ADAPTIVE-INTELLIGENCE LEARNING ARCHITECTURE: UTILISING AN AFRICAN APHORISM TO INCREASE ORGANISATIONAL ADAPTIVE QUOTIENT

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Declaration of authenticity

I declare that the research project, *Adaptive-Intelligence Learning Architecture: Utilising an African Aphorism to Increase Organisational Adaptive Quotient*, is my own work and that each source of information used has been acknowledged by means of a complete reference. This thesis has not been submitted before for any other research project, degree or examination at any university.

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C Brunette

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Abstract

This study, 'Adaptive-Intelligence Learning Architecture: Utilising an African aphorism to increase organisational adaptive quotient', investigated the challenges organisations face within an exponentially disrupted business environment. The research problem studied is the possible incapacity of the organisation's current learning systems to rapidly increase an organisation's adaptive quotient. The problem encases the growing possibility of the dehumanisation of organisations through vast technological disruptions. Therefore, the study aims to describe a novel learning architecture utilising an African humanness aphorism that could increase organisational adaptive quotient when re-settling into any 'new normal'.

The qualitative abductive approach to the research is based on post-positivism and metamodernism within conceptual relativism and a social constructivism philosophy. A blended research methodology, using hermeneutic phenomenology and grounded theory, was utilised to distil the phenomenon's essence, telling the story of the life experience of the research participants in their current and foreseen future world of work. The study, which took place between 01 October 2019, and 30 November 2021, followed a multi-step design that collected multi forms of research data from 15 participants who were interviewed individually, three focus group discussions and, 14 teams with 120 participants in total were observed.

The study delivered a complexity of findings, which centre on the five themes identified during selective coding. In broad terms, the study found that most current learning efforts lack an intentional focus on *Organisational Adaptive Quotient*. Most *Organisational Learning Systems (OLS)* show low connectedness and collectiveness, indicative of a slow reaction to problem ecologies. There is a general ignorance of the *Coherence-Correlation-Dynamics* required within learning efforts. Most OLSs do not actively promote the *Adaptive Intelligence* of their people system. Finally, the study's key findings further indicated *Requirements* for a new learning architecture that can oscillate between enabling the OLS and energising the OLS.

The study's results present an Adaptive-Intelligence Learning Architecture (AiLA) framework. The AiLA framework advocates for an organisational learning system that weaves adaptive intelligence into its learning efforts focused on competency improvement. Through its focus on organisational adaptive quotient, the AiLA places African Humanness as the core energy of the learning system to provide the energy to the architecture in combating system entropy.

Key Words: Adaptive-Intelligence, Organisation Adaptive Quotient, AiLA Framework, African Humanness, 'Being levels' of existence, Learning Architecture, Organisational Learning System, Spiral Dynamics, Metamodernism, Integral, African Aphorism

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List of acronyms

4IR	Fourth Industrial Revolution
5IR	Fifth Industrial Revolution
AiLA	Adaptive-Intelligence Learning Architecture
ALA	Adaptive Learning Architecture
Ai	Adaptive-Intelligence
AI	Artificial Intelligence
AP	Adaptive Potential (AP)
Aq	Adaptive Quotient
AQAL	All-Quadrant-All-Level
CCD	Coherence-correlation dynamic
CBE	Competency Based Education
CBT	Competency Based Training
CE	Collective Efficacy
CHI	Collective Human Intelligence
Ci	Collective Intelligence
DIT	Dual Inheritance Theory
ECLET	Emergent Cyclical Levels of Existence Theory
ELC	Evolutionary Learning Community
FG	Focus Group
g	General Intelligence
GCCE	Gene-Culture Coevolution theory
L&D	Learning and Development
LC	Life Conditions
Le	Learning Effort

Lx	Learning Experience
OAq	Organisational Adaptive Quotient
OA	Organisational Adaptiveness
OBE	Outcomes Based Education
OBT	Outcomes Based Training
OD	Organisational Development
OL	Organisational Learning
OLS	Organisational Learning System
PV	Problem Value
PE	Problem-Ecology
nLA	new Learning Architecture
RO	Research Outcome
ROI	Return on Investment
SAPS	South African Police Service
SDi	Spiral Dynamics Integral
WEF	World Economic Forum

List of definitions

Adaptive Quotient: The measure of an individual's ability to adapt in real time to a rapidly changing context and resettle to thrive in a more agile system.

Organisational Adaptive Quotient: The measure of an organisation's collective intelligence to rapidly apply intentional problem-solving strategies in the response to new business contexts reselling and thriving in an open organisational system.

Adaptive Potential: is currently unrealised ability to evolve or transcend to a future state at the moment that it is required.

Adaptive-Intelligence: is a learned ability to interact with a social environment or life conditions in general and a problem space in particular through adaptive thought, response and accrued knowledge to become fit for a 'new normal'.

Humanness: Humans displaying an adaptive behaviour becoming of a truly human being. Human behaviour as it relates to the bio-psycho-social system as the agency of the essence of human behaviour.

African Humanness: Social structures as collectives, promoting adaptive behaviours that enrich human beings in the sustainment of (all) other human beings.

Meme: A meme is a surviving or lasting message transmitted through organisational culture and held as an individual memory.

vMeme: Value meme, as it relates to Spiral Dynamics and Human Niches.

Collective meme: The collective meme of the organisation that includes collective ideas, beliefs, theories and mental constructions of the organisation.

Collective efficacy: as the collective belief in its conjoined and dynamic capability to execute and produce at a higher collective level.

Collective intelligence: as the combined effort and ability to learn, understand and adapt as a connected whole in navigating problem ecologies to outperform disconnected individuals.

Coherence-Correlation Dynamic: as the collective entropy within the complexity of human-generated systems considering the relationships within the system that affect all parts of the system.

Organisational Memetics: Organisational memetics as the study of memes relating to the complexity of the organisation culture messages that replicate, transmit and evolve through the collective memes of its members.

Problem Value: The problem value is what is left behind when the problem is resolved.

Problem Ecology: Problem ecology is everything associated with the value creation including the history, stakeholders and value expectations, in regenerating balance within a system.

The problem ecology of organisational adaptiveness: Everything associated with the value creation in regenerating balance within organisations adapting to a new normal.

The problem ecology of learning architectures: everything associated with the value creation in regenerating an adaptive learning architecture resolving to an open generative, open flow learning system

Transcendence: in this thesis as an experience of a person beyond their current existence, whereafter the person presents a new-formed paradigm or worldview about a concept within a context.

CHAPTER 1:
Introduction and Context to the Study

1.1   Introduction

We stand here in 2022, nearing the end of the extreme event that caused a catastrophic global disruption that changed the essence of reality. We stand as global citizens of corporate South Africa (SA), irrefutably connected to Africa, to the world, at the dawn of opportunity, asking the question: "Do we have the potential, the intelligence, the collectiveness, and the understanding to co-create a 'new normal'?" The above is a personal reflection of the researcher as he embarks on this exploratory journey, seeking an aphorism, a modern truism, for a 'new normal' of organisational learning (OL). However, this 'new normal' was not brought on only by the extreme event of the global COVID-19 pandemic. Since early 2016, a 'new normal' has been in the making, with new technology emerging and affecting our lives in ways that extend the impact of digitisation in new and unanticipated ways (Davis, 2016). With the 'Fourth Industrial Revolution' (4IR) gaining momentum towards the second decade of the 21st century, corporate consciousness was expressing its anticipation of a 'new normal', a new normal which could transform the corporate learning and development fraternity.

At the heart of the change is a reality transitioning from a time of everything accumulated to everything experienced (Wadhera, 2016). A globally collective simultaneous experience. According to Brown, Bessant, and Lamming (2013), the powerful information age where the corporate differentiation lay in the amount of knowledge (data) owned, stored and used, is changing to a new era with unlimited access to knowledge by all (Doria, 2014). The corporate differentiator will no longer be the knowledge owned, but the experiences created, allowed, and taught through educational and corporate learning systems (Bessant & Tidd, 2011).

As a scholar of the corporate training world, the researcher finds himself observing and experiencing the countless efforts applied exuberantly in the teaching and learning of knowledge through the perceived commercial paradigm of 'knowledge is power', where knowing is the perceived requirement of profitable success (Manuti, Pastore, Scardigno, Giancaspro & Morciano, 2015) and sustainability. A commercially viable product is produced to deliver the *known* and the *knowable* (Snowden, 2005) in the shortest possible time, which has the lowest impact on people's production time in the *machine*, the corporate institution.

In this study, the researcher propounds that the industrialist, modernist, static and production-line mindset towards corporate learning is outdated, which can only lead to failure in a new normal that requires innovation and co-creation. To prevent failure of the organisational learning system in a post-information age, an experience age, thinking should become a critical skill, and adaptability should be treated as an intelligence. The researcher, therefore, commenced this journey of discovery to find a new learning architecture for a metamodern problem ecology of corporate education. In this chapter, the researcher provides background and context for embarking on this research journey. This chapter further provides the reader with the researcher's opening views and paradigms related to the corporate education problem ecology, which were challenged during the research.

1.2 Background

This study is an integral part of the researcher's journey of exploration in search of a new economy of learning. In the context of the study, the researcher uses the word 'economy' in its 15th-century origin of 'careful use or effective application' (Etymology Dictionary Editors, 2021), referring to the efficient use of learning efforts. The study took place during a time of unprecedented disruption and changes effected by the global COVID-19 pandemic. Through the awakening of the '4IR' and even the 'Fifth Industrial Revolution' (5IR), the 'new normal' for corporate education requires new relevance in the understanding of organisational learning, the architecture of learning experiences, and a new learning philosophy to guide effective, business impactful, social-orientated learning experiences. This study is a continuation of the researcher's previous work in the field of personal significance as a foundation element of a learning architecture to enable learners to co-create work realities (Brunette, 2017).

1.2.1 Contextualisation of previous research

Brunette's (2017) study contributes to the understanding that personal significance is a fundamental element of a learning experience that one can develop through a focused learning process. It highlights the natural, integrative nature of learning as a sense-making process on a level of connecting the human 'being' and the human 'doing', making learning personal and individually significant. The impact that 'personal significance' creates on and during the learning process, for the individual as a connected 'being' and 'doing' linking his/her work role to the consciousness and

confidence developed through the learning process, strengthening the whole human as an intelligence. This level of consciousness and confidence plays a vital role in the degree to which the learner would co-create work realities. Brunette's (2017) study, was primarily focussed on personal significance as one element or focus of a learning architecture. This study will further explore the learning architecture itself, with a specific view of a possible appropriate philosophy in a 'new normal' for corporate learning.

1.2.2   Transitioning to the 'experience age'

The commonly accepted descriptor of the social era that humanity finds itself in, is referred to as the 'information age'. The information age is that stage of human civilisation characterised by an explosion of opportunities to access and create vast amounts of information (Doria, 2014). The information ages were made possible primarily by the advances in technology through the socialisation of the personal computer and the mobile computer and mobile digital devices (Ngubane, 2017). One of the iconic traits of this information era is not just the access to information but the accumulation and rate of sharing of information (Castells, 2011). It can be seen as the information age narrative, driven by the desk-top personal computer where the norm is to save information (Wadhera, 2016).

Access to information and knowledge will soon raise to unlimited levels (Doria, 2014). Given the advances in technology, such as nano-technologies and biotechnologies, the information age is coming to an end (Ngubane, 2017). The narrative of accumulation which manifests in a digital profile when the human identity is the sum of all the information it has saved, is becoming less relevant. There is a new narrative developing, where the 'virtual self' results from everything *experienced* rather than everything *accumulated* (Wadhera, 2016). According to Ngubane (2017), by 2025, 'virtual reality' or 'augmented reality' will be almost close to 'actual' or 'real' reality. This new narrative will require a complete paradigm shift of how humans interact with reality, real or augmented.

In the 'information age', communication started with information. In the 'experience age', communication begins with a visual reality or an experience (Wadhera, 2016). Wadhera (2016) further explains that the stories we tell each other now are more visual than ever before, making the narrative more literal than ever before. Successful organisations in this experience age will be smart about scanning their accumulated information and accessing the knowledge through their employees' accumulations.

Combined with this broader spectrum of information, the organisation will choose 'experience' over 'analysis'. Organisations will harness the intuition and 'gut-feel' of their employees in combination with rational analysis (Birkinshaw, 2014).

Transitioning into the 'experience age' will require a new paradigm, a new narrative for learning within the corporate education environment. Currently learning approaches are mostly following an 'information age' narrative based on the accumulation of information. In the new 'experience age', a shift from "instructional design" to "experience design" using design thinking as the foundation will be required (Bersin, 2017). The ability of employees to co-create workplace realities (Brunette, 2017) may become one of the key focus areas of learning-experience design. With the understanding that at the heart of the new experience age, sits the organisation's ability to deliver value and enhanced customer experience (Ngubane, 2017).

1.2.3   Industrial revolution

The '4IR' is entirely different from any of the previous three industrial revolutions. The first industrial revolution liberated humanity from animal power. The second industrial revolution made mass production possible, and the third brought digital capabilities to billions of people (Schwab, 2016). '4IR' is described as the advent of "cyber-physical systems" involving entirely new capabilities for people and machines (Davis, 2016). '4IR' drives artificial intelligence and machine learning, the Internet of Things, Blockchain and Distributed Ledger Technology, Autonomous and Urban Mobility, Drones, Precision Medicine, and the wellbeing of humanity, its environment, and its natural resources (Sönmez, 2018). These drivers of '4IR' will bring about an unprecedented rate of change (Schwab, 2016; Schwab, 2018). '4IR' will significantly impact multiple industries, leading to wide-ranging changes to organisational architecture, jobs, tasks and skills required within the place of work. According to The Boston Consulting Group (2018), between the years 2020 and 2030 there will be a pressing need within the working population to acquire the right skills rapidly and continually. The changes brought about through '4IR' highlights the idea of life-long learning (Boston Consulting Group, 2018; Schwab, 2018), the speed of learning (Kilvington & Horn, 2002) and the most fundamental reason for learning, human adaptation (Mazur, 2015).

With '4IR' gaining momentum and no indication of slowing down, Artificial Intelligence has become part of many organisational processes, resulting in a growing fear that

the smart machine will replace all human decision-making (Jarrahi, 2018), leading to the dehumanisation (Gardiner, 2020) of organisations and society at large. A further fear that is growing within society at large and a growing number of captains of industries is the fear of unethical harvesting of personal information for the gain of a capitalistic driver of maximised profit (Benioff & Schwab, 2019). With the advances of the '4IR', a scenario is developing where the service to humanity seems too often eclipsed by the momentum of technology and commerce (Gauri, 2019). As an 'experience age' phenomenon, whole industries are seemingly reincarnating from mass production to mass personalisation (Pathak, Pal, Shrivastava & Ora, 2019). The fear and moving to a mass experience are all driving towards what is becoming known as '5IR'.

'4IR' and '5IR' will work in parallel, with the '5IR' defining the technologies, ethics and impact developed in '4IR' (Lindsay & Hudson, 2019). The focus of '5IR' will be the innovation and technology that serve to the betterment of humanity (Gauri, 2019). '5IR' will be about 'trust' and 'humanity' (Benioff & Schwab, 2019) and 'trust in humanity', bringing humanness back into the equation of evolution. It will advance the integration of humans and technology with ethical grounding (Benioff & Schwab, 2019) dancing together (Lindsay & Hudson, 2019) to benefit the planet. Yao, Zhou, Wang, Xu, Yan & Liu (2018) argued that '5IR' will see a strong integration of technology and human, advancing both technology and humans.

1.2.4 Learning economy revolution

A foundational element of the '4IR' is seemingly ingrained in some form of capitalism with the explicit focus on becoming faster and less expensive, more profitable sooner, feeding the economic need of capitalism (Simmons, 2018). Lundvall and Johnson (1994) introduced the learning economy as an economic model. Lundvall (1996:2) describes a learning economy as an economy where the success of individuals, organisations, regions and national economies reflect their capability to learn within an economy where change is rapid, requiring a high demand for replacing old skills with new ones. Following an economic policy based within a Western-world economy of capitalism, the learning economy rapidly became one where skills and the people carrying those skills were valued as assets and resources, a means to an end.

Scharmer (2009:2) describes capitalism as an economic model within three stages: Stage one, 'Capitalism 1.0' – the free market or laissez-faire capitalism (focus on growth); Stage two, 'Capitalism 2.0' – a more regulated European-style stakeholder

capitalism (focus on redistribution); Stage three, 'Capitalism 3.0' – an intentional, inclusive, ecosystem economy that upgrades the capacity for collaboration and innovation throughout all sectors of society (focus on ecosystem innovation). Scharmer's Capitalism 3.0 seemingly relates more to '5IR' characteristics, with '4IR' characteristics leaning more towards Capitalism 1.0 and 2.0. Whal (2017) refers to Schwab, the founder of the World Economic Forum, who in the run-up to the Davos 2012 forum said that capitalism, in its current form (Capitalism 1.0 and 2.0), no longer fits the world around us, and a global transformation is needed urgently. Whal (2017) posits that like an ecosystem reaching maturity, the world economic system should shift from a quantitative paradigm to a qualitative growth paradigm. This paradigmatic shift in the economy would most probably need to be within the idea of Capitalism 3.0.

Schwab (2017) provides a view that the future will not be a place where people 'own' things but a place where people 'share' things. Schwab's view of the future aligns with the experience age and impacts how the idea of 'economy' is viewed. Industries and economies designed for innovation and growth that decouple human wellbeing from a resource (Ellen MacArthur Foundation, 2015) and intend to create a more resilient and connected social system might be a more probable future than the current self-destructing path where 80% of the global goods produced end in waste (Moreno & Charnley, 2016). Within this context of failing, and the self-destructing economic path that the global society is on, Fullerton (2015) proposes the concept of a 'regenerative economy'.

Fullerton (2015:11) argues that a 'regenerative economy' understands the importance of designing incentive-driven, self-regulating systems that embody the critical balance between the freedom upon which innovation thrives and the constraints necessary for effective collaborative communities to work. According to Fullerton (2015:23), a 'regenerative economy' would promote and sustain human prosperity and well-being in an economy of sustainability. According to Peia (2021), 'regenerative economic systems' offer a path forward as they focus on human and planetary health. The shift to a 'regenerative economy' is supported by the widespread recognition that our planetary boundaries are finite, and that economic growth cannot be pursued independently of environmental well-being. Ragnarsdottir (2022) postulates that a 'regenerative economy' as a socioeconomic system will need to have self-organisation, self-renewal, and regenerative vitality similar to a natural system.

Lundvall (2016) argued for the 'learning economy' to keep its focus on the complexity of the strivings and hopes of human beings, stating that people cannot be reduced to algorithms and automatons. Schwab (2017) suggests a future economy where people

share rather than own things. Scharmer (2009) refers to building a capitalism 3.0 with an intentional, inclusive, ecosystem economy that upgrades the capacity to collaborate and innovate. Therefore, it can be argued that together with the fourth and fifth industrial revolutions, a learning economy revolution could be required to assist with the disruptiveness of the new normal.

1.2.5   Adapting to regenerative learning

As indicated in the previous section, the '4IR' and '5IR' would probably lead to a change in the global economic approach. As the focus of economies shift to be more exosystemic, inclusive, and human-centred, the focus for learning should shift to focus more on optimising human potential. Aggestam (2006), and Savchenko, Borges and Pandeirada (2014) claim that learning is a significant process of human adaptation as a species and as an individual to improve its chances of survival within a specific environment or habitat. Adaptation can be seen as any change, biological, cultural, functional or behavioural (Schlossberg, 1981), enhancing the chances of survival (Jurmain, Kilgore & Trevathan, 2013). A fundamental coping mechanism within the process of adaptation is learning (Hanushek, Schwerdt, Wiederhold, & Woessmann, 2017). Learning as a mechanism to adaptation will likely take on new importance within organisational strategy with a specific and strong focus on lifelong learning (Schwab, 2018). With learning as a mechanism for adaptation, and adaptation a means to the survival of a species, the shift to an economy within Capitalism 3.0 as indicated in section 1.2.4 would require re-evaluating any learning architecture within a milieu of Capitalism 1.0 or 2.0. This will be investigated as regenerative learning with the purpose of adaptation.

1.2.6   African Context

As alluded to in Section 1.2.4, '4IR' and '5IR' will dominate the world's future in the 21st century. The cornerstone for '4IR' is the advancement of technologies, and for '5IR', the integration of human and advanced technologies. The primary vehicle for using these advanced technologies is the internet and the 'Internet of Things'. Like so many other developing countries, Africa continues to miss out on the life-changing benefits of connectivity (Luxton, 2016). According to the Miniwatts Marketing Group (2020), Africa being the second largest continent, covering 32,221,532 km^2, hosted a population of 1.34 billion people at the midpoint of 2020. With 527 million internet users, of which 420 million are unique mobile users, Africa still has 800 million people not connected to the internet. With a surge in endpoint users' connectivity, human or

non-human, through 'the internet of things', an estimated 27.3 billion objects were to be connected by 2020 (Butterworth, 2017). According to Gartner, a leading research and advisory company, 4.8 billion endpoints were estimated to be in use in Africa in 2019 (Maseko, 2019). From a technology perspective, Africa will be part of the global village and will participate in both the '4IR' and '5IR'.

However, it might not be technology, industrial revolutions, or an economic model that holds the key to Africa's contribution to the world; more likely it will be its people, its humanity, its 'Human Niche' (Laubscher, 2013; Blom & Viljoen, 2016b). Lessem (2001:9) posits that the post-modern 'information age' is almost universally capitalist without any counter alternative previously provided through strong communalism. Even in its latest manifestation of globalisation, capitalism exploits difference rather than integrate similarities, creating dissonance in the ecology. He (Lessem) presented a model based on culture and grounded in the philosophies of Carl Jung (Stevens, 1990) to provide an alternative ecological view to explain differences in organisational approaches and to show ways towards their integration. Lessem (2001:12) identified the four worlds metaphorically as "Western" - Pragmatic; "Northern" - Rational; "Eastern" - Holistic; and "Southern" - Humanistic. Africa is placed within the "Southern" culture, asserting people's dignity, promoting human and social welfare, incorporating the arts and humanities, and fostering self-fulfilment in the context of a collective and community relationship (Lessem, 2001:11).

1.3   Key Concepts

Throughout this study, the researcher will refer to certain key concepts and their definitions. These concepts include aphorisms, memetics, learning architecture, Adaptive-Intelligence and organisational adaptive potential. Some of these more prominent concepts will now be defined.

