pathway is left to right with meeting the basic conditions of humanity serving as a prerequisite to realising ones' potential and improving the human condition. Quality education features early in the pathway and thus, creates leverage to improve human existence in the context of planetary boundaries and co-existence with all forms of life. At the same time, SDG 4 has a two-way relationship with basic humanity, in that it is a key means towards addressing poverty and hunger.

Based on the linear nature of the SDGs and their relationships within the framework, this is categorised as first order complexity.

Human-centred education through a sustainable development lens—Second order complexity

Framing human-centred education through a sustainable development lens reveals a more complex set of interrelationships. Each of the four dimensions described represent a different face to the human-centred education conversation. At the same time, they have complex interfaces with each other, significantly amplifying complexity. These relationships are shown in Figure 12.2.

Figure 13.2: Human-centred education in the sustainable development context

As an example of this multifaceted set of relationships, the dual and unequal education system during South Africa's apartheid era was clearly a dehumanising and political issue which was legislated. The consequences played out starkly in unequal access to quality education, worsening inequality and a wide range of negative social and economic impacts. Conversely broadening access to human-centred education is central to navigating the complexities and inequalities which continue to haunt South Africa and the African continent. Such education is also mindful of our co-existence with the planet and all forms of life.

The role of leadership in human-centred education

A human-centred leadership philosophy is critical to advancing human-centred education. Drawing from MacGregor's Theory Y (MacGregor 2006), human-centred leaders create the conditions for people to realise their full potential and thus, make a difference. In a similar vein, Frankl describes 'making a difference' as being central to our human existence

(Frankl 1992). This contrasts with a Theory X philosophy which is akin to Taylor's scientific management (Taylor 1911) where people are generally regarded as an extension of the machines that they operate.

Anchored on a human-centred leadership philosophy, and applying a systems leadership approach (MacDonald et al. 2018), leaders set direction and develop strategy. Central to their work is influencing the institutional tone and shaping the institutional culture required to achieve the desired strategic intent. The strategy and culture are given expression through policies and institutional systems, with the desired outcomes being engaged and capable people who deliver high performance. In the context of human-centred education, both staff and students thrive as they realise their full potential towards achieving their own *and* the institutions objectives. This is an iterative process as shown in Figure 12.3.

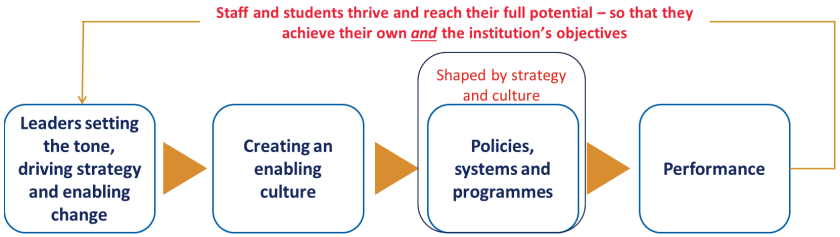

Figure 13.3: The work and role of leadership in human-centred education

This approach calls for leadership at multiple levels of institutional hierarches—both formal and informal—with leaders acting as agents and catalysts for transformative change. The enabling culture is underpinned by two fundamentals: the levels of trust between different participants; and the conditions created for the generation and application of innovative and creative solutions (Chicksen et al. 2018). High trust levels reflect humanity and a spirit of *Ubuntu* (I am because we are), while the conditions for innovation and creativity speak to one's identity as institutions for higher learning.

Creating an enabling culture

An enabling culture does not develop by chance and requires intentional approaches and efforts. The University of Pretoria has developed a model for designing, evaluating and strengthening the human-centred culture which forms a platform for human-centred education (University of Pretoria 2024). Central to this approach is shifting the culture from being primarily transactional as seen in linear systems, to one that is transformational where individuals and systems are adept at navigating complexity.

The approach considers the two fundamental dimensions of trust and solutions. Each may have two extreme positions: low levels of trust or high trust levels; and the generation and application of linear and constrained solutions, or the generation and application of innovative and creative ones. While these dimensions have certain interdependencies, they are sufficiently discrete to form a 2x2 matrix as shown in Figure 12.4.