1.3.1   Aphorisms

Aphorism is a term used to describe a truth of general import conveyed in a concise sentence (Antoniou, Antoniou, Georgiadis, & Antoniou, 2012:886; Shaw, 2009). An aphorism is a distinction, or a definition defined as a concise expression of doctrine or principle presenting an evident truth concerned with life or nature (Odyntsova & Kondratieva, 2022). Aphorisms are considered to have universal validity (Antoniou *et al.*, 2012). The Greek physician Hippocrates used the etymologic origin of the word

'aphorism' initially in the field of medicine (Antoniou *et al.*, 2012, Davis, 1999). Aphorisms as statements of truth or opinion are often applied to philosophical, moral, and literary principles (Davis, 1999; Literary Devices Editors, 2013). For a statement to qualify as an aphorism, the statement must contain a truth revealed tersely (Literary Devices Editors, 2013). However, Antoniou *et al.* (2012), referring to Davis (1999), iterates that a distinction should be made between aphorisms and axioms.

Odyntsova, and Kondratieva (2022) refer to Fedorenko and Sokolskaya (1990:75), explaining that aphorisms can act as the intermediary units between literature and science, emphasising that the expressiveness and imagery bring aphorisms closer to fiction, while their capacity to synthesise thoughts and establish connections between phenomena, along with accuracy and conciseness affiliate them with science. The aphorism is often associated with its creator, who presented it either in written form or orally (Băiaş, 2015: 2268). This association between the creator and the aphorism enables an anthropological perspective to analyse scientific phenomena, which is actively discussed in modern scientific research. According to Odynstova and Kondratieva (2022), the key intention is not the definition itself, but rather the reflection from the perspective of the creator's intention. It is often determined by various factors, for example experience, scientific background, ideology and personal/ social/ cultural/ expressive components. Trusov (2008) suggests that defining logical (science) definitions results from synthesising logical-analytical and associative-metaphorical thinking. Hotsynets (2013:77) argued that aphorism accompanies the process of associative thinking when the semantic field broadens and covers primary notional meaning with a secondary expressive one. As Davis (1999:256) noted, "aphorisms refer not only forward and outward to the world they ostensibly concern but also backward and inward to their creator". Hui (2019:20) emphasises that aphorism has a discontinuous and reflective nature, stating that the "minimal syntax of an aphorism gives it a maximal semantic force".

Axioms are defined as statements or propositions which are regarded as being established, accepted, or self-evidently true (Ahamed, 2017). Colace, De Santo, Greco, Amato, Moscato and Picariello (2014) indicated that an axiom is a principle that is accepted without proof, as the principle is of such a nature that proof is not required. An axiom is a statement that serves as a starting point from which other statements are logically derived. The axiomatism of a system of knowledge is to show that its claims can be derived from small, well-understood sets of data - the axiom (Maddy, 2011; Clarke-Doane, 2020). In this context the researcher will use small 'truths' as axioms, to form larger 'truths', the aphorisms.

The researcher will view the aphorism concept, as a statement(s) containing small well-understood 'truths-sets' of general importance. The 'truths' are axioms as self-evident statements. A cluster of axioms expressed through the subjective interpretation, definition and expression will be viewed as the aphorism. Therefore, such aphoristic definitions generalise the scientific truths expressively. Although "non-linguistic" lexemes serve as prototypes of several aphorisms, their contextual surrounding allows retention of the words or images within a corresponding semantic field (Odyntsova & Kondratieva, 2022).

1.3.2   Memetics

Dawkins (2006) in his theory on memes and memetics, described memes as an idea, behaviour, style or usage, including knowledge, that is transmitted from one person to another within a culture. According to Dawkins (2006) memes are to 'culture' what 'genes are to life'. Heylighen and Chielens (2008) describe memes as an information pattern, held in an individual's memory that can be 'copied' or transferred to another individual's memory. These information pattern transfers imply a transition from genes as units of biological information to new types of units of cultural information or memes. Galbiati (2013) explains that examples of memes can be tunes, ideas, catch-phrases, clothes fashion, ways of making pots or architecture. Blackmore (2003) restated memes as habits, skills, songs, stories or any other kind of information 'copied' from one person to another person by imitation, teaching or other methods.

Memetics can be described as the theoretical and empirical science that studies the replication, spread and evolution of memes (Heylighen & Chielens, 2008). Kantorovich (2014) describes memetics as the study of information and culture based on an analogy that can propagate successfully but does not necessarily imply that a concept is factual. Critics regard memetics as pseudoscience because of the lack of truth, factuality and confirmation bias. Most critiques on memetics such as Hallpike (2011); Blute (2008); Aunger (2001) and Bloch (2000) are biased towards Dawkins and his book *The Selfish Gene*. Hallpike (2011:107) clearly indicates that the criticism on Darwinian theory is the concept of the meme. Hallpike applauds the culture creation and the relative frequency of variants in taking the form of replicating particles that can be transmitted culturally through a society.

The researcher intends to focus on memetics from the work of Graves (1974), and his "bio-psycho-social systems" framework of value systems and the work done by Beck and Cowan (1996) on Spiral Dynamics based on the work of Graves. Together

with this focus on spiral dynamics, the researcher will view memetics from the lens of 'Human Niches' (Laubscher, 2013) and axioms within the context of creating an aphorism.

1.3.3 Human-only Skills

In contemplating a new future to understand the changing world, a new paradigm is required. The speed at which the future is changing will dramatically influence how society adapts to new patterns of work, communication, and lifestyles (Melo, 2019). Challenged with an exponentially different tomorrow, humans should become the 'stewards of a future' where complexity may well go far beyond current human understanding (Leonhard, 2016:11). In this future, 'social skills' such as persuasion, emotional intelligence and teaching others, and 'cognitive skills' such as creativity, logical reasoning and problem sensitivity will be in higher demand than narrow technical skills such as programming or equipment operation and control (World Economic Forum, 2016:22). Leonhard (2016:17) refers to these skills that will be in higher demand 'human-only skills' or 'androrithms'.

According to Leonhard (2016), 'androrithms' refer to the human rhythms of what matters for most humans. 'Androrithms' stands opposite to machine rhythms or algorithms. Like algorithms, androrithms are circadian rhythms that rule human behaviour and culture's daily movements and culture, determining the human's perception and experience. Leonhard (2020) further avers that the human-only skills that a machine cannot learn or cannot be written into an algorithm include emotions, intuition, compassion, mystery, values, consciousness, empathy, imagination, and creativity. In a near future paradigm, there could also be a demand for the development of human potential as an intelligence and not a mere bystander to intelligence, artificial intelligence, or the algorithm. Such a future paradigm does not mean getting humans to think like computers, but to harness the huma-only skills. Melo (2019) argues that a near future should allow the human to think at multiple levels of abstraction and solve complex and emergent problems to manage daily life. Wing (2006) made a similar argument focusing on communicating and interacting with others using computational concepts. Fitzgerald (1936) observed that 'the test of a first-rate intelligence' is the ability to hold two opposed ideas in the mind at the same time, and still retain the ability to function. Brunette (2017:139) opines that multi-frame thinking as a foundational element of a learning architecture to enable the co-creation of realities is the representation and organisation of past experiences as functional schemes for guiding future actions. Brunette (2017) further asserts that multi-frame

thinking as parallel cognition, is activated through a higher sense of personal significance, leading to higher confidence levels and arguably increasing intelligence.

1.3.4 Learning architecture

A learning architecture can be described as a meta-map, connecting various learning elements, including learning design, learning delivery, and the demonstration of learning impact within a specific environment (Brunette, 2017). Jaques (1997) indicates that a learning architecture comprises a framework for understanding existing paradigms of change and complexity. According to Stein and Coburn (2008), a learning architecture focuses on expressing and reflecting the different conditions for learning within different environments. Robinson, Molenda and Rezabek (2010) refer to Richey (2008) in describing a learning architecture within the context of educational technology as the ethical practice of facilitating learning and improving performance by creating, using and managing appropriate technological processes and resources for learning.

The purpose of a learning architecture within the context of a corporate learning environment is to focus learning efforts, support strategic people development and increase learning impact as well as business impact (Mallon & Johnson, 2014). To achieve the purpose of a learning architecture, learning architectures often inculcate sets of rules to enhance the fostering of a learning culture aligned with improving organisational objectives (Theodotu, 2015). According to Mallon and Johnson (2014), based on research conducted in 2014, 68% of Learning and Development (L&D) organisations believe that the overwhelming volume of information makes it challenging to keep track of useful information to guide learning, creating the problem of *context*, not *content*. Gibbons (2000) refers to this dilemma as context-sensitivity. A learning architecture aims to stem content confusion though creating focused methodologies of collaboration, co-creation, application and delivery frameworks to increase the effectiveness of individual and organisational learning (Mallon & Johnson, 2014).

Through this study, the researcher posits the positioning of a learning architecture within a 'new normal' of high disruption with rapid adaptation through innovation as opposed to stability through pro-activeness for the purpose of financial sustainability. The researcher proposes that the purpose of a learning architecture should be to ensure a consistent, coherent, and significant learning experience for each learner and his/her contribution to the collective organisation adaptability quotient. Such an

experience should be crafted carefully to optimise individual human potential and the collective organisation's adaptability potential. The researcher will apply the concept of a learning architecture within an interdependent system that collaborates to shape the most effective path for behaviour change and human adaptation. These interdepended systems are the 'teaching system' and the 'knowledge system'.

1.3.4.1   Teaching system

A 'teaching system' is contextualised primarily within a pedagogical epistemology. As an epistemology, 'pedagogy' is described as the enacted philosophy or principles that describe how people participate in learning and the practices that emerge through that participation (Willis, Bland, Hughes & Elliott Burns, 2013). This definition describes the enacted philosophy or principles that describe how people participate in learning and the practices that emerge through these participations. Smith, Edwards, Groves and Brennan (2010) assert that these philosophies and practices are heavily influenced by the historical and cultural traditions and contexts in which it is used. Wiley and Hilton (2018) build on Willis *et al.* (2013) in defining pedagogy as the set of teaching and learning practices that are only possible or practical within a set context.

As an academic discipline, 'pedagogy' pays attention to the culture educational model, the systematised foundations of science, the socio-cultural significance of the educational and educational process (Jumanovich & Eshboevna, 2019). In context of an educational practice, an earlier definition of pedagogy by Van Manen (1999:19) focuses on the constant distinguishing more appropriate from less appropriate ways of teaching and interacting with young people. Van Manen's definition focuses more on the context of teaching, capturing the idea of education being an evolving journey and reflects the importance of the inherent relationship between the teacher and the student. In traditional western pedagogy, the teacher is viewed as the knowledge holder, and the student is seen as the recipient of the knowledge (Freire, 2018). The pedagogy adopted by the teacher shapes the teacher's actions, judgements, and other teaching strategies, theories of learning, modes of knowledge production, understanding of students and their needs of learning, to further liberal education and or vocational education (Lee, 1987).

This definition of pedagogy highlights the complex and ambiguous nature of pedagogy. During the late 1960s to the late 2010s, educational practice has evolved to be more inclusive of corporate or organisational education systems. The evolution of educational practices challenged the context of pedagogical application. The

contextual challenge led to the development of three interdependent branches of pedagogy, namely andragogy, metagogy and heutagogy.

'Andragogy' is most synonymous with the work of Knowles (1970), defining 'Andragogy' as the art and science of teaching adults. 'Andragogy' is also defined as adult education, the helping of adults to learn, including creating learning experiences in which adults are helped to make the transition from dependent learning to self-directed learning (O'Toole & O'Toole, 2003). According to Reischmann (2004) and Knowles (1970), the concept of 'andragogy' is built upon two central defining attributes. Firstly, a conception of learners as self-directed and autonomous. Secondly, a conception of the teacher's role as a *facilitator* of learning rather than a *presenter* of content. 'Andragogy' is a branch of 'pedagogy', extending to and illuminating the focus on adult teaching differentiated from children's teaching.

'Metagogy' is described as a model where educators draw from both 'andragogy' and 'pedagogy' to adopt good practices. The term 'metagogy' refers to an inclusive approach to instruction by, with, and for student and teacher that iteratively moves on a spectrum of interdependent relationships between the student and the teacher (Strohschen, 2009). A *metagogical* approach allows for the student to interject questions of their own, challenging the status quo within a Socratic principle or application of a null hypotheses (Jekel, 2019). 'Metagogy' speaks directly to the nature of creativity, intuition, imagination, and play (McCaslin & Wilson Scott, 2012).

'Heutagogy' as with 'metagogy' has not yet found its way into the popular dictionaries. According to the Definitions and Translations Editors (2018), 'heutagogy' is a term coined by Hase and Kenyon (2000) to study self-determined learning. 'Heutagogy' builds from 'andragogy' but differs. Where 'andragogy' focuses on structured education, 'heutagogy' focuses on all learning context, both formal and informal (Definitions and Translations Editors, 2018). According to Blaschke (2012), 'heutagogy' is most suitable for a world where lifelong learning is required to survive and thrive in a global knowledge economy. 'Heutagogy' focuses on learners who can effectively and creatively apply skills and competencies to new situations in an ever-changing, complex world (Kuit & Fell, 2010). New technologies have created a need for considering new pedagogical approaches considering recent rapid development in new teaching methods, learning resources and digital media (Wheeler, 2011). 'Heutagogy' applies a holistic approach to developing learner capabilities, with learning as an active and proactive process, where learners serve as the dominant agent in their learning (Hase & Kenyon, 2007).

1.3.4.2 Knowledge system

In philosophy, the study of knowledge is called 'epistemology', or the 'theory of knowledge', a theory distinct from science (Rorty, 1979). In science, knowledge can refer to a theoretical or practical, explicit, or implicit, less formal or systemic understanding of a subject (Boghossian, 2007). Scientific knowledge is knowledge developed through a scientific method that has contributed to the physical world and its phenomena (Cavell, 2012). 'Knowledge acquisition' involves a complex cognitive process including perception, communication and reasoning (Dekel, 2009), also referred to as 'knowledge production'.

In this study, the researcher will refer to learning or knowledge production within the context of three knowledge production systems, Mode 1, Mode 2 and Mode 3. Boggio, Ballabeni and Hemenway (2015) argue that knowledge production is the institutional process responsible for generating new knowledge through institutional practice such as research, academic teaching and specialised problem-solving. Until 1994, a single paradigm, referred to as Mode 1, governed the knowledge production in most universities and schools (Sousa, 2011). With the emergence of the entrepreneur university in the mid-1990s (Guerrero & Urbano, 2010) and a much stronger reliance on the corporate learning institution, a shift in paradigm away from the traditional Mode 1 towards a multi-paradigm of knowledge production was required (Boggio *et al.*, 2015; Huff & Huff, 2001). The phenomenon of the entrepreneurial university and its requirement for a new, non-traditional paradigm in knowledge production is well researched in many countries such as Australia, Canada, China, Germany, Italy, Netherlands, Singapore, Sweden, Thailand, and the United States, among others (Guerrero & Urbano, 2010:2). Seminal literature on the concept of the entrepreneurial university includes Clark (1998), Sporn (2001), Etzkowitz (2004) and Kirby (2005). With this focus on a paradigm shift away from the traditional, a short synopsis of knowledge production modes is provided.

Mode 1 is characterised by the hegemony of theoretical science, internally driven by a taxonomy organised around disciplines and conducted by scientists under autonomy conditions (Boggio *et al.*, 2015:3). Within Mode 1, scholars advance their own, and their discipline work when they identify and fill gaps in the theoretical structures (Huff & Huff, 2001).

Mode 2 knowledge production, initially described by Gibbons, Limoges, Nowotny, Trow, Scott and Schwartzman (1994), is more socially distributed, application-orientated, transdisciplinary, and subject to multiple accountabilities (Boggio *et al.*, 2015:3; Gibbons, 2000). Within Mode 2, theoretical structures are

developed within the milieu of problems that are encountered in daily practice (Huff & Huff, 2001; Gibbons, 2000; Sousa, 2011).

Mode 3 knowledge production, according to Carayannis, Campbell and Rehman (2016:10), and Carayannis and Campbell (2006) is about providing a systems theory perspective and applying systems concepts to knowledge production. Hemlin, Allwood and Martin (2004) posit that Mode 3 knowledge production systems seek innovative and creative ways of combining and integrating different principles of knowledge production and knowledge application, in combinations with primary research and innovation thinking and practices by encouraging diversity and heterogeneity forming an innovative organisational context for knowledge production.

1.3.5   Learning

'Learning' and the 'study of learning theory', is one of the most studied phenomena in human studies, as illustrated by Millwood (2013), covering nine scientific disciplines, 24 learning theories, 22 learning paradigms or worldviews, and ten key learning concepts. There are many definitions and applications of the definitions of learning.

An early definition of learning by Skinner (1938) comes from ontogenetic adaptation, describing learning as the adaptation of an individual organism to its environment during the individual's lifetime. Taylor and MacKenney (2008:263) define learning as a permanent change in the behaviour of an individual as a result of an act of engaging in activities and sharing of experiences. De Houwer, Barnes-Holmes and Moors (2013) follow the same theme of behaviour change in defining learning as a set of changes which are brought to a person's behaviour resulting from the person's experiences. More recently, De Houwer and Hughes (2020:4) define learning as an observable change in the behaviour of a specific organism as a consequence of regularities in that organism's environment. According to Semilarski, Soobard, Holbrook and Rannikmäe (2022:3), learning is the process of constructing knowledge utilising twenty-first-century skills, through connecting thoughts, or, possibly, through an investigation process so that students learn by connecting new ideas and experiences with knowledge already obtained.

According to Brunette (2017), learning is about raising the consciousness level to decide to change or not change one's behaviour. Brunette (2017:137) argued that learning is the process of synthesising different information within the context of what the individual already knows and understands and, experiences new knowledge as

an inherently individual process. Learning is when different strands of information are synthesised within a new context, which an individual already knows and understands, creating a new knowledge experience. Learning leads to a heightened consciousness that allows individuals to change or not to change their behaviour within a specific context of relevance. As argued by Bandura (1977:193), learning often becomes a matter of learner motivation to learn and use the learning after the learning effort. Co-ownership of the learning is required to motivate learners to utilise the learning in the workplace context. According to Gray, Stein, Osborne, and Aitken (2013:38), who also refer to Wood (2003), improving student motivations to adopt a more in-depth approach to learning requires the encouragement of psychological ownership of activities such as workplace challenges and workgroup projects. Learner motivation will affect the learner's attitude by providing more significant perceived influence and control, allowing them to make choices about ideas and practices that will influence his/her real work environments. When learners own their learning and the practice that the learning informs, learning is seen as a co-created value that extends beyond the classroom, including commercial concern. Learning then takes on an intrinsic motivation that is more likely to lead to deep cognitive and meta-cognitive processing.

In this study, the researcher will approach the concept of learning with a strong alignment to the definition of De Houwer and Hughes (2020:4) who define learning as an observable change in the behaviour of a specific organism as a consequence of regularities in that organism's environment. The researcher is specifically interested in the measurable or observable behaviour change leading to adaptation at individual, team and organisational levels initiated through learning efforts.

1.3.5.1 *Organisational learning and Learning organisations*

The researcher draws a distinction between the two concepts of 'organisational learning' and 'learning organisations' similar to Smith (2007) who argues that learning organisations' theorist has often drawn on ideas from organisational learning, with little referencing of learning organisations within the literature on organisational learning. This one-directional linking indicates a difference between the two concepts. Easterby-Smith and Araujo's (1992:2) view of the literature on organisational learning has concentrated on the processes involved in individual and collective learning inside organisations. In contrast, the learning organisation literature is geared towards managing the quality of the learning processes inside the organisation.

1.3.5.1.1   Definitions of organisational learning

Organisational Learning (OL) is especially important when organisations are required to adapt to new realities (Vanpoucke, Vereecke, & Wetzels,2014). Rojo, Stevenson, Montes and Perez-Arostegui, 2018) define OL as an organisation's specific capability by which the knowledge created by individuals is increased in an organised fashion and is transformed into part of the knowledge system of the organisation. Earlier definitions of OL include:

> Fiol and Lyles (1985:803) describe organisational learning as the process of improving actions through better knowledge and understanding.

> Stata (1989:118) argues that organisational learning occurs through shared insights, knowledge, and mental models built on past knowledge and experience.

> Huber (1991:89) defines organisational learning as an entity that learns if, through its processing of information, the range of its potential behaviours is changed.

> Finger and Brand (1999:136) asserts organisational learning as the activity and process by which organisations eventually reach a learning organisation's ideal.

1.3.5.1.2   Definitions of a learning organisation

The learning organisation represents a particular model of organisational culture promoted by the attention given to the change and how such change occurs (Cox, Irby & Bowen, 2006), the flexibility and the openness to adopting new ways of working, depending on the strategic shifts of the organisation (Marsick & Watkins, 2003). Antunes and Pinheiro, (2020:141) argue the interconnectedness of the learning organisation and organisational learning. Antunes and Pinheiro argue that the learning organisation continually increases its skills and knowledge of individuals promoting a collective organisational memory. Song, Chai, Kim and Bae (2018:249) describe the learning organisation as an environmental factor that encourages systems-thinking-based collaborative learning to facilitate continuous performance improvement by providing strategic leadership support, environmental support and individual-level care.

Further to the above definition, the learning organisation is also defined by:

> Senge (1990:4) defines a 'learning organisation' as an organisation where people continually expand their capacity to create the desired results. New and expansive thinking patterns are nurtured, where collective aspiration is set free, and where people are continually learning to see the whole together.

> Watkins and Marsick (1992:118) characterise a 'learning organisation' by the total employee involvement in the process of collaboratively conducted, collectively accountable change directed towards shared values or principles.

> Pedler, Burgoyne and Boydell (1996:1) define a 'learning organisation' as a vision of what might be possible. It is not brought about solely by training individuals; it can only happen due to learning at the whole organisation level. 'Learning organisations' facilitate the learning of all their members and continually transform themselves.

During this study, using the definitions for organisational learning and learning organisation provided above, the research will make reference to organisational learning as the process of learning effort as a collective effort of all the individuals of the organisation. Reference will be made to the learning organisation as the collective culture of the organisation that enables the organisation to learn to innovate and adapt to its ever-changing environment.

1.3.6   *Organisational adaptation through learning*

Caleb-Solly, Dogramadzi, Huijnen and Heuvel (2018), refer to earlier research of Mazur (2015), and argue that humans naturally seek to understand how things, including people, behave and respond in a different situation and to different stimuli. According to Suškevičs, Hahn, Rodela, Macura, and Pahl-Wostl (2018), this natural seeking of understanding is considered learning as a mechanism to cope with rapid environmental changes and sustainable practices. Kontoghiorghes, Awbre, and Feurig (2005) argued that a new emphasis on organisational learning has arisen due to the rapid change in the business climate, including uncertainty, increased complexity, changing demographics and global competition, leading to organisational adaptation. It is further stated by various authors, including Muro and Jeffrey (2008) and Cundill and Rofela (2012), that the ultimate goal of learning should be considered to be concrete action towards sustainable practices and adaptation (Suškevičs *et al.*, 2018).

Organisational adaptation is defined by Kontoghiorghes *et al.* (2005:190) as the extent to which an organisation can adapt to changes rapidly. Three further definitions of organisational adaptation through learning are provided: Pedler, Burgoyne and Boydell (1991) – learning organisations facilitate learning of all its members and continually transform. Senge (1990) – people continually expand their capacity to create results they truly desire, where new expansive patterns of thinking are nurtured, where aspirations are set free, and people are continually learning how to learn. Garvin (1993) – people are skilled at creating, acquiring, and transferring knowledge, modifying their behaviour to reflect new knowledge and insights. Lowe and Sandamirskaya (2018) indicate that research into animal and human behaviour has provided an essential source for understanding common neural mechanisms that underlie both learning and adaptation. According to them, learning can be described broadly as producing change within an organism enabling more effective behaviour within its environment. Adaptation entails behavioural adjustments to environmental change that may be the direct product of learning (Lowe & Sandamirskaya, 2018:1). These behavioural adjustments may be true in both human and machine learning.

Berkhout, Hertin and Gann (2006) argue that perception, interpretation, problem-solving, and decision-making are central to determining whether and how adaptation amongst organisations and people occur. Hanushek *et al.* (2017) state the prime value of education, as hypothesised by Nelson and Phelps (1966), Welch (1970) and Schultz (1975) is the ability to adapt to changing economic environments, has received little testing. The underlying idea of this persuasive hypothesis is that different economic conditions require worker adjustment and that a fundamental attribute of education and skill is providing the ability to adapt to emerging disequilibria and prosper in a new environment (Hanushek *et al.* 2017:15). The higher the disequilibrium, the greater the need for learning as it enables a quicker and more effective response to a complex and dynamic environment, as argued by Allen, Kilvington and Horn (2002).

1.3.7   *Adaptive Quotient*

To respond quicker and to adapt more effectively, organisations should apply experimentation within the context of learning within all aspects of the business, including products and service, business modelling, strategies, and business routines (Reeves & Deimler, 2011). The ability of organisations to adapt and thrive in a fast-changing environment is loosely defended as the *Organisation's Adaptive Quotient* (OAq) or also referred to as *Adaptive Quotient* (Aq) (Powell, 2018). Albano (2020)

argues that OAq is the measure of how skilled an organisation is in making an intentional change in an evolving environment at speed. According to Powell (2018), OAq results from the individuals' collective adaptability potential within the organisation. Colby (2003:22) theorised that 'adaptive potential' (AP) is "the extent that individual A is higher in the conditions of adaptive potential than individual B, the more fit (physiologically and mentally) individual A is than individual B. So also, for individuals as members of some culturally defined group, the extent that the individuals of a defined group A are collectively higher in the conditions of AP than those of a similarly defined group B, the more fit group A is likely to be than group B. By fit is meant a proximal condition (the prime example being current health, both physical and mental) that is predictive of the distal variable of biocultural success".

1.4 Rational and unique contribution of the study

The interest for this study was developed in response to conversations within the learning and development (L&D) fraternities of some major clients of the organisation where the researcher is employed. As the study interest grew, so did the researcher's assumption that these conversations are not confined to these clients but that they are relevant to many organisational L&D fraternities of many organisations. These conversations are centred on some key uncertainties about future contributions that L&D teams should make. These uncertainties are exacerbated by the COVID-19 global pandemic's aftermath leading to a presumed 'new normal'. These uncertainties seem to be nested in how L&D, as an enabler of organisational strategy, will be able to assist organisations and organisational leadership to transition in becoming an adaptive organisation with a high OAq.

The researcher is not compelled just by these conversations within the client base of the organisation where he works, but also with the organisation's dilemma of adaptability and sustainability through this period of unprecedented organisational change. Being a South African-based organisation serving clients throughout Africa, it is of the utmost importance to contextualise and bring forward the aspects within Africa that can contribute and respond positively to the dilemma of organisational adaptability. An initial internet search, in December 2018, utilising Google Scholar, Research Gate and Open Thesis.org on some of the critical elements of the debates, such as organisational adaptiveness, adaptive learning architectures, and speed and impact of learning on adaptation within an African context, yielded only 115 credible sources. Of the 115 sources, only 13 were deemed helpful in providing insights and deepening the researcher's understanding of the L&D role or the role of a learning

architecture in the development or enablement of organisational adaptiveness potential.

Some of the helpful sources referred to above included the work of Waghid (2004), arguing for an African philosophy of education as a scientific enterprise which has three constitutive aspects, reasonability in articulation, moral maturity, and attuned to deliberation. According to Waghid, focusing on the three constitutive aspects could enhance the efficacy of learning and teaching practices. Eleojo (2014) advocates the significance of the African sense of respect for the human person. Eleojo frames African Humanism as the traditional values of hospitality, primacy of the person, respect for life, sense of the sacred, familyhood, brotherhood, solidarity and community. Sibanda (2014) focused on the shared consciousness of Africa Humanness referred to as 'Ubuntu'. Sibanda contextualises 'Ubuntu', while variant in contextual modification, similar for all African cultures and the basis of African identity. Within the morality and ethics of Africa is the insistence that each individual's experience is interconnected with that of the community and the overall environments in which he/she lives.

Therefore, the rationale for this study is to investigate the general understanding of organisational learning systems, the architecture of learning and the principles of a learning and teaching practice which could help organisations to easily settle into a 'new normal'. This study will explore the ease of transitioning from an 'old learning economy' to a 'new learning economy' geared towards strengthening the L&D role of learning within the enablement of organisational strategy through a higher OAq. Further, this study will strive to propose a new learning architecture, utilising the Gift of Africa, its humanness (Laubscher, 2013:231). The proposed new learning architecture should focus on the ease of learning augmentation of 'humanness of a Sourthern World' with 'pragmatism of a Western World'.

Through this study, the researcher aspires to contribute to his organisation by defining an academically grounded new learning architecture (nLA) through which a differentiated learning and development and organisational development approach could be provided. Furthermore, and most importantly, to contribute new information to the body of knowledge on the application of an organisational learning system by providing an African perspective on people development. To continually strive to ensure humanness, in learning via the continued focus on human-only skills (Leonhard, 2020) development. In all, the researcher aspires to contribute to the adaptability quotient of organisations, having to resettle into any new normal.

1.5 Research problem

For the researcher, one of the most compelling gaps was the growing possibility of the dehumanisation of organisations (Leonhard, 2016) and, specifically, the corporate learning system through the vast technological disruptions indicating progress and financial prosperity within the 21st century. In preparing the research proposal for this study, the researcher did not find compelling research evidence nor a published or established learning architecture that aligns with or made provision for coping with the disruption to the business world of work. There were no immediate academic work integrating post-formal or post-conventional (Reynolds, 2019) learning approaches to the gifts of African humanness. The gap created by the dehumanisation of organisations without a learning architecture to bridge and augment humanness and technology could lead to the disengagement of human potential, human-only skills, and the human rhythm through which we learn, grow, and adapt.

The 'Western-World economic paradigm', marked by technological disruption, seems to be focused on artificial intelligence to improve efficiency and speed of business decisions. This focus on the application of and disruption through artificial intelligence creates fear and tends to destabilise 'human intelligence'. The 'human potential' required to adapt to whole systems, including open learning systems within regenerative economies, are challenged.

Resettling into any future 'new normal' will require a new 'gold standard' of access to information. Although access to information will be essential to knowledge management and the speed and impact of a business decision, there is also the potential that a business may lose its organisational wisdom. With a greater reliance on artificial intelligence to enable faster decision-making, there is a growing concern about the limiting effects on OAq. The concern for the loss of wisdom, the loss of humanness stems from the underdeveloped adaptive potential of the people within the organisation, freezing organisations from fast and impactful change and adaptation.

Therefore, the problem this study intends to address is the inability of organisational learning systems to rapidly increase the organisation's adaptive quotient. The problem includes, but is not limited to, the lack of a clearly defined learning architecture that drives a coherence-correlation dynamic in an open learning system within a regenerative economy.

1.6   Aim and objectives of the study

1.6.1   Overarching Aim

This study aims to describe a learning architecture utilising an African aphorism that increases the organisational adaptive quotient when settling into a 'new normal'.

1.6.2   Overarching research question

What would a learning architecture that utilises an African aphorism look like to increase organisational adaptiveness quotient within a settling 'new normal'?

1.7   Research alignment framework

The research objectives and sub-questions are presented within a research alignment framework, contextualising the research objectives and questions within the research problem and aim. Table 1.1 below provides an alignment matrix of the research aim's consistency, indicating how objectives align with the primary research question and sub-questions.

Table 1.1 Research Alignment Framework

Research Problem	
The inability of organisational learning systems to rapidly increase the organisation's adaptive quotient. The problem includes, but is not limited to, the lack of a clearly defined learning architectures that drives a coherence-correlation dynamic in an open learning system within a regenerative economy.	
Aim	**Primary Research Question**
This study aims to describe a learning architecture utilising an African aphorism that could increase organisational adaptive quotient when resettling into a 'new normal'.	What would a learning architecture that utilises an African aphorism look like to increase organisational adaptiveness quotient within a settling 'new normal'?
Objectives	**Sub-questions**

1) Conceptualise nLA in relations to gearing organisations for a 'new normal'.	1) Why is an nLA necessary for organisations that are gearing towards a 'new normal'?
2) Conceptualise an African humanness paradigm as an African aphorism for an nLA.	2) How will an African humanness paradigm ground an nLA in the human development strategy of an adaptive organisation?
3) Conceptualise OAq as the primary output of an nLA.	3) Why would an nLA be relevant or important to increase OAq?
4) Suggest a different pedagogical approach within a regenerative learning ecology.	4) What would be the pedagogical requirements for an nLA focused on a regenerative learning ecology?
5) Explore Adaptive-Intelligence as contributor to OAq.	5) How can Adaptive-Intelligence be made relatable within an nLA to become integral to OAq?
6) Explore the concept of coherence-correlation dynamic within an nLA as an open learning system.	6) What dynamic enables the integration of content and context within an nLA, and what role would it play?
(Source: Own compilation)	

In Table 1.1 above the researcher provides a clear view to the reader of the alignment between the research problem, the aim and objectives of the study and the aligning questions to the aim and objectives of the study.

1.8   Research Paradigm

One of the most quoted definitions of a paradigm is by Kuhn (1962), who state that a paradigm is an underlying assumption and intellectual structure upon which research and development in a field of inquiry are based. According to Ponterotto (2005:127) who also refers to Filstead (1979:34), a research paradigm is a set of interrelated assumptions about the social world which provides a philosophical and conceptual framework for organising a research study. The philosophical assumption is the researcher's beliefs and is presented within the ontology, epistemology, axiology, and methodology. The conceptual research framework that is concurrent with the research philosophy is presented as the research strategy, including the research approach, method and research design (Guba & Lincon, 1994; Creswell, 1998; Denzin & Lincoln, 2011).

Holden and Lynch (2004) argue that a researcher must decide on the nature of science. Paradigmatically this decision is based between objectivism and subjectivism as polar opposites on a continuum. As an overarching research paradigm, the researcher is inclined towards subjectivism. According to Saunders, Lewis and Thornhill (2009), the subjectivist view is that the nature of science and specifically social science is created from social actors' perceptions and consequent actions. The subjectivist cannot distance himself/herself from what is being observed, the study subject matter or the study methods (Hunt, 1993). Therefore, the researcher is inherently value-laden by their background, social status, interests, beliefs, skills and resources. The subjectivist viewpoint is created through a complex array of studied phenomena, including social interactions, cultural meanings, rituals, and myths (Saunders *et al.*, 2009). For the subjectivist, the research problem must be explained within its contextual setting (Easterby-Smith & Lowe, 1991) and that it is pointless to categorise phenomena only into cause and effect because social phenomena are engaged in the process of continuous creation (Hirschman, 1986). The subjectivist would argue that the researcher's involvement should be actively encouraged to minimise the distance between the researcher and that which is being researched (Hussey & Hussey, 1997).

1.9   Research philosophy

1.9.1   Ontological assumptions

'Ontology' is defined as a traditional branch of metaphysics that deals with being, existence, inner nature and meaning (Farlex, 2012). According to Lincoln, Lynham and Guba (2011), the ontological question provides an answer to the form and nature of reality and, therefore, what can be known about the research reality. Bateson (1987) avers that 'ontology' is the problem of how things are, what a person is and what sort of a world. As the perception of 'being', 'Ontology' affects how the researcher approaches science and research, influenced by how we see ourselves about our environment (Whitehead & McNiff, 2006). Philosophically, the researcher slants towards post-positivism and metamodernism.

'Post-positivism' is based on the premise that there is no absolute reality or absolute truth (Popper, 1959). Reality is not seen as objective and external, but rather as subjective and consisting of personal experiences, beliefs, culture, conditions and perceptions (Becvar & Becvar, 2006). Reality can only be known through individual interpretation (Goodwin, 2005), which means that reality can only be known

imperfectly (Miller, 2007) and probabilistically (Robson, 2002). As successfully defended by Robson (2002) and Taylor and Lindlof (2011) post-positivism accepts that theories, background, knowledge and values of the researcher and the researched can influence what is observed. The post-positivists always recognise the possible effects of biases in interpreting what truth is and what reality is (Becvar & Becvar, 2006).

'Metamodernism' was first described by Vermeulen and van den Akker (2010) as a structured feeling characterised by the oscillation between a typically modern commitment and a markedly postmodern detachment. For Vermeulen and van den Akker (2010:1), the prefix 'meta' refers to 'with', 'between' and 'beyond'. Ontologically, Vermeulen and van den Akker (2010) view 'metamodernism' as between 'modernism' and 'post-modernism', and historically beyond 'post-modernism'. Freinacht (2017) indicates that the term 'meta' meaning 'after' in Greek, is the same as 'post' in Latin. However, Freinacht (2017) argued that the 'meta' prefix can be indicative of a higher level, indicating that metamodernism is more post-modern than post-modernism itself. Kersten and Wilbers (2018) highlight the oscillation between opposing qualities belonging to a new sincerity within metamodernism as an expression of a more fundamental dynamic within human consciousness.

According to Henriques (2020), metamodernism is a higher-order synthesis that includes and transcends both the modernist rationality and science and the postmodern antithetical critique. In Henriques (2020) view, the 'metamodernist' tends to view the current state of knowledge as overly chaotic and fragmented, advocating for a more integrated pluralism that allows for positive, constructive work on a meta-narrative or meta-meme. The researcher shares this view of Henriques. Kilicoglu and Kilicoglu (2020:493) who posit that metamodernism is a new paradigm beyond modernism and post-modernism, trying to explain today's cultural and intellectual developments, which are not sufficiently criticised by modernism and post-modernism. For the researcher, a 'metamodernism ontology' allows for the emphasis on holism, emergence and reconciling the potential that bridges the scientific and humanistic considerations (Henriques, 2020). A 'metamodernism ontology' will allow the researcher to oscillate between empirical data and literature to discover new emergence within existing literature and academic critique.

Considering the above, this study is underpinned by a blended ontological assumption that includes 'conceptual relativism' and 'social constructivism' which closely relates to 'post-modernism' as argued by Freinacht (2017). 'Relativism' is broadly described

as the view that truth, or what is right, as standards of reasoning are a product of differing conventions and frameworks of assessment with its authority confined to the context in which it was perceived (Baghramian & Carter, 2015). 'Conceptual relativism' holds the view that there is or might be a multiplicity of alternative conceptual schemas, none of which can be shown to be superior to any other. 'Truth and reality' are taken as such by those who employ a given conceptual schema through a cultural cognitive process (Sankey, 2018).

'Social constructivism' believes that people exist in the language, culture, and symbolism from which they socially construct their reality rather than individually (Davis & Smith, 2017). 'Social constructivism' holds that people develop knowledge of the world in a social context and that much of what is perceived as reality depends on shared assumptions of the world (Vinney, 2019). From a research perspective, 'social constructivism' acknowledges that the researcher and the research participant are co-creators of a shared reality (Vygotsky, 1978; Creswell, 2012). Applying a blended ontology allows the researcher to recognise and openly acknowledge his assumptions regarding this study and the field of study. A summation of these assumptions is: 'Reality' is constructed through human activity, inventing the world's properties that do not exist before being socially invented as they are (Mallon, 2019). Knowledge is a product of human construction within a social and cultural context (Beard, 2015). Learning is viewed as a social process that does not occur only within the individual but through engagement in social activity (Amineh & Asl, 2015).

The application of a blended ontology assumption provided the researcher with various lenses to freely explore possible 'new normal' challenges. It allowed the researcher to recognise his own biases and an awareness of his own and the cultural and social context of the research participants. The above ontological assumptions underpin the researcher's belief in the possibilities of new truths and new realities that can be constructed within the changing world of learning. Together with the researcher's epistemology, this ontology also influenced the choice of research methodology and how the researcher conducted himself in facilitating the discovery during data collection and analysis.

1.9.2   *Epistemological assumptions*

'Epistemology' is defined as a branch of philosophy that scrutinises the nature, foundations, and limits of knowledge (Smiraglia, 2014). Bateson (1987) defines

'epistemology' as a branch of science combined with a branch of philosophy. As a *science*, 'epistemology' is the study of how particular organisms or aggregates of organisms know, think, and decide. As a *philosophy*, epistemology is the study of the necessary limits and other characteristics of the processes of knowing, thinking, and deciding (Tosey, 2006). Epistemology influences the assumptions as decisions the researcher may make about what can be known, which affects the way the researcher attempts to know (Kuhn, 1962). It provides a philosophical background for the decision regarding the legitimacy, adequacy, appropriateness, and nature of the kind of knowledge required for the particular scientific study (Gray, 2004; Dougherty, 2016).

As a *philosophical background*, the epistemological assumption of the researcher is interpretivism. 'Interpretivism' focuses on understanding (knowing) the world of human experience and discovering reality through the participants' views of their own experiences (Nguyen & Thanh, 2015). 'Interpretivism' advocates the necessity for a researcher to understand (know) the difference between humans in their role as social actors (Saunders *et al.*, 2009). These authors further highlight the significance of the term social actor, suggesting the interpretation of a particular part in the 'play of life' as humans. The interpretivism researcher seeks to understand the 'social actor', and the 'play' through human experiences (Cohen & Manion, 1994). Cresswell (2003) and, Yanow and Schwartz-Shea (2011) assert that the interpretivist researcher discovers reality through the research participants' views, backgrounds and experiences.

The 'interpretivist researcher' seeks understanding of the context in which the research is conducted, which is critical to the interpretation of the data gathered (Thanh & Thanh, 2015). Data gathering within an interpretivism epistemology is often conducted through semi-structured and unstructured interviews, exploring different meanings, perceptions and interpretation of the lived world (Boje, 1991; Cunliffe, 2011). An 'interpretivist study' seeks answers to reality in a subjective approach from people who own their experiences and are from a particular social grouping (Thanh & Thanh, 2015). The interpretivist believes that there is no single correct route or a particular knowledge method (Willis, 2007). Gregg, Kulkarni and Vinzé (2001) point out that, in essence, interpretivism is generative. They argue that interpretivism is the 'generation', the inventions of new research concepts and context and the new birthing of ideas and frameworks.

Adopting an 'interpretivist epistemology', the researcher focuses on understanding (knowing) the world of human experience and discovering reality through the

participants' views of their own experiences (Nguyen & Thanh, 2015). As suggested by Isaeva, Bachmann, Bristow and Saunders (2015), following an interpretivist assumption, the researcher will provide a greater diversity of interpretation and context factors which increases the understanding of knowledge created. The researcher adopts a strong path parallel to that of Bateson (1987). The researcher builds his interpretivist epistemological assumptions on the view that the epistemology of learning is locked within the limits, characteristics and processes of knowing, thinking, deciding and acting. As an 'interpretivist study', the researcher will not seek the answers for the study in rigid ways (Kaplan & Maxwell, 1994), but through generative conversations, and approach reality subjectively from people who own their experiences.

1.9.3 Methodological assumptions

'Methodological assumptions' consist of the researcher's assumptions regarding the methods used during the research study (Cresswell, 2003), informing the research's choices to derive the desired outcomes (Crotty, 2003). The methodological assumptions direct the description, evaluation, and justification of the particular study method in the particular study (Amed, 2008). It further guides the researcher's interpretation of the data collected (Dey, 2002). Explicating methodological assumptions fosters a greater awareness of the appropriateness of different kinds of knowledge for different purposes (Hathaway, 1995:535). It enables the researcher to reflect on scientific practice to increase the study's academic rigour and trustworthiness, determining the credibility and transferability of the produced knowledge (Ngulube, 2015).

Given the research problem described in section 1.5 and the research aim described in section 1.6.1, the nature of this study will be explorative. To ensure an in-depth exploration of the study's aim and objectives, the researcher will adopt a qualitative inquiry method. According to Ormston, Spencer, Barnard and Snape (2013), qualitative research at a general level is a naturalistic, interpretative approach, concerned with exploring phenomena from the interior and taking the perspectives and accounts of research participants' starting point. 'Qualitative inquiry' is a form of research in which the researcher collects and interprets data and where the researcher is as much a part of the research process as the participants and the data they provide (Corbin & Strauss, 2008:4). The explorative, qualitative nature of the study carries the assumptions that the researcher can best come to know the reality

of the situation by becoming part of the study's phenomenon and by documenting the understanding of the situation by those engaged in it (Hathaway, 1995).