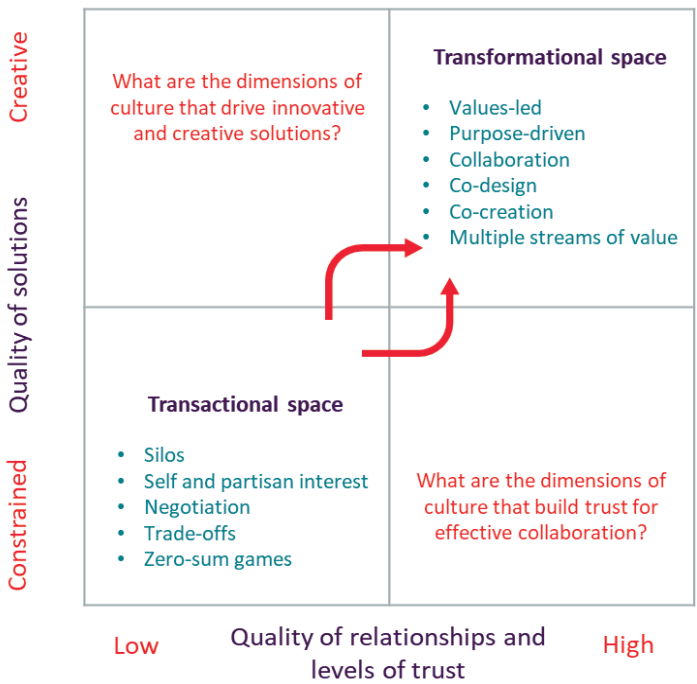

Figure 13.4: A two-pronged approach to designing a transformative culture
Source: Chicksen et al. (2018: 8)

In the setting of low levels of trust between different constituencies with attendant poor-quality relationships and the generation and application of constrained solutions, we find ourselves in a transactional space. Other features of this space include constituencies working in silos, often driven by self or partisan interest. When conflict inevitably arises, negotiations seek compromises and trade-offs and when these are unsuccessful, the courts are approached resulting in winners and losers—a zero-sum game.

An example of this in the South African educational ecosystem has been seen with disputes around various sections of the Basic Education Laws Amendment Act No. 32 of 2024 (Republic of South Africa [RSA] 2024). The act serves to update the legal framework for schooling and represents the biggest legislative reform since 2005 (Veriava 2024). At its heart are the 'best interests of the child' (Republic of South Africa [RSA] 2024: 14) principle, and the intent to broaden access and advance equality in education. Some sections such as school admissions and language policies have, however, generated both fierce support and criticism from different constituencies. These opposing positions are likely to be driven by partisan interests and are characterised by low levels of trust between those on either side of the conflict. The disputes are consequently heading to the courts for resolution, and the likely outcome is that one side will win and the other will lose.

The transformational space, on the other hand, is characterised by high levels of trust between participants, with the generation and application of innovative and creative solutions. Key features of the transformational space include being values-led and purpose-driven, collaborating and co-creating solutions for multiple streams of value by applying leverage to the right parts of a complex system. Playing in the transformational space is contingent on a human-centred leadership philosophy, a meaningful understanding of the complexity at hand as seen through the different perspectives of the various stakeholders, and the co-designed solutions being human-centred. Shifting from the transactional to the transformational space requires a two-pronged approach which comprises strengthening trust levels between participants and creating the conditions for innovative and creative solutions.

The prevailing culture is central to either enabling or preventing the shift, and it should be intentionally designed to enable it. At the University of

Pretoria, this is undertaken through co-design workshops at departmental, school and faculty levels. Recognising that culture is multifaceted, and comprises several dimensions, the critical dimension of the desired culture needed to build trust, and those needed to enable the generation and application of innovative and creative solutions are determined. Dimensions of culture which build trust are akin to universal human values and commonly include authentic caring, honesty and integrity, fairness and accountability. Those which enable innovation and creativity include courage, experimenting, critical thinking and collaboration.