A further methodological assumption of the researcher is that the approach to theory development within this study will be based on abductive inference. According to Ovchinnikova, Montazeri, Alexandrov, Hobbs, McCord, and Mulkar-Mehta, (2014), abductive reasoning was introduced by the philosopher Peirce in the 19th century (Haig, 2005) as an inference to the best explanation arrived at through observation. 'Abductive inference' involves reasoning from the observed phenomena or theoretical data (Akhtar-Danesh & Mirza, 2017). Abductive inference entails considering all possible theoretical explanations for the data, forming hypotheses for each possible explanation (Charmaz, 2006). Using abductive reasoning will assist the researcher to use disconfirming evidence to continually test categories and assertions made to enforce reflexivity during the study (Fram, 2013). Following an abductive approach there are no preselected themes, categories or theoretical frameworks to guide the inquiry (Denzin, 2008). Attempts will be made to identify themes emerging from the data within an understanding and contextual awareness of the participants' viewpoints (Smith, 2013).

'Abductive inference' starts from the data and, on that basis, forms theories. Starting from data has resulted in a classic criticism against abduction, that it provides too little material to be a realistic account of the scientist's reasoning (Paavola, 2015). Given this classic criticism, the researcher will, especially at the preliminary stage of the study, seek kinds of data types that contain explanations which themselves can be explained. It is not enough to find an interim explanation or interpretation if that explanation or interpretation itself cannot be explained or shown plausible. 'Abduction' is a way of searching for intermediary components that became true or viable (Locke, 2003). As further described by Locke (2003), abductive strategies provided the researcher with the means to emphasise the unusual or somewhat uncommon phenomena in finding essential and exciting phenomena. According to Locke, Golden-Biddle and Feldman (2004), this means that the role of intuition, hunches and insights are emphasised as well as engaging with the data retrieved.

Building from the abductive inference assumptions, the researcher will apply a blended research method of grounded theory and hermeneutic phenomenology, as successfully used by King Gabrielides (2018). Both methodologies are well suited to explore subjective experiences (Hardy Leahy, 2001; Finlay, 2003), to reveal what is hidden in the experience of the phenomena (Matua & Van Der Wal, 2015:22). Neither grounded theory nor hermeneutic phenomenology starts with a theory, but rather with

a phenomenon (Kafle, 2011), which is useful when seeking new perspectives (Simon & Goes, 2013). Kafle (2011) argues that both grounded theory and hermeneutic phenomenology as a blended methodology support the assumptions of *subjectivity* which will be adopted in this study.

Faced with a complex organisational learning system phenomenon the researcher faced a dichotomy of present lived experiences and a future theoretical void. The dichotomy of understanding the current views of an L&D fraternity and the prospects of contribution in a future new normal requires an in-depth inquiry using an unconventional blended approach. As King Gabrielides (2018) and Viljoen-Terblanche (2008) argued a blended methodology of hermeneutic phenomenology and grounded theory is well positioned to deal with an open-ended natured research study. Both methodological processes focus on pattern and meaning within a context which requires careful examination of the subjective (Kafle, 2011), and the experience from the participants' points of view (Tweed & Charmaz, 2012). Focusing on the respective methodological processes, will allow patterns and meaning to be uncovered and, through abductive inference grounded in systematically analysed data a future reality can be constructed as argued by Bitsch (2005). These preferred assumptions allow for distilling the essence of the phenomenon and building the theory of holistic and sustainable understanding as posited by Charmaz (2014). The research approach will be discussed in detail, each methodology separately and as a blended methodology.

1.9.4   Axiological assumptions

'Axiology' concerns how a researcher's values manifest in a scientific process (Ponterotto, 2005). Regardless of the preferred method of inquiry, axiology plays an essential role in selecting and forming the research questions, driving specific research interests over others (Biddle & Schafft, 2015). According to Mertens (2007) and Mertens, Bledsoe, Sullivan and Wilson (2010), researchers in social science engage with axiology issues depending on a particular research community's values, norms, and personal commitment. Acknowledging the value-laden of a theory is often characterised by the researcher's efforts to minimise those values' influence to maintain objectivity and increase research validity (Teddlie & Tashakkori, 2009). In more subjectivist inquiries, acknowledging the researcher's axiology position via, for example, ongoing reflexivity and critical subjectivities are foregrounded as a standard procedure. Explicating any value biases, incorporating researcher values and experiences into the process of inquiry is done not only for acknowledging but to

mitigating potential validity-threatening and unexamined operative axiology issues (Maxwell, 2012; Nagy Hesse-Biber, 2010; Peshkin, 2000).

Given this study's constructivist-interpretivist epistemology, the researcher recognised that the researcher's own values and lived experiences could not be divorced from the research process. Further, the researcher recognises that prolonged interpersonal contact with participants will be required, and therefore it would be a fallacy to even think that value biases could be eliminated (Ponterotto, 2005). While a positivist believes that research can be values-neutral, as a subjectivist, the researcher assumes that bias is undesired but inevitable and therefore strives to detect and correct value influences (Miller, 2007). Husserl (1970) developed a concept referred to as 'transcendental subjectivity'. 'Transcendental subjectivity' means that the researcher's impact on the inquiry is continually assessed and biases and preconceptions neutralised so that they do not influence the objectives of the study (Lopez & Willis, 2004). A technique used by descriptive phenomenologists to achieve transcendental subjectivity is *bracketing*, which involves the researcher holding in abeyance ideas, preconceptions, and personal knowledge when listening to and reflecting on participants' lived experiences (Drew, 1999).

According to Annells (1996) and Le Vasseur (2003), the technique of 'bracketing' is inconsistent and questionable within a hermeneutic approach. Making preconceptions and pre-knowledge explicit and explaining how they are being used in the inquiry is part of the hermeneutic tradition (Le Vasseur, 2003). As King Gabrielides (2018) argues, it is not entirely possible to suspend all preconceived ideas, judgements and influences within the study. Therefore, the researcher advocates that any awareness of personal bias is made explicit through field notes, memos, or summations. However, where the personal bias is that strong that it will block the discovery or hinder the progress of new ideas, these biases can be bracketed to keep an open mind. The researcher recognises the need for open-mindedness to ensure that unexpected meanings may emerge as needed to discover meaning in the data (Giorgi, 2009).

1.10   Research plan

'Research plan' refers to the overall strategy that integrates the logic of linking data to be collected to the initial questions of the study coherently and logically (De Vaus, 2001; Creswell, 2014), depicting the issues underlying the choices of data collection methods used (Saunders *et al.*, 2009:136). The function of the 'research plan' is to ensure that the evidence obtained enables the study to answer the initial research question as unambiguously as possible (Yin, 1989:29). A 'research plan' is a set of methods and procedures used to collect and analyse concepts specified in the research problem (Creswell, 2014). Gaya and Smith (2016) described a schematic as a useful tool to indicate the steps and the flow of the research process. Figure 1.1 below is a view of the design research applied in this study.
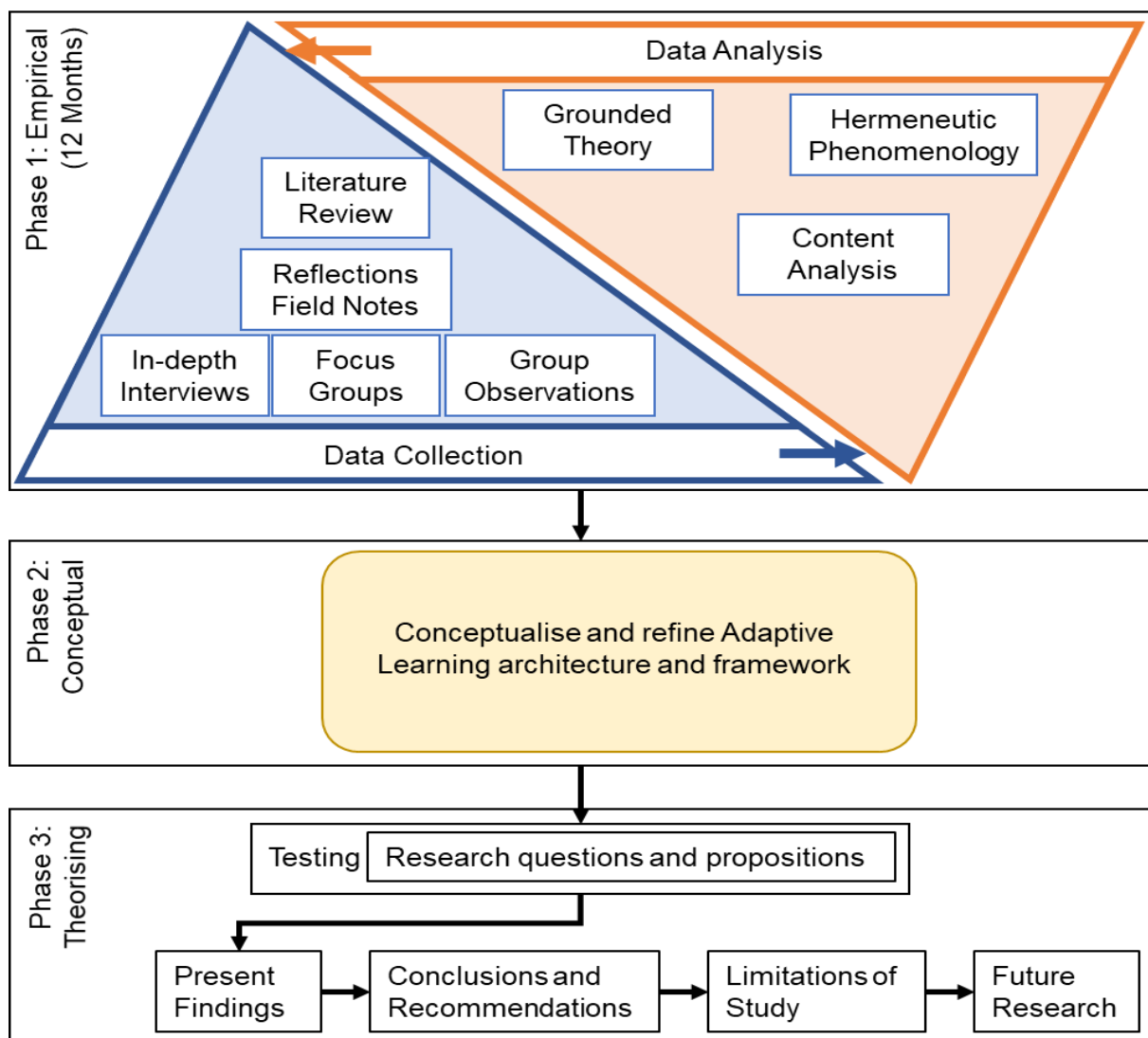
Figure 1.1 Research design. (Source: Own compilation)

Figure 1.1 on the previous page provides a visual representation of the 'research plan' applied in the study. The 'research plan' is demarcated into three distinct phases,

each with a clear step explaining the research process's flow. The three phases in the figure are based on the process of theory building, as described by Swedberg (2016). Each of the phases and steps will be discussed briefly below, setting out this study's quality criteria. The research design will be discussed thoroughly in Chapter 2.

1.10.1   Phase 1: Empirical

Phase 1 of the research plan, referred to as the *empirical phase* of the research design, indicates the phase where the researcher works within the field of study. During Phase 1, the researcher explores empirical evidence to uncover possible answers to the research questions. Phase 1 contains the first two steps in the research process, that of data collection and data analysis. Step 1, data collection, and Step 2, data analysis, were conducted iteratively and compared simultaneously to each other and with current literature (Charmaz, 2000). This process is also referred to as the 'constant comparative' method (Glaser & Strauss, 1967). The simultaneous and iterative data collection and data analysis process or 'constant comparison' allows for participants' lived experiences to be systemically gathered and analysed (Bitsch, 2005:4). The process of constant comparison allowed for the building of a holistic theory (Charmaz, 2014).

In Step 1, various data collection methods were utilised, including in-depth interviews, focus group discussions, learning-group observations, and the researcher's self-reflection field notes. Step 1 is extended to explore existing theories through a delayed focused literature review.

In Step 2, three specific analysis processes are followed and applied throughout and simultaneously during Phase 1 of the study. The analysis processes are chosen in alignment with the ontology of conceptual relativism and social constructivism and the researcher's epistemology of interpretivism. These approaches are constructive grounded theory, hermeneutic phenomenology and content analysis. An overview of the three approaches is discussed separately in Chapter 1. Each approach is then discussed in detail as they were applied in Chapter 2.

1.10.2   Phase 2: Conceptual

Phase 2 of the research plan is seen as the study's anchor point and included Step 3. Although indicated as the Phase 2 and Step 3, it must be noted that the research plan is not bindery and that Step 3 was not started after Step 2 and ended before Step 4. Step 3 is a consolidating synthesis of Step 1 and Step 2, influenced and further shaped by Steps 4, 5, 6 and 7. Step 3 is the conceptualisation of a new Learning Architecture (nLA) and the refinement of a framework visualising such a learning architecture. Step 3 enabled the finalisation of the theory extracted from the data, interpreted through the analysis and synthesised with field notes, reflections and memos.

1.10.3   *Phase 3: Theorising*

Phase 3 of the research plan is 'theorising'. Blum (2017) argues that 'theorising' consists of the methods of producing a possible society as the researcher's knowledge of society. Swedberg (2016) posit that before theory comes 'theorising', the method of coming to grips with the researcher's knowledge. Bryant (2017) stresses the human activity of theorising as appose to theories per se. This human process of theorising consists of activities such as abstracting, generalising, relating, selecting, explaining, synthesising and idealising (Weick, 1995:389).

During Phase 3, Steps 4 to 8 are followed to conclude the research, including testing the research question against the research concepts and positions of abstractions and generalisations. Step 5, presenting the findings of the research as relating and selected explanations. Step 6, conclusions and recommendations are presented as a synthesis of ideations. Steps 7 and 8 are reflections on the limitations of the study and future research that might be relevant and important to the theory.

1.11   Research process

Research integrity forms the cornerstone of scientific research and refers to using direct and verifiable methods to propose, perform, and evaluate research (Steneck, 2007). In this section, the researcher explicates the procedural assumptions on the connections between the researcher's methods and intentions, strengthening the study's overall logic and integrity (Marshall & Rossman, 2010). The quality of the research study hinges on the commitment of the researcher's consistency in the application of rules, regulations, guidelines, and following commonly accepted norms (Merriam & Tisdell, 2015; Steneck, 2007).

1.11.1   Theoretical sensitivity

In the context of this study being a qualitative study, with a blended methodology of grounded theory and hermeneutic phenomenology, the researcher is acutely aware of the ease with which the research integrity can be compromised. With this awareness, the researcher intends to apply 'theoretical sensitivity' throughout the study and be aware of the study's progression and throughout each of the steps in the research design. As described by Glaser and Strauss (1967) 'theoretical sensitivity' refers to the researcher's keen insights not to influence the data to reflect what the researcher wants to find rather than to allow for emergent properties discovered. Therefore, the researcher intends to give meaning to the data and recognise data pertaining to the emergent theory of discovered concepts as utilised by O'Reilly, Paper and Marx (2012). As far as possible, the researcher will apply 'theoretical sensitivity' to guide the initial data collection and assist in the selection or direction that the study progresses in, as described by Weed (2009). 'Theoretical sensitivity' will be further discussed in the section on research design and core process in Chapter 2.

1.11.2   Theoretical sampling

According to Gray, Grove and Sutherland (2017:357), research sampling, or sampling method, is a process of selecting people, events, behaviours, or other elements that are representative of the population being studied. Therefore, the selected sampling method should be consistent with the research approach (Grove & Cipher, 2020:16). The sample for this research will be selected in a purposive manner and be guided by the concept of 'theoretical sampling'. 'Theoretical sampling' as a strategy is designed to actively sample new cases or data to develop, refine, and elaborate on the emerging categories and themes (Tweed & Charmaz, 2012). Participant recruitment or participant selection within this study was conducted through theoretical sampling and its application in this study, as described in Sections 2.4.2 and 2.4.3. Apposite to conventional sampling techniques used in other qualitative or quantitative research, and theoretical sampling aims to refine ideas (Charmaz, 2000:519). Theoretical sampling is informed by the research process and research progression (Sabaraini, Carter, Evens, & Blinkhorn, 2011). According to Tweed and Charmaz (2012:133), researchers engage in theoretical sampling after developing tentative analytic categories. Therefore, theoretical sampling is unrelated

to purposive sampling or representative sampling conducted at the beginning of the research process.

1.11.3 Data collection method

The data collection methods for this study are qualitative in nature. Allowing for as much data and as many variables to be recorded as possible, multiple forms of data collection methods including, in-depth interviews, focus groups, group observations, researcher reflections and personal field notes were used. The primary method for data collection was in-depth individual interviews, with focus groups and participant observations to provide additional and supportive data. The use of different methods of data collection compensates for each method's limitation and exploits their respective benefits (Brewer & Hunter, 1989; Guba, 1981; Shenton, 2004).

Each of the data collection methods will be detailed in Chapter 2. To create some context, the researcher will now provide a short summation of the three core data collection methods. In-depth interviews, as the primary mode of data collection will be conducted according to the guidelines and applications of Charmaz and Belgrave (2018) to enable the blended methodology of hermeneutic phenomenology and grounded theory. Focus groups will be conducted towards the middle of the empirical stage of the study to generate supportive data for the extracted or analysed data from the in-depth interviews. Conway, Doherty and Carcary (2018), and Cox and Van Gorp (2018) will be used as guiding methods for the focus group data collection process. Towards the latter stages of data collection, the researcher applied participant observations according to the guidance of De Walt and De Walt (2011), Antwi and Hamza (2015) and Ritchie, Lewis, Nicholls and Ormston (2013).

1.11.4 Literature review

As indicated in Section 1.9.3, this research will adopt a blended hermeneutic phenomenology and grounded theory methodology. Neither of these two methodologies starts with a theory but instead starts with the data or a complex phenomenon. Given this blend of methodology, the researcher argues the use of literature within this study from the blend's perspective and not from the individual methodologies.

Utilising the blended approach presented the researcher with the challenge of how and when reviewing the literature should be done. The challenge of when to conduct the Literature Review is discussed in Chapter 2 as part of the research plan. Addressing the challenge of how the researcher realises that given the scope of the research project, combined with the blended approach, created the possibility that an over-extensive Literature Review might become a pitfall within the study. Therefore, the researcher will follow a semi-systematic review to curb this possible pitfall, referred to as a 'narrative review approach' (Snyder, 2019). Following a narrative approach, together with the realisation of the transdisciplinary nature of the research topic, will ultimately lead to two literature review chapters, as suggested by Transfield, Denyer and Smart (2003).

1.11.5   *Data analysis*

When conducting qualitative research, data analysis often begins as soon as the first data are collected and follows an iterative process of collecting, analysing and comparing data (Charmaz, 2000), also referred to as the 'constant comparative method' (Glaser & Strauss, 1967). This study intends to follow this iterative process to determine whether the data collected were sufficient to address the research question and when theoretical saturation is achieved (Locke, 2001). The iterative process will ensure that the analysis will be developed to a sufficient interpretative level to construct the theoretical framework (Smith & Osborn, 2015). Within the constant comparative method, various data analysis techniques will be required to complete this study. These include hermeneutic phenomenology, grounded theory, and content analysis which are detailed in Chapter 2.

1.12   Research integrity

As argued by Bergman and Coxon (2005), ensuring data quality plays a pivotal role in all the research process steps. The research participants allow the researcher into their world, which is seen as an 'act of trust' which should be honoured at all times (Urquhart, 2012). This trust relationship is acknowledged by ensuring that the study's integrity is sound and the quality of data throughout the study is acceptable. However, the integrity of qualitative research is often questioned due to natural work difficulty in addressing concepts such as 'validity' and 'reliability' (Shenton, 2004:63). Howitt (2016:425) argues that quality criteria cannot be universal with many different qualitative research styles and should be relevant to a specific study. Flick (2018:397)

argues that the difficulty with generalised quality criteria in qualitative research can be overcome by applying quality strategies rather than limiting criteria. Therefore, for this study, the researcher will apply quality strategies suitable for both hermeneutic phenomenology and grounded theory following a blended research method.

1.12.1 Generalisation

As a strategy, 'generalisation' addresses whether the findings from a study based on a sample can be said to be relevant beyond the sample and context of the research itself (Lewis & Ritchie, 2003). In context of a qualitative study, 'generalisation' can be discussed under two separate approaches namely 'empirical generalisation' and 'theoretical generalisation' (Maxwell & Chmiel, 2014). 'Empirical generalisations' concerns applying findings from a particular population or setting beyond that particular sample of the study. 'Theoretical generalisation' concerns the theoretical concepts or propositions deemed to be of broader application than the study (Lewis & Ritchie, 2003:264). Flick (2018) argues that the problem with generalisation within qualitative research is that the theoretical statements made are often from a particular context based on the analyses, relations, conditions and processes. This attachment of context often allows qualitative research a specific expressiveness that can be lost through generalisation.

To facilitate 'generalisation', the researcher applied 'transferability', 'theoretical sampling', and 'fittingness' strategies. 'Transferability' is seen as the nature of the receiving context to which findings are applied can be transferred to another context (Lewis & Ritchie, 2003:264). 'Theoretical sampling' provides a way of designing the variation of the conditions under which a phenomenon is studied as broadly as possible (Flick, 2018:407). 'Fittingness' refers to the degree of comparability of the different contexts (Flick, 2018) within the general theory they represent and how, through constant comparison, the data and the concepts fit (Glaser & Strauss, 1967). The data must fit the phenomena being researched by being readily apprehensible considering everyday realities (Weed, 2009). To fit, the general theory must integrate with the data to assist people working in the substantive field of study to manage their work differently (Locke, 2003).

1.12.2 Triangulation

'Triangulation' is the convergence of various research study methods to produce more objective and valid results (Jonsen & Jehn, 2009). 'Triangulation' is based on the notion that if different data collection methods yield comparable results, they should be considered 'valid' results (Howitt, 2016). It is assumed that through applying different sources of information, clarity and perception of the research findings can be better confirmed, and the overall understanding improved (Lewis & Ritchie, 2003). Lewis and Ritchie refer to Patton (2002:556), who argues that triangulation's strategy pays off during data analysis in providing diverse ways of looking at the same phenomenon by adding credibility and strengthening confidence in the conclusions drawn.

Flick (2018:405) provides a guide for applying triangulation as a quality strategy by stating four possibilities to improve data integrity or the research study. *First* is the utilisation of two methodological approaches; *Second* is to include different sorts of data; *Third* is to apply different theoretical perspectives; and *Fourth*, to involve two or more researchers with different theoretical-methodological backgrounds. The researcher used triangulation as a quality strategy by applying a Hermeneutic Phenomenology and Grounded Theory methodology. Further, the researcher utilised different sample frames to generate different context or 'lifeworld' experiences within the data. The researcher will also apply triangulation of interpreted data to current theories, applying different theoretical perspectives, through a focused literature review. In applying triangulation as a strategy, the researcher focused on the study's validity and credibility suited to both Hermeneutic Phenomenology and Grounded Theory by focusing on the criteria of 'Workability', 'Modifiability' and 'Relevance'.

1.12.2.1 Workability

As a quality measure to ensure data integrity, 'workability' relates to the situation when the theory explains how the real-life problem is being solved with many variations (Glaser & Strauss, 1967:192). Workability also relates to whether a study can offer analytical explanations for the issues and processes in the context to which it seeks reference (Weed, 2009). In a sense, the study must work 'on the ground' by being practically useful in daily events and not just to the social scientist (Locke, 2003).

1.12.2.2 Modifiability

'Modifiability' relates to the openness of the research to be extended upon and be further developed to accommodate new insights provided by further empirical data in the future (Weed, 2009). Throughout this study, the researcher applied

Glaser's (1978), and Glaser and Strauss' (1967) argument that grounded theory is not about 'absolute truth' but rather about 'probabilities'. Glaser and Strauss (1967) contextualise that data quality must stem from the emergent theory's modifiability from the data and how the theory can be altered when relevant data are compared to the existing data.

1.12.2.3 Relevance

'Relevance' refers to the extent to which the research deals with the real concerns of the processes to which it applies (Weed, 2009). According to Glaser and Strauss (1967), a relevant study deals with the participants' real concerns and is not only academic interest. In establishing relevance, developed theory should be practical to several different conditions and situations (Locke, 2003). Goulding (2002) further argues that relevance is also indicative of integrating the elements and the relevance of the general implications of the study. Equal to this, Goulding stresses the relevance of the data and their fit to the study, the relevance of the codes to the abstraction of theory, the relevance of the participants and the relevance of theoretical sampling.

1.13   Ethical considerations

Due consideration is given to the ethical issues surrounding research in the social sciences and within Da Vinci Institute for Technology Management's ethical code. Da Vinci Institute's Research Ethics Policy is available on request and should be read in conjunction with this section of the study. Ethical approval for this study is given by the Ethical committee and is attached as Appendix A. The research is designed to adhere to concepts of mutual trust, acceptance, co-operation, and the research participants' expectations. Further to this, the research did not, with all intent, damage the dignity of any participant or infringe on a participant's vulnerability owing to their youth, age, poverty status, ignorance or powerlessness.

Informed written consent was obtained from the individuals and their managers before research commenced. This consent included the purpose of the research, the participants' roles and responsibilities, the benefits and risks of participating. The purpose of data-gathering and the use of the data were also outlined. It was explained in full that the data collected was to be used for primary research and the results processed, analysed, shared, archived and could potentially be re-used in further studies.

Declarations of confidentiality and anonymity will be put in place for the individual participants. All identifying information will be removed from the collected data, and the information will be referred to within a code system known only to the researcher. All respondents will be assured at the start of their participation that the data that they provide will be used for academic purposes only and for informing a body of knowledge on the research subject. After completion of the study, all the participants will be presented with feedback on the study.

1.14   Scope and delimitations of the study

The study's scope identifies the parameters or boundaries under which the study will be conducted (Simon & Goes, 2013a). These parameters are the broad outline of the study and are inclusive of subject, objectives, facilities, area and time frame. The coverage of this study's scope is confined within the sponsor organisation's client base, as described in Section 1.4. The sponsor has provided permission to the researcher for its client base to become the active research site as per Appendix B. This organisation has its client base throughout Africa, with its primary base in South Africa. The primary client base is within the corporate, private sector of the economy. Seven specific sites within the client base were identified from which the participants will be selected. Participants will be individuals from these clients at all levels of the organisations required to make some change in behaviour to achieve some new desired organisational result. The participants will be required to use corporate learning to effect the desired change and adaptation of behaviour within a relatively short period. Within the scope of corporate learning are traditional classroom and digital online learning interventions. However, the study's focus is not on personal change but the organisational adaptation to new existence economies.

The study's delimitation describes those characteristics that arise from the limitation in the scope of the study and by conscious exclusionary decisions made during the research planning (Simon & Goes, 2013a). Delimitations, or what the study is not about (Walcott, 2002), are essential to note so that the reader is aware of the context of the study by understanding what the study does not intend to be. Further to individual learning, this is not a study of individuals' biological mechanisms or the biological potential to learn, but rather a study of organisational learning and adaptation. Although the study will explore various teaching and learning philosophies, it is not a study of pedagogy. This research is not a study of educational practice but will focus on learning from an organisational development perspective.

1.15   Delineation of Research Chapters

This document consists of eight chapters, including this chapter, which serve as background and context for the study. It further provides a broad outline of the purpose, objective and methodology of the research.

In Chapter 2 the research design is discussed. It provides details of the research methodology used in this study. The administration of the intensive interviews, the research site, data-sampling, data-collection and data-analysis methods are discussed.

Thereafter Chapter 3 deals with the results of the qualitative study, presented in an attempt to provide context to views of the expert participants in the interview. A detailed introduction of the research participants is then made, to be followed by the results from the interviews.

In Chapter 4 the researcher will share the analysis of the data collected based on the grounded theory method. The focus of this chapter is to present the data analysis and share the researcher's analysis results.

A focused review of literature within the substantive area of the study to support, clarify and present an academic perspective on the data gathered and analysed in the previous chapters of this study follows in Chapter 5 and Chapter 6. Chapter 5, *From subsistence to being*, is centred on an ever-accelerating disruptive world exacerbated by the COVID-19 pandemic. Using the data themes as a guide the chapter explores the possibilities of stepping into a new learning economy and the requirements to enable such a leap. Chapter 6, *Shifting with an African aphorism*, focuses on highlighting literature that might help to transcend learning architectures by deliberately slowing the organisational learning system down and anchoring it in humanness.

In Chapter 7 the results will be evaluated and discussed within the context of the research rationale. The analysed data and the literature review will be synthesised, and the correlation between empirical data and literature will be discussed.

In Chapter 8 the researcher answers the research question and sub-questions through an implementation and recommendation discussion. The researcher will further discuss the implementation and recommendations from this study by introducing a thinking framework to unpack the concepts and variables of the research.

CHAPTER 2:
Research Design

2.1   Introduction

The purpose of this chapter is to discuss how the research design using a hybrid methodology, blending hermeneutic phenomenology and constructive grounded theory, is well-positioned to meet the research aim of utilising an African aphorism to develop a new learning architecture (nLA) that could enable an increase in organisational adaptive quotient within forming a new normal. This chapter also details the research design, showing how the research was planned and executed to address the research problem outlined in Chapter 1. The researcher's ontological and epistemological perspectives to the study, the research paradigm, and the choice of a qualitative design will also be discussed in context of the research design.

De Vaus and De Vaus (2001:9) proclaim the function of research design as enabling the researcher to "answer the research question as unambiguously as possible". Research design can be described as a general approach to what one will do to answer the research question (Du Buisson, 2018). Research designs can be divided into two categories: exploratory and conclusive (Creswell, 2018). As this study is qualitative, the research will be exploratory and conducted from an interpretivist perspective, as explained in Chapter 1. Exploratory research aims to explore specific aspects of the research area and does not aim to provide final and conclusive answers to the research question (Creswell, 2018). Furthermore, in exploratory research, the researcher may even change the study's direction to a certain extent, however not fundamentally, according to new evidence gained during the research process (Creswell & Plano Clark, 2011). As the research phenomena within this study are not understood and need to be explored, the researcher will apply a qualitative research design. According to Maxwell (2012), it is flexible rather than fixed and is inductive rather than derived from a decision at the beginning of the project. Further to this, Maxwell (2012) states that research designs should be a reflexive process operating through every research project stage.

2.2   Rationale for the research design

Punch (2014) asserts the primary rationale of a research design is the integration, alignment, and balance between the elements of the research approach such as the

research questions, the research plan, and the research process. Punch (2014) further posits that the research questions answered through the study must be kept central to the study. Weed (2009), drawing on the studies of Blaikie (2000) and Grix (2002), suggests that an effective research plan should hold a strong logical taxonomy within a research paradigm. A taxonomy view as a perspective of logical flow provides a basis for the research plan's authenticity. The methodology or research methods are underpinned by epistemology, which is aligned and informed by ontology (Weed, 2009:505). An effective research plan provides a holistic and integrated approach that the researcher can follow and stay true to throughout the research project's duration.

A further distinction to make at the beginning of the research design is that of 'theory generation' versus 'theory verification'. A research project that sets out in its aim and objectives to explain the empirical within an existing theory is seen as 'theory verification'. Punch (2014:23), reflects on what Wolcott (1992) refers to as 'theory first'. In 'theory-first', the researcher will start with a theory from which a hypothesis is deduced and a study designed to prove or disprove the hypothesis. This approach is 'theory verification'. In 'theory-after', as referred to by Wolcott (1992) in Punch (2014), the researcher starts without a theory, focusing on the empirical world first. The study is then designed to end up with a theory. The theory is systemically developed from the data collected throughout the study. Theory-after is seen as 'theory generation'.

Quantitative research is typically used in 'theory verification', while qualitative research is usually more concerned with 'theory generation'. According to Hammersley (1992), and Brewer and Hunter (2005), as referred to in Punch (2014:21), quantitative research can also be directed to develop theory, as well as verify theory, and qualitative research can be directed at verifying theory as well as generating theory. He argues that qualitative inquiry would be more likely to be directed towards theory generation. Punch (2014:23) further states "research directed more at theory generation is more likely when a new area is being studied, and exploration of this new area is more likely to use the structured fieldwork techniques of qualitative research".

Although this study will not explore a completely new area, the researcher planned to explore new possibilities within the existing field of organisational learning. The exploration of gaps within current industry and organisational practices to modify an existing theory was approached similarly to developing a new theory. Given the research problem stated in section 1.5, the study lends itself more to theory generation than theory verification, as explained in the above paragraphs. Therefore,

intending to follow a path of theory generation, the researcher opted for a qualitative research paradigm for this study.

2.3 Rational for a blended research design methodology

Considering the aim and objectives of this study as described in Section 1.6.1 and 1.6.2, respectively, it was evident that the open-ended nature of the research questions and the explicit intent to generate a generalised theory, the researcher needed to explore the current lifeworld to find deeper insights into the phenomena. Enlightening the current lifeworld included insights into the participants' expectations of the future as a current life-experience. Once insights into the future expectations have been illuminated, further exploration of the potential gaps in the current learning theory could be directed and aligned to the aim of the study.

As Saunders *et al*. (2009) argue, the research plan for answering the research question is influenced by the ontology and epistemology adopted in the study. Therefore, the study's interpretive epistemology and relative ontology allowed the researcher to adopt a hermeneutic phenomenology blended with constructionist grounded theory to achieve the study's aim, objectives and intent as effectively applied by King Gabrielides (2018). Each of the methodologies had a specific intent during data collection and data analysis. The intent during hermeneutic phenomenology was focused on interpreting and sharing the lifeworld of participants. In contrast, the intent during grounded theory considered all the variations in the data and conditions associated with developing a substantive theory of a new learning architecture. Each of the design methodologies will be discussed separately in Sections 2.3.1 and 2.3.2, whereafter the blending of the two methodologies is explained in Section 2.3.3.

2.3.1 Hermeneutic Phenomenology

Phenomenology is conceptualised as an umbrella term encompassing both a philosophical movement and a range of research methodological approaches (Kafle, 2011). According to Brooks (2015); Seamon (2019); and Christias (2020), phenomenology as a philosophy is credited to Husserl (1859 – 1938) with his initial work focusing on Mathematics, but then becoming more interested in philosophy and focused on the pursuit of subjectivity, his interest turned to pure phenomenology. As a philosophy, phenomenology is essentially the study of lived experiences or the

'lifeworld' (van Manen, 1997). Laverty (2003), refereeing to Valle, King and Halling (1989), posits that the emphasis of phenomenology is on the world as lived by a person, not the world or reality as something separate from the person. Finlay (2009) states that phenomenology is the study of nature and the meaning of the phenomena. The focus, as a philosophy, is on the way things appear within the consciousness and through perceptions of the person (Kafle, 2011).

Earlier theorists such as Heidegger (1962) and Gadamer (1989) re-cast phenomenology from a pure philosophical discipline that focuses on the consciousness and essences of the phenomena, towards elaborating existential and hermeneutic dimensions as a qualitative research methodology (Finlay, 2009; Kafle, 2011). According to Dowling (2007:133), referring to Cohen and Omery (1994), state that Heidegger's ontological focus is the primary phenomenon that concerned phenomenology was the meaning of 'being'. Van Manen (1990) refers to the phrase used by Heidegger (1962), 'Being-in-the-world', stating that to ask for the 'being' of something is to ask for the nature or meaning of that phenomenon as stated in Dowling (2007:133).

Hermeneutics is the study of text, which needs to be interpreted and understood rather than explained by laws of nature (Svenaeus, 2012). 'Interpretation' is seen as critical to understanding, and texts are understood to include written or verbal communication, visual arts, and music (Laverty, 2003). According to Heidegger (1962), 'hermeneutic phenomenology' is concerned with the lifeworld or human experience as lived to create meaning and achieve a sense of understanding (Wilson & Hutchinson, 1991). Munhall (1989) adds to this view describing hermeneutic phenomenology as a view of people and the world as indissolubly related in cultural, social and historical contexts. According to Gadamer (1989:295), hermeneutic phenomenology starts with a position that a person seeking to understand something has a bond to the subject matter that comes into language through the traditionary text and has or acquires a connection with tradition from which it speaks. Gadamer viewed interpretation as a fusion of 'horizons', as a dialectical interaction between the interpreter's expectation and the meaning of the text (Polkinghorne, 1989).

There is a significant difference between 'phenomenology' and 'hermeneutic phenomenology', that of the process of self-reflection and predispositions. 'Phenomenological research' is descriptive and focuses on the structure of experiences and its meaning to the lifeworld. It seeks to elucidate these structures' essence as they appear in consciousness (Laverty, 2003). 'Hermeneutic

phenomenological research' is interpretive and focuses on historical meanings of experiences and their development and cumulative effects on the individual and social levels. The hermeneutic interpretive process explicates the historical or lifeworld experience and the presuppositions that motivated the individuals who make the interpretations (Polkinghorne, 1989; Laverty, 2003).

A hermeneutical methodology asks the researcher to engage in self-reflection to explicate their own biases and assumptions of the researcher and not to bracket them or set them aside, but rather to embed them within the interpretive process. The researcher is called on to give considerable thought to his own experiences and explicitly claim how his position or own experience relates to the researched issues (Smith, 2013). Therefore, as per the suggestion of Hertz (1997) and Terre Blanche, Durrheim and Painter (2006), the researcher kept a reflective journal from the start of the field research phase, which assisted in the process of reflection and interpretation. According to Sohn, Thomas, Greenberg and Pollio (2017), the constant awareness of the presuppositions and own biases about the phenomenon can influence the interpretations and data analysis, and data gathering. Therefore, in an attempt not to ask questions that will lead the participants to focus on aspects of the phenomenon that the researcher deems necessary but instead stands out in the participants' perceptions, the concept of 'bracketing' is applied. 'Bracketing', in this sense, was used to make the researchers personal biases and presuppositions visible as he became aware of them during the research process (King Gabrielides, 2018).

In this study, the researcher followed a Gadamerian hermeneutic phenomenology primarily, searching for meaning as the consciousness and essences of phenomenology (Gadamer, 1989). A focus is placed on 'being in the world' (Heidegger, 1962; van Manen, 1990) and understanding of being first through the researcher's personal involvement. The lifeworld of the participants is examined through text. For this reason, the interviews and focus group conversations were transcribed, with meaning being generated through the text in a hermeneutic phenomenology process.

2.3.2 Grounded theory as a methodology

Glasser and Strauss (1967) developed what is now referred to as 'classical grounded theory' as an inductive approach to theory development to challenge qualitative inquiry's restrictiveness (Fram, 2013). In contrast to only verifying theories, Glasser and Strauss (1967) offered a qualitative methodology that generates inductive

theories from data (Thornberg, 2012). In the early 1990s, Glasser and Strauss (1967), the originators of grounded theory, took different paths ending in two distinct versions of grounded theory, referred to as 'Glaserian grounded theory' (Glasser, 1978; 1998) and 'Straussian grounded theory' (Strauss, 1987; and Strauss & Corbin, 1990; 1998). Charmaz (2000; 2006; 2008a) developed the third version of grounded theory called 'constructionist grounded theory' as described in Thornberg (2012).

Charmaz's (2000) 'constructionist grounded theory' approach differs from the Glasserian and Straussian approaches in that the focus is the mutual construction of knowledge through the researcher and the research participants (Charmaz, 2000; Urquhart, 2013). 'Constructionist grounded theory' still follows the core elements of grounded theory but requires more accountability around the participants' social reality by focusing more on the study's contexts and the researcher's standpoints, priorities, and interactions (Bryant & Charmaz, 2007). This higher level of accountability on social reality (Fram, 2013), the study's context and the researcher's standpoints are highlighted in the differences between 'classical grounded theory' and 'constructionist grounded theory' through the fundamental concepts of 'constant comparative analysis' and 'theoretical sensitivity'.

The researcher adopted a constructionist grounded theory methodology. The reason for this is that, as Charmaz (2008a:398) argues, it provides more flexibility and innovation for problem-solving than classical grounded theory. Constructionist grounded theory offers more relevance to social reality through the process of logical discovery rather than localising categories to data (Fram, 2013). This more substantial focus on the research context and social reality will serve the researcher better in creating a stronger fit for the researcher's results concerning this study's aim and objectives. Constructionist grounded theory as a methodology, provided explicit tools for studying social processes and promoted an openness to all possible theoretical understandings, fosters the development of tentative interpretations about the data through coding and categorising and building systematic checks and refinements of the researcher's major theoretical categories (Charmaz, 2012:4). Following Sbaraini, Carter, Evans and Blinkhorn (2011) the grounded theory inquiry started with open-ended questions and with the researcher presuming he knew little about the meanings that drove the research participants' actions. For this reason, the openness of discovery and searching of meaning, the researcher adhered to a structured approach to constructionist grounded theory as illustrated in Figure 2.1 adapted from Tweed and Charmaz (2012:133) on the next page.
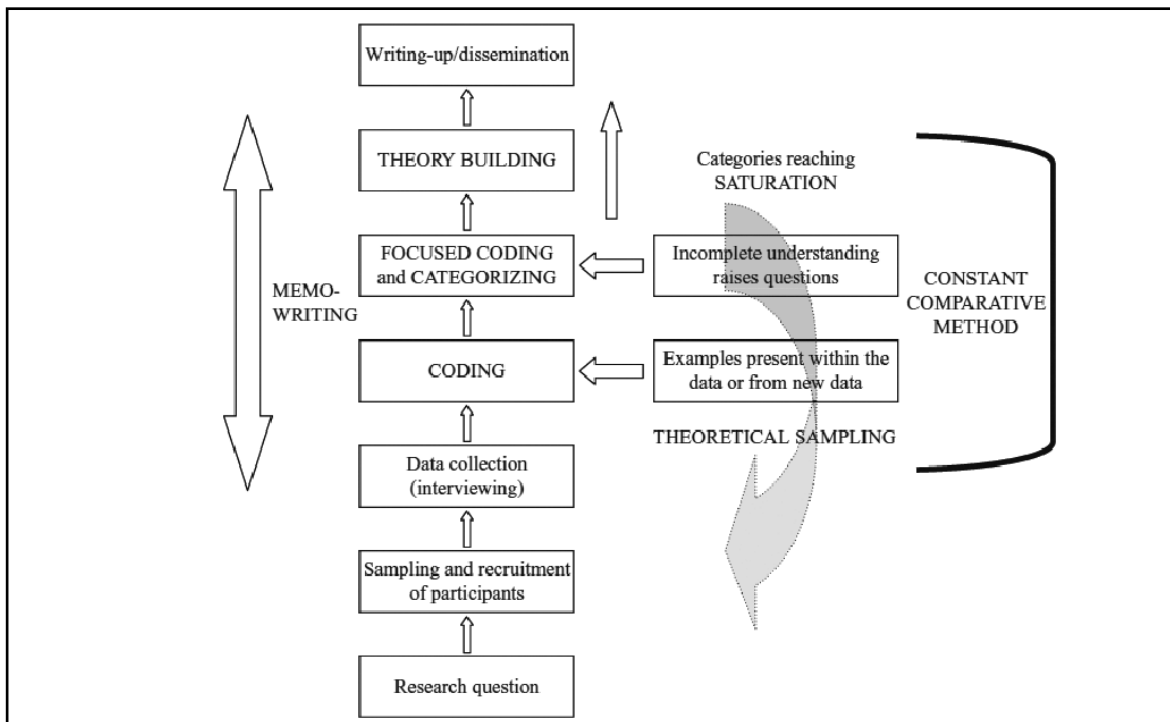
Figure 2.1 Representation of a Grounded Theory Process (Source: Tweed & Charmaz, 2012:133).

In Figure 2.1 above, as illustrated by Tweed and Charmaz (2012:132), the constructionist grounded theory process consists of a core process and three distinct but interdependent strategies. The core process consists of the iterative and interrelated steps: research questions, sampling, data collection, coding (data analysis), theory building and the write-up. The three strategies applied during the core process are the constant comparative method, theoretical sampling and memo writing. Each of the core processes and the three strategies will be discussed in detail in Section 2.3.4. In this study, constructionist grounded theory, specifically Tweed and Charmaz (2012), will be applied as the primary research process. The research plan will be constructed based on the researcher's interpretation of Figure 2.1 above.