Having determined these dimensions, workshop participants describe what they mean with each dimension and how they should be experienced in the desired culture. This process establishes a common language for shared meaning on each dimension, and a clear articulation of what it looks like and feels like in a human-centred culture. The combination of cultural dimensions with their different attributes forms the designed human-centred culture.

Translating the designed culture to Reason's levels of cultural maturity (Reason 1997), the human-centred leadership philosophy described earlier, positions the culture at a proactive level of cultural maturity. The designed culture and maturity framework also enable evaluation of the prevailing cultural maturity. Coupled to an analysis of why the prevailing culture is at a particular level of maturity, actions to shift the culture to a higher order of cultural maturity can be determined and implemented.

Navigating complexity

An enabling internal culture and establishing meaningful relationships across internal and external stakeholder groups forms a foundation for navigating complexity. These relationships are underpinned by valuing people, treating each other with dignity and respect and the philosophies of mutual benefit and shared value (London and Hart 2011). Within the context of mutual benefit, there is also shared risk and shared reward. Through shared risk, different stakeholders have some form of "skin in the game". This is not limited to financial risk but also includes social risk such as where community members face cultural and other forms of community

resistance for trying out new ways of doing things.

At the outset, it is important to make sense of the complexity faced. The issues or sets of challenges at hand are the starting point and should determine the voices that need to be around the table. Adopting an inclusive approach enables a broad array of perspectives for a more holistic mapping and understanding of the ecosystem within which the challenges are placed.

Multiple stakeholders have an interest and legitimate stake in education. Human-centred education acknowledges and values this, along with the different forms and sources of knowledge that they bring. Stakeholders include providers, policymakers, students themselves and the families and communities that they come from. Achieving a shared understanding of the challenges sets the scene for the co-design of solutions and collaborative implementation which are essential for co-ownership and sustainability. Additionally, an inclusive approach is likely to improve the quality of solutions developed, and the establishment of formal and informal relationships and networks is an important contributor to system resilience (Zolli and Healy 2012).

While there are a range of tools, such as root cause analysis, which can be used to evaluate challenges, ecosystem mapping is particularly useful. With challenges at the centre of the ecosystem, consequences, antecedent events, underlying drivers and contributing factors can be determined and clarified. Furthermore, linkages and dependencies between components across the ecosystem can be surfaced. Initiatives to drive transformative change should target underlying drivers for meaningful impact. Impact is further amplified where applying leverage to linkages and dependencies may create multiple streams of value. At the same time, potential unintended consequences should be considered, allowing for them to be addressed proactively.

An integral part of co-design is the development of a basket of indicators which will reflect success and impact. These should be seen from the perspectives of different stakeholders, since different constituencies accrue different forms of value and benefit. Value can be categorised into value that is protected through the management of risk and the prevention of adverse events, or new value that is created through capitalising on opportunities.

In both instances, the mix of indicators include both quantitative and qualitative measures which should seek to describe the difference that the suite of initiatives have made. In complex open systems, attribution of impact from the various initiatives is often difficult, as other dynamics are at play. Establishing baselines of the predetermined metrics is important, however, may not be sufficient. In evaluating performance, critical thinking and analysis with honest judgment by the mix of participants is needed.

A framework to advance human-centred education in complexity

The proposed framework is shown in Figure 12.5 and comprises four components: articulation of the intent; a set of principles which shape decision-making and actions; important enablers and a set of process requirements.

INTENT	**Advancing human-centred education in complexity for transformative societal impact.**	
Principles *Implementing this framework is underpinned by the following principles:*	**Enablers** *Key enablers of the framework include:*	**Process requirements** *Successful implementation of the framework is demonstrated by processes for:*
- A leadership philosophy of human-centredness. - Embracing different perspectives and different forms and sources of knowledge. - Meaningful engagement with mutual respect. - Understanding complexity and being comfortable with ambiguity. - Issue-driven collaboration with different stakeholders for co-design and co-creation of solutions.	- An enabling institutional culture. - Intentionally shifting from transactional to transformative approaches. - Capability in complex systems thinking and transdisciplinary work. - Critical thinking and analysis. - Co-ownership with shared risk and reward.	- Building capacity in and nurture human-centred leadership. - Shaping an enabling institutional culture. - Building capacity in complex systems thinking and transdisciplinary work. - Collaborating with internal and external stakeholders around specific issues. - Co-designing initiatives for collaborative implementation. - Monitoring, evaluation, report and provide feedback. - Learning, improving and transferring knowledge.