2.3.3   Blending Hermeneutic Phenomenology and Grounded Theory

Applying a hybrid research methodology required the appropriate blending of the two separate methodologies so that each methodology is allowed to function as intended, yet in combination, to provide a more in-depth and synthesised view of the research intent as argued by King Gabrielides (2018). Lopez and Willis (2004) argued that implementing a method without examining its philosophical basis could result in

research that is ambiguous in its purpose, structure, and findings. The Lopez and Willis (2004) argument is supported by the arguments of Stubblefield and Murray (2002), indicating that a problem with many qualitative studies is the absence of linkages between the method used and a clear statement of the philosophical underpinnings that should guide the method. The researcher intends to indicate the linkages in using the different methodologies within the blended structure, thereby clarifying the reason for the application of a blended approach for this study. As highlighted in Figure 2.2 below as effectively used by King Gabrielides (2018:40), the use of the two complementary research methodologies is illustrated by indicating the similarities and differences within the research processes.
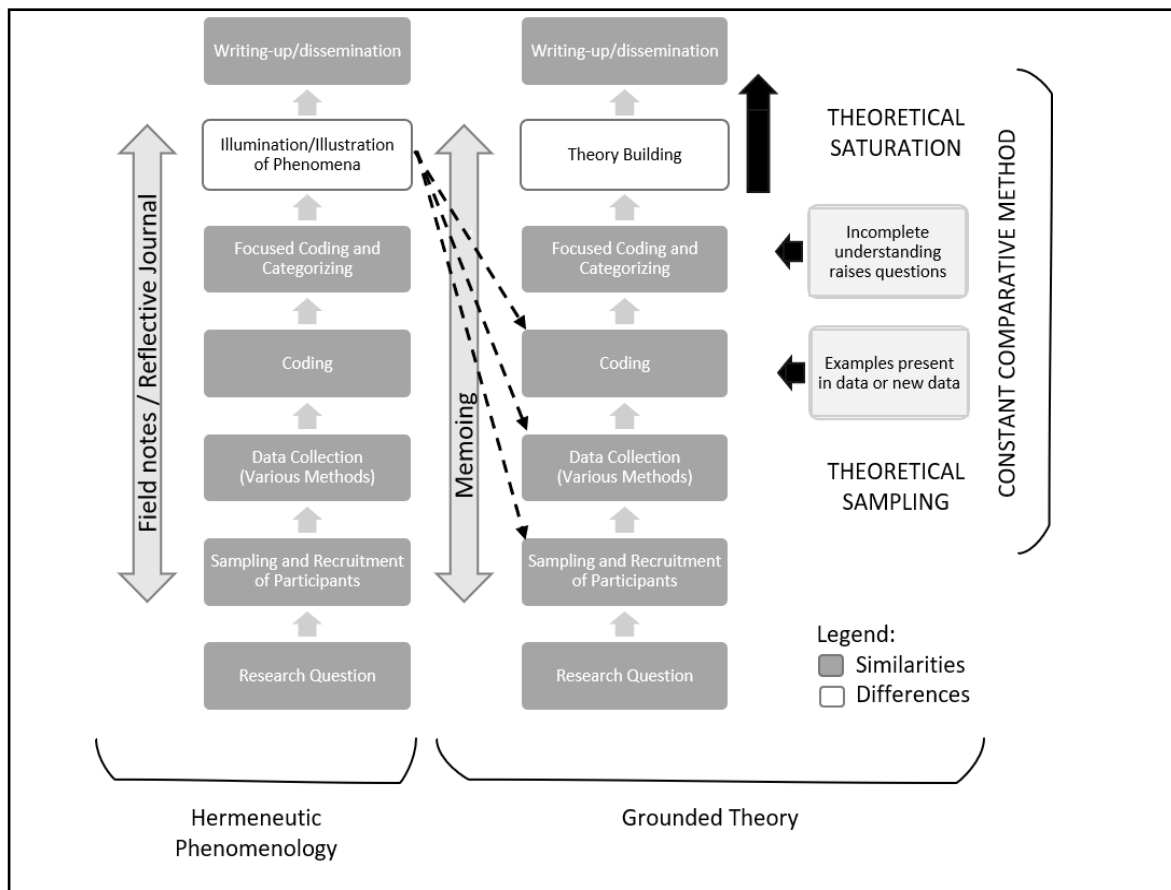
Figure 2.2 Similarities and Differences in the Hermeneutic Phenomenology. (Source: Adapted from King Gabrielides (2018:40))

In Figure 2.2 above it can clearly be seen that most of the processes are similar and overlap (as indicated in grey) for both hermeneutic phenomenology and grounded theory. The main difference (shown in white) is in the latter processes of either illumination or illustration of the phenomena, in hermeneutic phenomenology, and

theory building in grounded theory. Therefore, the researcher argues that the same strategies and processes that are similar and mostly overlapping could be used to speed up the research and deepen the research findings. Therefore, the researcher used *hermeneutic phenomenology* as the first round of the research and *grounded theory* as the second round during the empirical phase research.

Round 1 was intended to illuminate and illustrate the current lifeworld of the participants. Round 1 also produced codes that illuminated the gaps which would guide emergent theory development during Round 2. Once the gaps for emergent theory development were indicated, using theoretical sampling and constant comparative methods, the collected data were analysed for a second time and recoded from a grounded theory perspective as Round 2 of the research.

Round 2 of the research intended to find an emergent framework that might be the scaffolding for a substantive theory in a new learning architecture. Efforts of data collection and data analysis were combined by always having the blended approach in mind. Using the iterative nature of the two methodologies together as a hybrid methodology, and then using the strategies, through constant comparison, theoretical sampling and 'Memo-writing', data collected during Round 1 of analysis were expanded on with Round 2 data collected and used in both the methodologies to extract different conclusions or codes. The researcher focused on exploring the experiences of the participants of an inevitable changing world. Part of these experiences is the participants' thoughts and views of the new learning economy's changing future.

Once the hermeneutic themes were identified and the phenomena illuminated, grounded theory was applied as an emergent method to develop the gaps that may exist in the future learning economy, building towards a framework or architecture that could address these gaps. Charmaz (2008b:155) provides a working definition of an emergent methodology as "an emergent method is abductive, indeterminate and open-ended, where an emergent method begins with the empirical world and builds an inductive understanding of it as events unfold and knowledge accrues". Emergent methods are particularly well suited for research of uncharted, contingent or dynamic phenomena (Ohman, 2005). It allows the researcher to study research problems with unpredicted inquiry directions within the empirical world (Charmaz, 2008; Keegan, 2009).

By adopting an emergent method for Round 2 of the empirical phase, the researcher was able to account for research processes of discovery as stipulated within the aim and the objectives of this study. Where most qualitative studies address "what…?"

and "how…?" questions, grounded theory gave the researcher the tools to answer "why…?" questions from an interpretive stance. By interrogating the data and emerging ideas from the Round 1 codes, with analytic questions throughout the research, the level of conceptualisation was raised, increasing the theoretical reach of the inquiry (Charmaz, 2012). The researcher aligns with Charmaz (2008a); and Nelson and Pawley (2010), stating that the overriding objective of using grounded theory and hermeneutic phenomenology was to generate emergent theory from the data that account for the research problem.

2.3.4 The Research design and core process

Referring to Section 2.3.3, Figure 2.1 and Figure 2.2, the research design was anchored in Tweed and Charmaz (2012) grounded theory core process and the blending with hermeneutic phenomenology as used by King Gabrielides (2018) and adapted for this study. The different research concepts that inform the processes and strategies for the adapted research design will be discussed in the following sections.

2.3.4.1 Theoretical sensitivity

Glaser and Holton (2004:8) states "the ability to generate concepts from data relating them according to normal models of theory in general, and theory development in sociology in particular, is the essence of theoretical sensitivity". O'Reilly *et al.* (2012) referring to Goulding (2002) describe 'theoretical sensitivity' as an abstract term that refers to a researcher's ability to give meaning to data and to recognise data that have pertinent meaning to the emerging theory versus data that do not and requires a theoretical understanding of the phenomenon under study to enable new theory development. Theoretical sensitivity necessitates a theoretical understanding of the phenomenon being studied to enable new theory generation (O'Reilly *et al.*, 2012). Without a theoretical orientation to guide the researcher through successive data collection levels, coding, and analysis, the researcher would find it challenging to recognise essential emergent concepts from the data (Goulding, 2002).

Theoretical sensitivity and its disciplinary perspective provide a place to start developing ideas about categories and concepts defined in the data (Charmaz, 2008b). As argued by Charmaz (2012:4), the grounded theory researcher does not enter the research study tabula rasa, encased in theoretical innocence and substantive ignorance. Charmaz (2012) refers to Henwood and Pidgeon's (2003) stance of theoretical agnosticism, where the researcher has subjected prior theories to rigorous analysis rather than to ignore them. Thornberg (2012) refers to

Timmermans and Tavory (2007) who argue not to subscribe to any theories before or during data collection and analysis, but to be sensitive to different theoretical positions and the spaces in the literature. 'Theoretical agnosticism' or 'theoretical sensitivity' guided the researcher to take a critical stance towards pre-existing theories and data analysis throughout the study (Charmaz, 2006). 'Theoretical sensitivity' was the process applied to distinguishing one sensation or research event from another. It refers to the researcher's ability to relate events in the past to events in the present or future (Fram, 2013). Theoretical sensitivity guided the initial data collection in the study and assisted with the selection, direction and progression of the study (Weed, 2009).

2.3.4.2   Iterative process

The various research processes in the blended methodology were not linear, isolated processes of sampling, data collection, data analysis and data comparison and verification against an existing theory (Kempster & Parry, 2011; Weed, 2009). There was a constant and iterative interplay between people interacting with the phenomena and the social context (Milliken & Schreiber, 2012:692). The researcher followed Timmermans and Tavory (2012:169) argument that grounded theory's meticulous methodological guidelines of iterative rounds of coding and memo-writing facilitate theory construction through processes of revisiting, defamiliarizing, and alternative casing. This iterative process was repeated throughout Round 1 and Round 2 until the research areas' theoretical coverages were adequately explored (Weed, 2009).

2.3.4.3   Research focus

Theoretical sensitivity and iterative processes provide the researcher with a specific view of the core process followed during the study. For the researcher, the first cluster of the core process as indicated in Figure 2.1 and Figure 2.2 as the first two steps, research question and sampling/recruiting participants. The hybrid methodology's theoretical, epistemological and technical foundations position it well to investigate a broad range of open-ended research questions that focused on processes, patterns and meaning within context, and that require the crucial examination of the subjectivity of experience, thus leading the researcher to begin inquiring from the research participants' point of view (Tweed & Charmaz, 2012:134). Grounded theory was employed where existing theories or research areas were under-defined or patchy and had the flexibility and sensitivity to be responsive to changing contexts and conditions (Henwood & Pidgeon, 2003). Given that both grounded theory and hermeneutic phenomenology are best used with a focused and specific purpose, the structuring of the research questions and selecting or recruiting research participants

were as much part of the study's success as the research data and the theory development.

2.3.4.4   Research data

Within the research data's core processes, the researcher clusters data collection, data coding, focused coding and categorising as per Figure 2.1 and Figure 2.2. The processes associated with research data and theoretical sampling were the most iterative phase of the study. During the data collection process, some of the consideration included pacing of data collection, the volume of data collected, the procedure and rigour of data analysis, generalisability of the unit findings, and the subsequent analysis framing the research product as described by Glaser and Holton (2004). In this study, data collection and data analysis were not seen as separate processes or phases that should be completed before moving to the next phase. Data collection took place in parallel to data analysis, enabled through theoretical sampling (Sabaraini *et al.*, 2011).

The data analysis process within a blended methodology is often misunderstood as a complex, even complicated, technical process of coding and defining categories. Causing a misunderstanding was an easy pitfall that the researcher could fall into, mainly due to the specific differences within the three main-stream types of grounded theory. Mills, Bonner and Francis (2006) opine that coding from the data is the fundamental analytic tool that will uncover an emergent grounded theory from the field of inquiry. The basic process for grounded theory analysis was followed where there was an initial coding task that sought to describe the phenomena before moving to the second stage of coding, which sought to conceptualise the phenomena (Weed, 2009). The initial stage of coding is often referred to as 'open coding' and, within the secondary coding stage was divided into axial coding and selective coding (Bluff, 2005; O'Conner, 2012).

2.3.4.5   Theory development

Primarily, the goal of the study, and specifically the grounded theory round, was to develop abductive theory from studying basic social or psychological cases (Glaser & Strauss, 1967) in which the researcher defines a fundamental process occurring in the setting or among the research participants and pursues researching it as the phenomenon of interest. The focus on social processes enabled the study to investigate how social structures, situations and relationships influence patterns of behaviour, interactions and interpretations (Tweed & Charmaz, 2012). A grounded theory inquiry generates a theory grounded in a substantive area

(Strauss & Corbin, 1998). 'Grounding the study' means that the theory generated from a grounded theory inquiry does not seek to be a generically applied theory (Weed, 2009). Although this is one of the standing critiques against grounded theory, it is possible to generate more generic theories through the modifiability by linking substantive grounded theories to create a formal grounded theory (Weed, 2009).

2.3.4.6   Constant comparative method

According to Tweed and Charmaz (2012:132), grounded theorists also use a series of analytical and reflexive strategies to aid the process of developing theory. Glaser and Strauss (1967) defined a constant comparative method as the first of these strategies within the hybrid methodology. Constant comparison was not just one of the strategies of study; it was what set grounded theory apart from classical qualitative inquiries (Weed, 2009). The researcher applied the constant comparative method and the iterative nature of the core processes, continually comparing research incidents to other incidents or data during the research process described by Fram (2013). The key here was that analysis began after the first interview and continue throughout the data collection phase (Mayer & Ward, 2014). During the early stages of the inquiry, the comparison is between data and data. As the inquiry progressed, the comparison became between data and codes, then between codes and concepts and, towards the end of the study, between concepts and literature (Weed, 2009). The comparative process entailed looking for similarities, differences, and nuances between all the analysis elements to generate a more abstract understanding of the data. Using the constant comparative method was a dynamic non-linear process, requiring the researcher to stay open to new insights within the analysis (Tweed & Charmaz, 2012).

2.3.4.7   Theoretical sampling

A research sampling approach suitable to the blended research methodology of hermeneutic phenomenology and grounded theory was designed. As both methodologies have similar assumptions about subjective experiences the sampling approach revealed what lay in the data (Finlay, 2003; Kafle, 2013; Matua and Van Der Wal, 2015), the same sampling approach could be used. The sampling process is possible because both hermeneutic phenomenology and grounded theory begin with the phenomena of interest rather than with theory (Kafle, 2013; Simon & Goes, 2013b). The sampling requirements for grounded theory, referred to as 'theoretical sampling' (Strauss & Corbin, 1990:176), where sampling decisions are informed by the emergent concepts relevant to the developing theory are also suitable

for hermeneutic phenomenology because of the purposeful selection of information-rich cases for detailed study (Denzin & Lincoln, 2000).

'Theoretical sampling' as a strategy was designed to actively sample new data to develop, refine, and elaborate on the emerging categories and themes (Tweed & Charmaz, 2012). Participant recruitment or participant selection within this study was conducted through theoretical sampling and its application in this study, as described in Section 2.4.2 and 2.4.3. As opposed to 'conventional sampling' techniques used in other qualitative or quantitative research, 'theoretical sampling' aims to refine ideas (Charmaz, 2000:519). Therefore, the blended methodology sampled data according to issues that emerge from the analysed data or the identified anomalies in the data. Sampling focused on data that developed or refined the theoretical concepts (Weed, 2009). 'Theoretical sampling' is informed by the research process and research progression (Sabaraini *et al.*, 2011). Following Tweed and Charmaz (2012:133), the researcher engages in theoretical sampling after developing tentative analytic categories. Therefore, theoretical sampling was related to purposive sampling or representative sampling conducted at the beginning of the research process.

2.3.4.8 *Theoretical saturation*

The purpose of following a two-stage coding process, as described in Section 2.3.4.4 and later in Section 2.7, was to extract the core categories from the data. According to Corbin (2011:14), core categories are: "The highest and most abstract concept of the research. It explains what the research is all about in a word or two. The core category does more than tell a story. It provides the structural frame for organising categories and their lower-level concepts into a theoretical explanatory framework".

The blended methodology followed an iterative process, and some indication was required when further iterations were no longer necessary. This point, where no further iteration was required, is referred to as 'theoretical saturation' (Weed, 2009). Charmaz (2008a) argues that saturation has been reached when gathering new data no longer develops new theoretical insight nor extends the theoretical concepts' properties. Corbin (2011:15) posits that 'theoretical saturation' is the point in the research when categories are fully developed in terms of their properties and dimensions, showing considerable specificity and variation and relationships between concepts have been established. 'Theoretical saturation' ensures conceptual density within the generated theory (Weed, 2009).

2.3.4.9   Memo-writing

'Memo-writing' or 'memo-ing' is an intermediate stage between data collection and write-up and involves the detailed capturing of the researcher's thoughts, hunches, interpretations and decision-making throughout the analysis (Charmaz, 2006). Memos were used to record the researcher's developing thinking as the research project progressed. Memos were written about events, cases, categories or relationships between categories as guided by Sabaraini *et al.* (2011). However, memos were utilised mainly in relation to codes, as suggested by Charmaz (2014).

'Memo-writing', together with field notes and reflective journaling used during the hermeneutic phenomenology rounds, helped the researcher make meaning of his world and the interaction between the self and the phenomenon as argued by Chamberlain-Salaun, Mills, and Usher (2013). In this study, the concepts of 'Memo-writing' and field notes were used together and refer to the researcher's reflection on his awareness of the research and the research process. 'Memo-writing' , as with field notes, required the researcher to distance himself from the data and go beyond the purely descriptive analysis work. By being purely descriptive, the researcher positioned memos to become a starting point for the formulation of substantive theory (Böhm, 2004). 'Memo-writing' allowed the researcher to make direct interpretations and conclusions from interviews and observations. They provided the opportunity to give these interpretations and conclusions a prominent place in the constant comparison and core category development process (Fendt & Sachs, 2008).

2.4   The research process

In the following sections the research process is highlighted and set out in more detail. The research plan will indicate the application and implementation of the research though its blended methodology.

2.4.1   The research population

As mentioned in Section 1.9.3 and the opening sections of Chapter 2, this research study follows a blended methodology of hermeneutic phenomenology and constructionist grounded theory. Both of these, as qualitative methodologies, are applying theoretical sampling strategies as described in Section 2.3.4.7. Theoretical sampling means sampling to develop a theoretical category, not sampling for

population representation (Charmaz, 2012). The researcher agrees and adopts Charmaz's view and the view of Strauss and Corbin (1998) that findings from this study cannot be generalised to a total population but may have meaning for others in a similar social setting.

Further, the researcher aligns with Bluff (2005), who argues that the reason for this study is to provide insight into the phenomena to those with an interest in the field or specific knowledge of the phenomena. Therefore, the researcher's approach to the research population is aligned to a research sampling frame, as argued by Terre Blanche *et al.* (2006). A research population can be described as the larger pool from which sampling elements are selected and how the researchers want to generalise their findings. The researched population encompasses all the elements that make up the unit of analysis. However, the size of the population pool may hold the dilemma of not being able to have access to the entire population. To overcome this dilemma, and given the application of a theoretical sampling strategy, the researcher adopts a sampling frame as an abstract category of the population to become accessible (Terre Blanche *et al.*, 2006:133).

For this study, the research sampling frame is centred around the researcher's employer and sponsor, Cornerstone Performance Solutions (Pty) Ltd. and its client base, including its South Africa and Africa operations, as well as the directly surrounding Learning and Development (L&D) fraternity that the researcher has access to as colleagues or allies in the field. Utilising a sampling frame, the researcher was able to focus data collection on three specific views or lifeworld's, that of L&D professionals; that of organisational leaders utilising learning as a means to organisational adaptation; and learners who participated within a learning effort.

2.4.2   The research sample

The research sample for this study was selected according to the sampling strategy of theoretical sampling as described in Section 2.3.4.7, which requires the selection of the participants to be informed by the emergent properties of the study (Strauss & Corbin, 1990b; Terre Blanche *et al.*, 2006). This sampling decision evolved during the research process, and purposive, theoretical sampling was preferred as it was not feasible, practical, or theoretically sensible to do random sampling as is often the case with applied social research (Trochim, Donnelly, & Arora, 2016). The researcher applied the technique of expert sampling as the base for theoretical sampling. The participants were chosen in a non-

random manner within expert sampling based on their expertise in the phenomenon's environment (Patton, 2015).

The sampling decisions were suitable for both hermeneutic phenomenology and grounded theory as they allowed for information-rich cases for detailed study (Patton, 2002; Denzin & Lincoln, 2011). Different sample groups were selected based on the different sample frames, as described in Section 2.4.1. The samples chosen were participants who could illuminate the current learning economy phenomenon and provide rich information and insights into possible future requirements for a new regenerative learning economy. The sampling process, specifically at the study's initiation, was also used to set the participant requirements that would be followed during the theoretical sampling process. From the approach described above, the study sample was 15 individuals and 14 work teams. The individuals participated in multiple in-depth interviews and the focus group discussions. The work teams consisting of a total of 120 individuals, were selected for the covert observations.

2.4.2.1   Research participant requirements

Specific participant requirements were set to maximise the sampling process. Setting the research participant requirements upfront, according to the sampling strategy, assisted in keeping the focus on the study's intended outcomes as described by the aim and objectives of the study as per Section 1.6. The primary criteria for selecting participants from the sample frame were individuals who had experienced the phenomena or had most probably experienced the phenomena by being part of the learning ecology within an organisational setting. Given the blended methodology, it was not necessary to attempt to generalise a population, and the primary requirement was to contribute to a deeper understanding of human experiences, advances in concept and theory development, and development of pedagogical interventions (Sandelowski, 2008). A second requirement for demographic information was set according to Sohn *et al*. (2017) indication, of the necessity to collect a great deal of demographic information. Therefore, simple demographic information such as age, gender, race, educational background, current organisational role and tenure in the current role were required. A further requirement was that the participant must belong to or could be placed in of one of the three sampling frames: L&D Professional, Organisational leader or Learner.

Each participant was required, once selected, to provide written consent for their participation. Participants were informed that the information generated during any of

the data collection processes, explicit or implicit, would be used solely to meet the study's objectives. The participants were also informed that information gained, personal or related to the study, would be confidential, and reference to their experience would be done anonymously. Although reference would be made to specific research findings, it would not be linked to an individual participant and the research sample. Participants were further informed that they could withdraw from the study at any time, even after data were collected, and their data would be excluded from the study. An example of the participant consent form that was designed by the researcher is included in Appendix C.

2.5   Data Gathering

Data gathering is the act of obtaining information, or data, allowing the researcher to analyse and interpret such data through an array of methods according to a selected methodology. Data are considered to be whatever can be observed or communicated (Whitehead & Whitehead, 2016). Gathered data provided evidence for distilled descriptions, interpretations and theorisations (Polkinghorne, 2005). Furthermore, the data gathered should allow the researcher to compile a study according to the ontologies defined and to ensure a coherent epistemology (Grimalt-Álvaro & Ametller, 2021). Therefore, qualitative data gathering is directly related to the research sampling and the participants of the sample (Lopez & Whitehead, 2013).

Data gathering was not seen as an isolated event, but rather as a continual research process (Birks & Mills, 2012; Bytheway, 2018). Therefore, subsequent phases of data collection were planned (Urquhart, 2013). The data gathering process aimed to collect a range of contexts, perspectives, and timeframes and included individual interviews, focus group interviews, field notes, memos, elicited texts, questionnaires, documents, and scholarly literature, all aligned to a data source as suggested by Charmaz (2006). Throughout the data-gathering process, the researcher kept notes of data recorded, 'Memo-writing', emergent properties that changed the interview questions and structures to show how the substantive theory emerged from the data and to record a flexible, systematic research process as demonstrated by Birks and Mills (2012) and Denscombe (2010).

Multiple forms of data were collected to ensure the robustness of the research findings and increase the study's trustworthiness through triangulation (Guba, 1981; Brewer & Hunter, 1989; Shenton, 2004). The researcher applied in-depth interviews and focus groups as the primary data collection methods and participant observation and

field notes as secondary data collection. Literature reviews were used as a secondary and tertiary data collection method. At the onset of the data-gathering process, the researcher recognised the complexity of the research process, and specifically, the complexities created through the constant comparison method applied in qualitative research. Given the expected complexities, the researcher safeguarded against the polarisation of data-collection by staying mindful of the complexities and the various data collection strategies and the blended research methodology of hermeneutic phenomenology and grounded theory.

2.5.1 In-depth interviews

The research design intended to conduct 30 in-depth interviews, including the option of returning to participants for follow-up interviews as described by Charmaz (2008b). However, by applying a blended data analysis methodology of grounded theory and hermeneutic phenomenology the number of interviews were not fixed, as theoretical saturation applied. The yardstick for theoretical saturation was that no new theoretical category properties were emerging (Charmaz, 2008b; Charmaz, 2014). To establish this point, where no new properties of the category are emerging, requires sufficient data to establish the categories' parameters and explicate all its properties (Charmaz, 2008b). For the researcher, it was essential to continually reflect on the point of theoretical saturation. The point of data saturation is captured prudently by Weed (2009:506), referring to Glaser (2001) as the point where the generated grounded theory or theoretical concept has conceptual density and theoretical completeness.

The intention was to conduct in-depth interviews within two categories of participants, each with specifically designed questions according to the participant category. These set categories are Learning and Development (L&D) professionals, and Organisational Leaders within the learning field who would typically buy learning interventions for their organisations. Each interview was recorded electronically and was then transcribed verbatim into an MS Word 365 document. The recordings and transcriptions would be saved on a secured cloud server for the researcher to retrieve for coding during data analysis.

The researcher started the data-collection process with in-depth interviews from the sampling frame of L&D professionals and Organisational Leaders, respectively. As theoretical sampling was used as the preferred sampling strategy, the first four participants were pre-selected for in-depth interviews. Once categories started to

emerge, a further 11 participants were selected using theoretical sampling. A total of seven participants from Sampling Frame 1 and eight participants from Sampling Frame 2 were interviewed. The participants were informed that there would be at least two interviews scheduled during the data-gathering period. A total of 30 interviews was therefore planned. The researcher was mindful that the Round 1 interview would be analysed through hermeneutic phenomenology and the Round 2 interviews would be analysed through grounded theory within a constant comparison data analysis process. Therefore, the first in-depth interviews were structured to illuminate the participants' life experience. An example of the first in-depth interview guiding questions is given in Appendix Dr1. The second round of interviews, which were planned for the same sample, would deepen the understanding of the phenomenon's specific categories. The guiding questions for the second in-depth interviews are provided in Appendix Dr2.

The interviewing process started with the full intention to conduct the interviews face-to-face, with the understanding that some interviews might be conducted via video conferencing due to geographical constraints. However, half-way through the interview process, due to the COVID-19 outbreak and national lockdown restrictions, the rest of the interview process was concluded via video conferencing. With Scott (2011:87) asserting, online video chat software can be used effectively for grounded theory interviews as long as the "researcher has considered the basics of interview design from a grounded theory perspective" and uses "technology with which both the researcher and participant are comfortable and which their combined connection speed can support". Therefore, the researcher arranged with the participants before the interviews which video conferencing software would be used for the interviews. In line with the recommendation of Chenitz and Swanson (1986), the video interviews were approached similarly to the face-to-face interviews. Birks and Mills (2012:86) state that the internet is now an established part of life in most societies, and online video is part of everyday life; and therefore, is an acceptable instrument for research interviews. In addition, Kvale and Brinkmann (2009:149) argue that video interviewing may enable participants to speak more easily about personal aspects of their lives because of digital discourse norms. Video interviews were recorded and transcribed, the same way as face-to-face interviews.

2.5.1.1 Round 1 Interviews

In *Round 1*, the hermeneutic phenomenology interviews, the interview approach was to discuss topics to obtain the participants' candid view on the topic and to be able to obtain in-depth information required for the research context (O'Conner, 2012). During the first interviews, the researcher was aware of direct and indirect data, as

Kyale (2007) argued. 'Direct data' are responses that participants provide to direct questions; they are verbal responses. 'Indirect data' are provided when the participants' responses reveal data that were not asked directly, but the response indicates some reaction that may be verbal or non-verbal. The researcher was also aware of the importance of approaching the participants with humility, sensitivity, and respect, as suggested by Sohn *et al.* (2017) who refer to Merleau-Ponty (1973:143) who state, "He is able to get across to me in as much as I am...capable of allowing myself to be led by the flow of talk toward a new state of knowledge".

The researcher followed Sohn *et al.* (2017) in that the participants lead the flow of talk, and the researcher follows. However, the researcher's responsibility was not to allow the participant to lead down a path of explanations since focus of the data was lived experience. The researcher directed participants to recall specific incidents to ensure that direct data were captured. During the Round 1 interviews, "Why…?" and "What do you think about…?" questions were avoided. As Sohn *et al.* (2017) indicated, "Why…?" questions generally emerge from our curiosity, and they may place a demand on participants to intellectualise or defend their behaviour. "What do you think about…?" questions tend to lead participants into the cognitive realm rather than reporting their lived experiences. Moustakas (1994:81) suggested that the researcher focus on asking participants to speculate about "situations that have typically influenced or affected their experiences of the phenomenon" and not seek causal attributions. Acknowledging the openness and unstructured nature of phenomenological interview questions asked during an in-depth interview, the researcher prepared proposed questions for the Round 1 interviews to lead into the deep conversations required. These proposed questions are provided in AppendixDr1.

2.5.1.2   Round 2 Interviews

For the *Round 2* of in-depth interviews, the focus was on grounded theory analysis, focusing on deepening understanding that could lead to theory building. As the researcher entered Round 2 of interviews, he stayed aware that data collection is not an isolated event (Birks & Mills, 2012), and constantly compared the interviews with the other interviews and Round 1 Interviews. In Round 2 Interviews, the focus was on grounded theory, the "Why…? and What do you think…?" questions were asked. During Round 2 interviews, the researcher carefully elected not to enter the research field tabula rasa as argued by Bryant (2017:68); Clarke and Friese (2007:372); and Urquhart (2013:191). The researcher acknowledged the influence of the mediating role (Fogel & Osborne, 2011) of the researcher in the construction and development of the interview data and consciously aimed at reflexivity rather than capturing the

exact words and meaning of the lived experience. To ensure the practice of reflexivity and to acknowledge the researcher's mediation role, the researcher treated the interviews as "sites of knowledge construction" (Mason, 2002:231).

Following a constructivist grounded theory methodology, the Round 2 interviews were aimed at explicating, expediting, and enhancing intuitive strategies that other qualitative researchers often invoke only at a descriptive level (Charmaz, 2008b:161). With the development of substantive theory in mind, the researcher focused on posing theoretical questions about the arising analysis rather than applying theoretical concepts to the collected data (Charmaz, 2006). Similarly to the Round 1 interviews, the researcher prepared proposed questions for the second-round interviews to lead to the deep conversations required. These proposed questions are presented in Appendix Dr2. In formulating the proposed questions, the researcher applied the concepts of systematic active scrutiny of data and subsequent development and checking of categories suggested by Charmaz (2008b:161). The primary two grounded theory questions, as argued by Glaser (1978:57) of "What is happening here…?" and "What (theoretical category or theory) are these data a study of…?" were used as the base for question formulation. Glaser (1978) suggested that his first question was used for examining the empirical world of the participant in close detail, and his second question to link the empirical world to the theoretical possibilities. The researcher also followed Osborne and Fogel's (2016) suggestion, given the interview being a site of collaborative knowledge production, and discussed the formulation of other possible interview questions with the participants. This practice of co-creation of further interviews was structured into the in-depth interviews towards the end of the interviews to establish flexibility and reflexivity during data collection.

2.5.2 Focus Groups

According to Guest, Namey, and McKenna (2017), based on their research of works including Kitzinger and Barbour (2001) and Krueger and Casey (2015), they recommend that at least two groups for each defined phenomenon are conducted. Cox and Van Gorp (2018) suggest that a focus group size can range between six and ten participants.

The researcher has chosen to use focus groups in conjunction with the in-depth interviews to increase the richness of the data on emergent themes, topics or questions generated during the individual interviews. As indicated in Section 1.11.3., focus groups were used towards the middle and end of the data collection phase of

the research in order to use the emergent properties, categories and themes that have emerged from the initial stages of data analysis. The utilisation of focus groups allowed the researcher to collect data simultaneously from multiple individuals (Krueger & Casey, 2000) and group interviews that capitalise on communication between research participants generated data (Kitzinger, 1995:311). Group dynamics often draw out information that may not have been anticipated or emerged during an individual interview (Cox & Van Gorp, 2018). Using the group dynamics, the focus groups provided the researcher with the opportunity to observe the non-verbal behavioural reactions to the possibilities of an unknown future as the group conversations unfolded. This non-verbal awareness was captured in the researcher's field notes to be added to the richness of the data through memos during data analysis. Focus groups were also chosen for their high face-validity and cost-effectiveness (Marshall & Rossman, 1999; King Gabrielides, 2018), together with their speed for extracting more data from multiple individuals (Davidson & Tolich, 2003).

The purpose of the focus groups was to 'discuss' the emergent properties of the data analysed during the constant comparison of data collected in an attempt to make sense of the themes as well as to extract or develop extant theories through the generative conversation of the groups (Fogel & Osborne, 2011). The researcher used the focus groups to test some of the hypotheses that emerged from the data during the interviews, as argued by Charmaz (2014). By testing the researcher's forming hypotheses, the researcher was able to integrate and test the research sub-questions to prepare for theory development.

2.5.2.1   Focus group bias

Focus groups are not without their disadvantages based on various biases that may exist (Cox & Van Gorp, 2018). The researcher, therefore, took extra care to ensure his awareness of these biases as described by Cox and Van Gorp (2018:71) and summarised in the following points.

i.   *Participant bias:* Drawing on purposive sampling and including a limited number of participants, the researcher was aware that the findings might not be generalisable to broader populations. The researcher, therefore, ensured that the sampling was as diverse as possible and that more focus group interviews were conducted where required, to research generalisability and data saturation. However, data saturation was seen as achievable across all data collection methods and not per specific method.

ii.   *Moderator bias:* There was a risk that the moderator, the researcher, intentionally or inadvertently injects his personal biases and need to direct the conversation into the discussion to the extent that the authenticity of the data was compromised. The researcher, therefore, ensured that the focus group discussions were kept open to flow and be directed by the participants' conversations by consistently applying group facilitation techniques to conduct the focus group sessions. The existence or presence of moderator bias was also checked during data analysis to ensure the data's integrity.

iii.   *Social desirability bias*: The researcher was always aware and on the lookout for participants' tendencies to answer questions in a manner that will be viewed favourably by the other participants. The researcher, therefore, clarified the meaning of individual contributions that were suspected to be social desirability bias. Further, the researcher made specific field notes on non-verbal observation where desirable social biases were suspected and compared the field notes and the participant contribution during the data analysis.

iv.   *Conflict bias*: In contentious conversation, there can be a tendency for participants to try to minimise conflict and reach consensus without critical evaluation of alternative viewpoints, suppressing dissenting viewpoints. Being aware of 'conflict bias' or 'groupthink', the researcher applied group facilitation techniques specifically designed to overcome groupthink. The researcher also adhered to specific focus group protocols developed before the focus group sessions, as described in Section 2.5.2.2.

2.5.2.2   Focus group protocols

Focus group protocols were developed and applied to every focus group conducted. The purpose of the protocols was to ensure consistency and reliability of data across the different focus groups. Although Onwuegbuzie, Dickinson, Leech and Zoran (2009) suggest that the researcher may present material including video, articles and pictures to which the group responds, the focus groups in this study were conducted by merely posing questions and the group responding. The protocols were therefore developed only around the use of questions during the focus group session. The protocols were developed according to the suggestions of Cox and van Gorp (2018:72). The protocols were developed in two specific sets, questioning and ethics. The protocols are listed below:

2.5.2.2.1   Questioning protocols

Determine a set of questions before the focus groups are conducted. The questions are developed to match the structure of the session. A list of the questions is given in Appendix E.

  i.   Questions were developed to enable open-ended questioning and to progress from the general to the specific.

  ii. To assist with the progression, questions were developed in four general categories. These categories are introductory questions, opening questions, key questions, and concluding questions.

  iii. A time plan for asking each category of questions was set for each focus group event.

    o   10 minutes for introductory questions,
    o   30 minutes for opening questions,
    o   60 minutes for key questions and
    o   20 minutes for concluding questions.

2.5.2.2.2   Ethics protocols

Ethics protocols for focus group events were also pre-set to assist the researcher in conducting consistency. The ethics protocols are indicated below:

  i.   Provide the participants with full information regarding the purpose and procedures of the focus group discussion one week before the event.

  ii. Ask participants to read and sign a consent form if they have not given general consent to participate in the study.

  iii. At the start of each focus group event, clarify that each participant's contribution will be shared in the focus group as an open forum.

  iv. Encourage the participants to treat what is shared within the focus group as confidential.

  v.   Ensure the participants that all the information extracted from the focus group event will be treated in confidence and anonymously.

2.5.3 Observations

Participant observation was conducted via learner groups and used to get close to the participant's reality so that the researcher could experience the subjective dimensions of the phenomena (Antwi & Hamza, 2015:221). The focus of the observations was on the participants' lived experiences as they interacted within a group of their peers. The observations were used as an immersion in the lived experience within the field of learning (Valenzuela & Shrivastava, 2002). The observations allowed the researcher to collect 'real-time' data (Guba & Lincoln, 1985), for interpretation during the analysis phase. It allowed the researcher not just the opportunity to collect data but also to experience the data himself, as suggested by Ritchie *et al.* (2013).

Despite covert participant observation being viewed as unfavourable (Dawson, 2009), it allows the researcher to participate in activities without the participants being influenced by the knowledge that they are being observed. Overt observation is less likely to compromise the study's ethical considerations in that the participants are aware of being observed, and the observer is known to them (Chell, 2004; Flick, 2018). Having the observed know that they are being observed increases the participants' participation and comfort levels; however, being observed might have influenced the responses or natural actions of the participants. Therefore, the researcher applied a combination of covert and overt observation methods. During the onset of the learning events where the observation was conducted, the researcher introduced himself as a researcher and that he is conducting research. However, the participants were not informed of the research's detail or that their behaviour will be observed as part of this study. No personal information of any of the participants was recorded or noted.

Field notes were taken after the observation in accordance with a structured review frame, see Appendix F, and marked as observed data (Antwi & Hamza, 2015). The field notes were used to capture the researcher's subjective experiences of the interaction with the learning group. The field notes were transcribed into observation documents and stored electronically together with the structured review forms for data analysis. Sixteen observations were conducted during the period July 2020 and December 2020. The selection of the sample for observation was guided mainly by logistical and time considerations. The sample for the participant observation formed Sample Frame 3, as described in Section 2.4.1.

2.5.4 Field notes, reflection journal and memos

'Field notes' through 'reflective journaling' were kept from the first data collected and continued throughout the data-collection process. The researcher's 'field notes' and reflective journals were seen as data and analysed, together with the researcher's memos during the process of constant comparative analyses. The 'field notes', 'journals' and 'memos' were seen as the backbone of data-collection and analysis (Gray 2014:244) as they provided a 'thinking thread' throughout the data collection and analysis process. 'Field notes', 'reflective journals', and 'memos' were used as a reflexive approach to the research process as widely accepted in qualitative research (Ortlipp, 2008). 'Reflexivity' served as the researcher's conscience by being self-aware (Lambert, Jomeen, & McSherry, 2010) of his values and recognising, examining and understanding how the research circumstance affected the research practice (Parahoo, 2006). The use of reflexivity throughout the research journey captured further insights and challenges during the research process, which assisted in the data analysis process and made data analysis more visible and transparent (Hesse-Biber, 2007). Extracts from the researcher's memos and field notes, are included as Appendix G and Appendix H, respectively.

2.5.5 Literature review

The researcher approached the process of literature review according to the definition provided by Onwuegbuzie, Collins, Leech, Dellinger and Jiao (2010:173) as "an interpretation of a selection of published and unpublished documents available from various sources on a specific topic that optimally involves summarisation, analysis, evaluation, and synthesis of the documents". The purpose of the literature review in this study was to gain insights into other authors' findings and researchers interested in the same research concepts and emergent categories from the data analysis (Fraenkel & Wallen, 2006). Literature reviews were further utilised to gain insight into the current gaps in the body of knowledge related to the research topic.

As indicated in Section 1.11.4, a narrative approach to the literature review led to the two literature review chapters. Also mentioned in Section 1.11.4 is the challenge of when to conduct the literature review. Following the arguments of Bluff (2005); Charmaz (2006); McGhee, Marland, and Atkinson (2007); Urquhart (2007); and Dunne (2011), the researcher opted not to conduct a time-consuming extensive review at the start of the study. Within the field of grounded theory specifically, the debate continues over the timing of conducting a review of the literature as it is

recognised within the classical grounded theory that preconceived ideas can inhibit the process of discovery (Bluff, 2005). The opposing argument of the debate comes from the constructionist grounded theory in arguing that literature reviews during the research are vital tools for developing theory and paradigms, especially for novice researchers (Fram, 2013). The continuing debate also provided the researcher with the challenge of conducting a literature review. Dunne (2011) refers to Cutcliffe (2000) and McGhee *et al.* (2007), who argue that the crux of the matter is not whether a review of literature should be conducted but instead when it should be conducted and how extensive it should be.

Considering the debates mentioned above, the researcher recognised, as indicated by Dunne's (2011:115) reference to Locke (2001), and Dick (2007) that the most relevant literature to a study may not be known at the outset. Therefore, the researcher opted not to conduct a time-consuming extensive review at the start of the study. Although an initial review was conducted to assist in the formulation of the research questions and to develop a current view of the aim of the study, the intensive review of literature will be delayed at this point to avoid importing pre-conceived ideas and imposing them on the study, as suggested by Charmaz (2006:165) and Dunne (2011). The researcher used the categories and themes that emerged during data analysis to guide a focused literature review after data analysis.

2.6   Data Analysis

Data analysis is the process of understanding the meaning of the data collected (Simon, 2006). Data analysis involves the researcher immersing himself in the data, holistically examining it, organising it, synthesising it, allowing themes and patterns to emerge, interpreting and discerning what needs to be shared (Bogdan & Biklen, 1982). Therefore, the data collected was examined to identify more general themes for interpreting and gaining meaning from the data with analysis starting as soon as the first piece of data was gathered (Patton, 2002; Creswell, 2012). In essence, the process of data analysis was about understanding and making sense of data to formulate answers to the research questions (Creswell, 2012). Therein, the analysis became emic and focused "on the interrelated aspects of the setting, group, or person under investigation" where the "social context of events, thoughts, and actions becomes essential for interpretation" (Schutt, 2011:322).

Contrary to most qualitative studies, a purely inductive approach to analysing the data, as suggested by Creswell (2003; 2012), was not followed. However, still true to

the interpretivist paradigm, data analysis started with an inductive inference and moved to a predominant abductive process as the study progressed (Bryant & Charmaz, 2007). Charmaz (2006:188) explains the process as, "moving from a particular data set to a more general view of the data or moving up from the detailed descriptive to the more conceptual level". The move to an abductive approach to theory development started quite early on in the study. Charmaz (2006:188) defines 'abductive inference' as "considering all possible theoretical explanations for the data, forming hypotheses for each possible explanation, checking them empirically by examining data, and pursuing the most plausible explanation". 'Abductive inference' combines both the rational and the imaginative by defining the logical form of inferencing and acknowledging the role that insights and institutional aspects of the research have on the data (Bryant & Charmaz, 2007). By applying abductive reasoning during category development, the researcher took account of the category's theoretical underpinnings and its implications as much as its efficacy with regards to the data, creating an intersubjectively constructed and shared truth (Bryant & Charmaz, 2007).

2.6.1 Analysis process

The data analysis process was formulated and executed within a social-constructivism and interpretivism paradigm, Reeves and Hedberg (2003:32) stress the need to put data analysis in context. From an interpretivist paradigm, the data were analysed to understand the world from the participants' subjective experiences. During the interpretive analysis, the analysis process did not predefine dependent and independent variables but focused on human sense-making and the full complexities of emerging situations (Kaplan & Maxwell, 1994). The interpretive process amid at explaining the subjective reasons and meanings that are hidden within social action.

An interpretive analysis was conducted first. During the first round of analysis, hermeneutic phenomenology was applied as a mode of analysis that is well suited to achieve interpretivism, understanding the lived experience of the phenomena (Biggerstaff, 2012). In applying hermeneutic phenomenology, the researcher's engagement with the participants 'text', the interpretive analysis assumed an epistemological stance whereby it became possible to access the meaning individuals gave to their feelings and their cognitive inner world (Smith, 2007). Through the interpretive analysis, the distinction between the participants' views and the views of the researcher's interpretations were explicated (Biggerstaff, 2012:186), allowing for

a perspective on the lifeworld of the phenomena. The lifeworld perspective provided a springboard for the researcher to execute Round 2 of analysis from a constructionist paradigm.