Figure 13.5: A proposed framework to advance human-centred education in complexity Source: Chicksen et al. (2018: 14)

The framework organises different aspect of advancing human-centred education in complexity, seeking to demystify a difficult topic and thus, stimulate further dialogue. The approach is consistent with Rumelt's conceptualisation of strategy which comprises understanding the challenges faced, establishing an approach to respond to them (policy) and developing a coherent set of actions (Rumelt 2011). Content of the framework is also drawn from previous work on a strategic framework for higher education to achieve SDG 4 targets (Chicksen 2024).

A pathway to impact

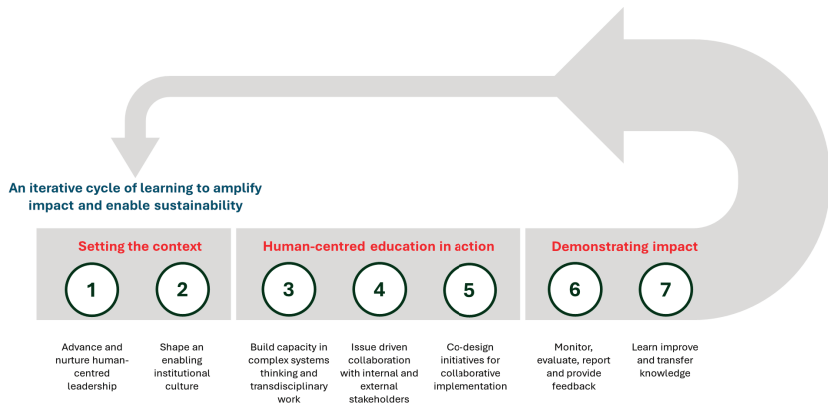

Figure 13.6: A pathway to impact
Source: Chicksen et al. (2018: 15)

The process requirements within the framework are structured in a sequential way, uses a plan-do-check-act logic and outlines key dependencies between the requirements. The process requirements can, thus, form the high-level steps of a pathway to impact (Figure 12.6), with each step determining the activities and work to be undertaken for that step. The sequencing of the steps and their related activities enables coherence of action.

Human-centred leadership is the starting point, with leaders setting the tone and shaping the institutional culture. In addition to discipline-based and education-related competences, building capacity in complex systems thinking and transdisciplinary work is important to navigating

complexity. Individuals must step out of their disciplinary silos and interact agilely within diverse contexts and with varied stakeholders. Using a suite of technical, managerial and emotional competences, and working as change agents, educators mobilise the different stakeholders around key issues to co-design initiatives for collaborative implementation. A mix of quantitative and qualitative indicators for success are incorporated into the design of initiatives, and these are evaluated at baseline, during and after implementation. Performance is analysed and evaluated providing the basis for feedback, further learning and knowledge transfer.

Concluding remarks

As previously described, education serves as an important driver to improving the human condition and to expanding life chances. Education, as seen through a traditional lens, however, may not be adequately geared towards navigating complexity and the deep societal challenges faced in South Africa and indeed the African continent. Using a design-thinking approach based on the concept of validity, changing the paradigm to one of human-centred education is likely to generate greater and more far-reaching impact. This is coupled to transformative leadership, strengthening competences in complex systems thinking and the ability to work in diverse contexts with different stakeholders.

Design of the framework and its subsidiary pathway to impact is supported by several heuristics, and while the strategic approach presented has been neatly packaged, the process is likely to be messy, arduous and will require much hard work. That is the very nature of complexity and the need to establish enduring relationships with people and the concepts presented seek to make sense of the messiness for more coherent action with impactful and enduring change.

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