The constructionist analysis was conducted through grounded theory as a second-round analysis process. The second-round analysis coincided with the second round of data collection, adhering to a constant comparative method. Grounded theory was applied to deepen the exploratory investigation (Strauss & Corbin, 1990a; Charmaz, 1995; Willig, 2008), spring-boarding from the participants' views and their lived experiences of the phenomena. Willig (2008:44) suggested that grounded theory as a constructionist analysis shares some features with phenomenology. However, it generates an over-arching and encompassing emergent theory.

The difference between constructionist analysis through grounded theory and interpretive analysis through hermeneutic phenomenology may be summarised by suggesting that the interpretive analysis reflects the diversity of experiences, rather than the more condensed theoretical viewpoint reflected in the constructionist analysis (Biggerstaff, 2012:193). The integration of interpretive and constructionist analysis was achieved by applying content analysis at the data collection and analysis stages. Although conducted through three distinct processes, data analysis was still conducted through constant comparison of similarities and differences in the data, searching for both supportive and disconfirming evidence (Corbin & Strauss, 1990a; Patton, 2002). Through content analysis, the researcher was able to recognise patterns, assisting to discover emergent categories and themes.

2.6.2   Hermeneutic phenomenology analysis

Round 1 of data analysis, which commenced as soon as the data collection process started through a constant comparative method, focused on an interpretive analysis. The interpretive analysis concentrated on understanding the research participants' views and was intended to explicate the distinction between the participants' views and the researcher's interpretation (Biggerstaff, 2012:186). Making the distinction explicit was essential to firstly, ensure that the development of substantive theory is focused on real-world problems; secondly, to highlight any pre-conceived ideas and personal biases of the researcher through bracketing (Lopez & Willis, 2004) and thirdly, to direct Round 2 of data collection.

Interviews and focus group discussions were recorded and transcribed verbatim to create text to which Gadamer's (1989) hermeneutic phenomenology was applied to

understand the text (Smith, 2007). The researcher acknowledges that engaging with the participant's text had an interpretive element through the careful explicit interpretation of the meaning's individuals gave to their feelings and their cognitive inner world through their text, as opined by Oakley (1993), Giorgi (1995), and Smith (2007).

Hermeneutic phenomenology does not follow prescribed rules of analysis as positivist sciences but instead applies principles that the researcher kept in mind (Creswell, 2012; Moustakas, 1994). A foundational principle to all interpretive analysis that is hermeneutic that attempts to understand human beings in a social context is the constant movement from the 'whole to the parts' and 'back to the whole' (Gadamer, 1976:117). This principle is captured within what is referred to as the Hermeneutic circle (Heidegger, 1927) or the Hermeneutic spiral (Gadamer, 1976) as depicted in Figure 2.3 on the next page.
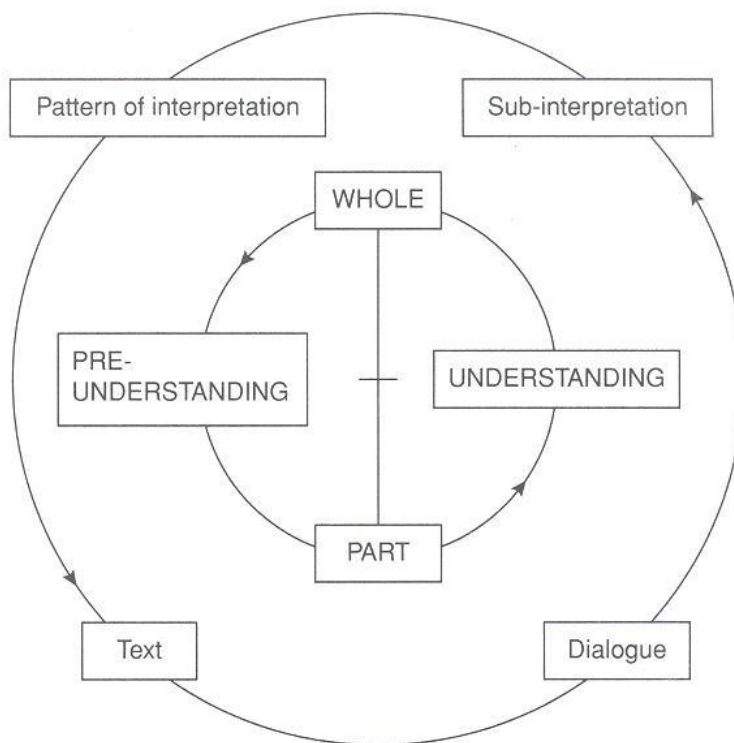
Figure 2.3 The Hermeneutic Circle. (Source: Alvesson & Sköldberg, 2000:66)

Figure 2.3 above is a version of the hermeneutic circle as depicted by Alvesson and Sköldberg (2000:66) and cited by Laverty (2003:9), indicating the movement from the parts of the experience to the whole of experience and back to the parts in a repetitive

circle, deepening the engagement with, and the understanding of, the participant's text. Cohen, Kahn and Steeves (2000) described it as a dialectical process where the movement between the parts and the whole occurs with texts, across texts and between the stages of the research process so that the process of understanding becomes iterative.

Following the hermeneutic circle, the researcher immersed himself in the data, the transcribed interviews, focus groups, video-recordings of interviews and focus groups, organised field notes indicating non-verbal behaviours such as mis-hearings, apparent mistakes and speech dynamics (Biggerstaff & Thompson, 2008), as the text of the participants. Careful reading and re-reading of the text was required (Glaser, 1992), where any thoughts, observations or reflections were noted on the transcript or recorded as a memo for further analysis when appropriate. During the reading and re-reading emergent sub-categories were identified through an initial coding process as described in Section 2.7. The researcher followed King Gabrielides (2018) and Lin (2013) guidance in combining hermeneutic phenomenology and grounded theory in an open-coding process. At this stage, the naming of sub-categories was tentative as the themes needed to be used and combined with the Round 2 data collection and analysis.

2.6.3 Grounded theory analysis

Round 2 of data analysis, together with data collection, was deployed to deepen the richness of the data and develop a substantive learning theory or learning philosophy to develop an adaptive-learning architecture. For the second-round data analysis, constructionist grounded theory was applied as the analysis method. The intent during the grounded theory analysis differed from the first-round data analysis using hermeneutic phenomenology. Hermeneutic phenomenology focused on interpreting and sharing participants' lived experiences, while grounded theory was used to develop a 'substantive and formal theory' and rich data interpretation. Grounded theory considers all the variations in the data and conditions associated with these variations (Hood, 2007:154). For substantive theory development, grounded theory focused on emerging concepts and categories being developed out of the raw data (Strauss & Corbin, 1990b).

Grounded theory offered the researcher a suitable qualitative method for in-depth exploratory investigation (Charmaz, 1995; Strauss & Corbin, 1990b; Willig, 2008) as argued by Biggerstaff (2012). While grounded theory shares some features with

hermeneutic phenomenology, it was assumed that grounded theory would generate an over-arching and encompassing theory by investigating social processes from the bottom up (Willig, 2008). During the second-round analysis and within the spirit of grounded theory, the researcher proceeded with data collection and refining the data analysis process until data saturation was achieved (Charmaz, 2006). Given the guidance gained from Round 1 analysis, saturation would be reached early on in Round 2. However, data saturation only appeared later in the second round, with only five planned interviews not concluded.

The centre of the grounded theory analytical process is coding, which entails developing categories by filling out, checking, and saturating emergent categories' properties (Charmaz, 2012). Grounded theory coding is the process of defining what the data are about. It is Step 1 in the analytic process and starts with data collection, which takes place simultaneously and throughout the data-analysis process (Charmaz, 2006). Coding is the process of naming segments of data with a label that simultaneously categorises, summarises and accounts for each piece of the data. Coding defines what is happening in the data and provides the opportunity to discover what it means (Charmaz, 2006). Coding within a grounded theory emphasises the emergence of ideas, concepts and further questions that may arise from the codes, rather than existing knowledge emanating from earlier theories being applied to the data. Coding is the link between collecting data and developing an emergent theory to explain the data (Charmaz, 2014).

Within this study, the researcher consistently searched for emergent concepts across the data collected in accordance with the aim and objectives of the study as per Section 1.6. The researcher consistently diverged and converged through the contributions of the participants and known theories, integrating emergent properties to develop or explain the substantive theory as intended through the research question and sub-questions. At the initial stages of the research, the researcher, as suggested by Corbin (2016), only knew intuitively that some things are essential and should be noted. The researcher, however, kept the analysis process relaxed, flexible and driven by emergent insights. As the study progressed and through constant comparison more clarity developed on what is essential, which informed the coding and the categories.

2.7 Coding

The process of data analysis started with the categorisation and organisation of data in search of patterns, critical themes and meanings within the data. A process referred to as 'open coding' (Strauss & Corbin, 1990b), (Charmaz, 2008b) was employed whereby the researcher identified and tentatively named the conceptual categories into which the phenomena observed would be grouped. The goal was to create descriptive, multi-dimensional categories that provided a preliminary framework. This initial coding stage was followed by deepening the analysis through axial coding and selective coding, which, as a collective, is referred to as 'focus coding' (Charmaz, 2008b).

2.7.1 Open Coding

'Open coding' is defined by Strauss and Corbin (1998:101) as the analytic process through which concepts were identified and their properties and dimensions discovered in the data. Burden and Roodt (2007) refers to 'open coding' as the first basic analytical step, which pertains to the naming and categorising of phenomena through close examination of the data. During 'open coding', the data were broken down and compared closely for similarities and differences, after which questions were asked about the embedded properties in the data (Finney & Corbett, 2007). 'Open coding' comprised two distinct coding processes, 'initial coding', and 'focused coding'.

2.7.1.1 Initial coding

'Initial coding' was conducted during the Round 1 interviews which were analysed from a hermeneutic phenomenology perspective. Initial coding focused on comparing incidents as they appeared in the interviews. For initial coding, *in vivo* coding was primarily used as suggested by Charmaz (2008b) as it provides an excellent structure for immersion into intensive interviews. 'Initial coding' allowed the researcher to go deeper into the phenomenon and to explicate its meaning. It further provided the researcher with more direction to consider links between emergent codes and provided direction for theoretical sampling.

2.7.1.2 Focused Coding

Once the Round 2 interviews started, the coding process became more focused. Applying a grounded theory analysis process, 'focused coding' became stronger in interpretation through the stories of the data. For focused coding, the researcher

applied line-by-line coding as explained by Charmaz (2014). During focused coding, the researcher scrutinised for frequent and significant codes, evaluating which ones best explain or interpret the empirical phenomenon (Charmaz, 2008b) to formulate or raise the code to a 'category'. In deciding which codes were raised to 'theoretical categories', the researcher looked at those codes that carried the weight of the analysis (Charmaz, 2006).

2.7.1.3   Steps in open coding

The researcher conducted 'open coding' in a three-step approach to assist to understand the detail of the rich data gathered during the Round 1 and Round 2 interviews. Following the three-step process helped integrate the open coding process, ensuring that data integrity remained front-of-mind for the researcher. The iterative nature of constant comparison, theoretical sampling, and duration of the data-gathering process required special attention to keep the research focused on the study's aim, which was achieved through the three-step process. The three-step process was applied to both initial coding and focused coding.

During *Step 1* of coding, the researcher focused on analysing and understanding the interviews and conversations between the researcher and the research participants. Within Step 1 the researcher remained open to exploring theoretical possibilities within the data. Throughout Step 1 the focus was on discovering what the research participants viewed as problematic so that the research could zoom in and view the perceived problem areas analytically.

Step 2 in 'open coding' was a convergent process. Step 2 was applied to build a dense texture of relationships of the categories by sorting, synthesising and organising large amounts of data and then reassembling them according to the emerging analysis (Charmaz, 2008b). During Step 2 the researcher followed the practice of Strauss and Corbin (1998) to apply scientific terms to highlight the links between categories to answer the 'why…?', 'where…?', 'how come…?', 'when…?', 'by whom…?', 'how…?' and 'what happens…?' questions. The purpose of Step 2 was to create integrated and congruent clusters of data.

Step 3 in the 'open coding' process was to crystallise the open codes as the final stage of the intensive interview coding. The focus shifted to the first stage of conceptualising how the substantive codes relate to each other and how the emergence of relationships started to integrate (Glaser, 1978). Step 3 helped build the core analytic narrative of the data, which helped the researcher move in a theoretical direction. Step 3 also included the transitioning to axial coding.

2.7.2 Axial coding

'Axial coding' occurs around the axis of a category, linking the category to the level of properties and dimensions in relating their categories to their sub-categories or codes (Burden & Roodt, 2007). De Vos, Strydom, Fouché, and Delport, (2005:348) define 'axial coding' as a set of procedures whereby data are put back together in new ways after open coding, through a process of synthesis. This was done through reflection on the relationship between the conditions, the context, and consequences (Burden & Roodt, 2007). The researcher followed a coding paradigm as argued by Corbin and Strauss (2008b:89) and explained by Amar and Haag (2017:429) through Figure 2.4 below.
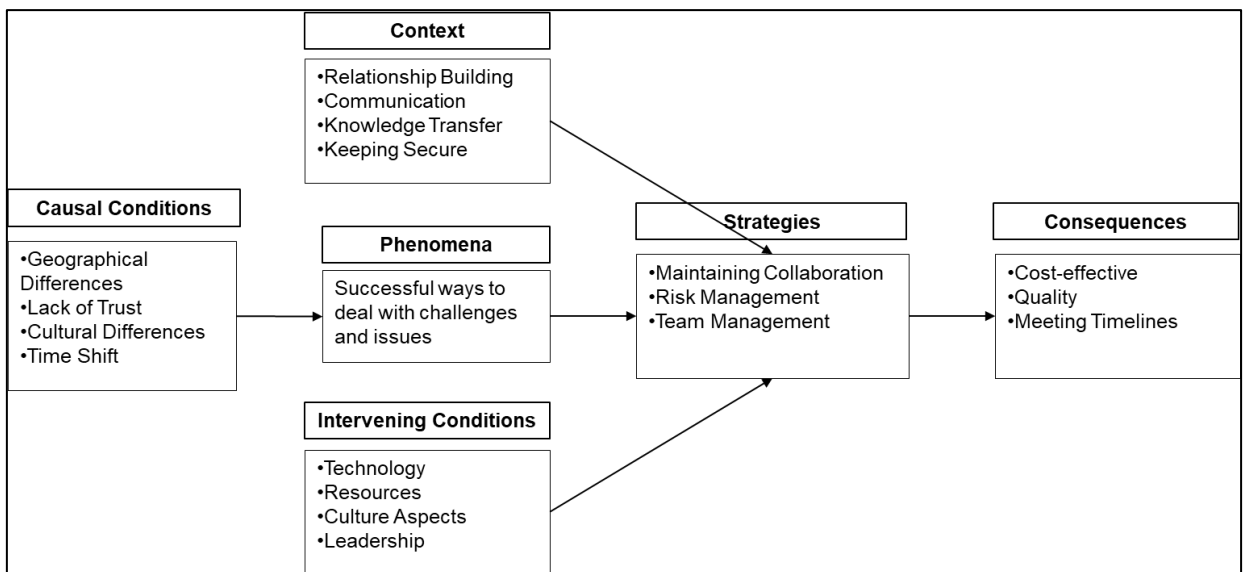
Figure 2.4 Axial Coding Paradigm (Source: Amar & Haag, 2017)

As illustrated in Figure 2.4 above, axial coding allowed the researcher to synthesise the codes generated during open coding around central phenomena. The coding paradigm provided by Strauss and Corbin (1990b) enabled the researcher to visualise the data through the codes (Gibbs, 2010a). The synthesis of the codes was constructed as per Figure 2.4, analysing each of the elements of the coding paradigm as described by Amar and Haag (2017:430):

i. **Causal Conditions** – These are the conditions that impact the central phenomenon, events, incidence and happenings.

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ii. **Phenomenon** – The main ideas or thoughts, occasions, occurring incidence about which a group of activities or teamwork is focused on managing or to which the group of movements is linked.

iii. **Context** – Explains the settings in which the events occurred.

iv. **Intervening Conditions** – These are conditions that figure out, assist or force the strategies that occur with a context.

v. **Strategies** – Actions undertaken to accomplish, manage or respond to a phenomenon under a group of observed conditions.

vi. **Consequences** – The outcomes as a result of actions or interactions or outcomes as a result of applying strategies.

2.7.3 Selective coding

'Selective coding' occurs at a higher conceptual and abstract level of analysis (Burden & Roodt, 2007) than open coding and axial coding. Subsequent data collection is delimited to the emerging conceptual framework (Holton, 2007). It entails selecting the core categories and systematically relating them to other categories to integrate and form the base for a substantive theory (De Vos *et al.*, 2005).

As the final stage in the data-analysis process, selective coding is about choosing and integrating core categories as emergent themes by relating them to other categories and core categories (Jones & Alony, 2011:100). The researcher was careful not to jump to selective coding before the core theoretical categories were described in accordance with Holton (2007:276). The researcher intended to correlate the emergent themes regarding the aim and sub-aims of the study.

2.8   Content analysis

Holsti (1969) classified 'content analysis' as any technique for drawing inference by objectively and systematically identifying characteristics that had been previously specified. Krippendorff (1969:103) defines content analysis as using a replicable and valid method for making specific inference from text to other states or properties of its source. Content analysis also referred to as 'thematic analysis' or 'textual analysis' (Biggerstaff, 2012), was particularly useful in rationalising the data analysis from

Round 1 and Round 2 via the focus groups and participant observations. The researcher followed Viljoen-Terblanche's (2008) approach of integrating content analysis as an analysis technique within the phenomenology and grounded theory analysis and a method in its own right. Content analysis was not used as a quantitative method but rather as a 'catch-all' term (Boyle, 1994) to refer to the analysis process within qualitative research that helped develop themes from the subcategories and categories. Qualitative content analysis was applied by the researcher to systematically and quantitively describe the manifestation of the content (Cooper & Schindler, 2003:460). The manifestation of the content refers to the analysis for the appearance of a particular word or content within the textual material (Potter & Levine-Donnerstein, 1999).

'Content analysis' and, specifically, 'summative content analysis' were applied towards the end of the data analysis phase to quantify the occurrences of concepts selected for examination and quantify the emergence of sub-categories and categories (Birmingham & Wilkinson, 2003). The content analysis process started with identifying and quantifying certain words and phrases within the 'text' of transcripts, subcategories or categories as suggested by Hsieh and Shannon (2005). The researcher ensured that the full process of summative content analysis was applied by including 'latent content analysis', which refers to the process of interpretations of the content and discovering the underlying meaning of the content (Babbie, 1992). Content analysis was applied explicitly across all the data gathered to synthesise and integrate all the data thematic into an over-arching substantive theory and frame a new learning architecture.

2.9   Conclusion

This chapter provided a view of the research preparation and the decision made at the initial phase of the study, and decisions within the research process. The first indication is where the study's interest originated and how the study evolved to be a qualitative study, following a primarily blended methodology of hermeneutic phenomenology and constructionist grounded theory. It reflected what hermeneutic phenomenology and constructionist grounded theory are and justified why a blended methodology was suited for this research project.

This chapter also provided an overview of the research design applied during the study in describing the unique sampling process of theoretical sampling that was followed. It described the gathering of data from the inception of the research to the

latter stages, indicating the interaction between data gathering, theoretical sampling and data analysis. It gives details of data gathering and data analysis, including the process of coding and the different coding systems that were applied during different phases of the research process.

Chapter 3 will show how the data were gathered from the various sampling groups and the various data collection methods. The lived experiences of the research participants are shared and synthesised.

CHAPTER 3:
Data Gathering;
Participants and their lifeworld

3.1   Introduction

In this chapter the researcher shares the story of the data gathered from the perspective of the participants' lifeworld. This chapter shares the data through the stories that the data are telling (Creswell, 2013). The stories are constructed from the data gathered during the in-depth interviews described in Section 2.5.1, the focus groups as per Section 2.5.2, and the participant observations as described in Section 2.5.3.

This chapter reflects the data-gathering process. However, within the context of Section 2.3.4.6 the research design and core process, a constant comparative method of data gathering, and data analysis were applied for the research. Therefore, the data presented in this chapter is the participants' lived experiences as interpreted by the researcher during the constant comparison of data gathering and data analysing. The stories of the lifeworld constructed during this chapter are, therefore, the analytical stories the data told thought the participants' voices as described by Thornberg, Perhanus and Charmaz (2015:406).

Data-gathering and data-analysis as a constant comparative process occurred from October 2019 to November 2020. In the midst of the data-gathering process, the COVID-19 world pandemic was announced. Nations worldwide went into lockdown. During the planning and preparation for the research, the researcher referred to the disruptive nature of the 4IR described in Section 1.2.3. However, the researcher did not plan for the most disruptive event in modern human history, COVID-19. The impact of the COVID-19 pandemic and the subsequent lockdown restrictions that the South African government imposed meant that travel and one-to-one contact sessions were suspended. Owning to these restrictions, the researcher increased the number of video conferencing interviews so as not to compromise the intended number of in-depth interviews as per the research plan described in Section 2.5.1. Fortunately, the national COVID-19 lockdown restrictions were eased, and it was possible to conduct live learning events towards the end of 2020. These learning events were utilised as data gathering opportunities for participant observations.

This chapter is presented in chronological order as per the data-gathering process. The first part of Chapter 3 forms a lifeworld perspective of the participants from the

data gathered during the in-depth interviews. The second part of Chapter 3 is the more focused lived experience of the participants as expressed by them during the focus group interviews. The third part of Chapter 3 shares the data from the participant observations during the live learning events.

3.2 Relationship between Participants and Researcher

The researcher viewed the participants and himself as embedded in the research rather than as distant observers of the empirical phenomena (Charmaz, 2008b). Therefore, the selected participants and the researcher himself formed an integral relationship during the data gathering and data analysis processes. The relationship formed between the participants and the researcher required a certain level of trust established in three distinct points. Firstly, the participants were not entirely unknown to the researcher as they were selected from the research population being the researcher's sponsor and its client base, as described in Section 2.4.1. Secondly, the participants were provided with the choice to participate and were provided with the option to withdraw from the research at any stage. Thirdly, participants were assured of confidentiality. The last two points were confirmed in the signed consent that each participant completed.

As indicated in Section 2.4.3, identities of participants were kept anonymous, with their identities known only to the researcher. In respecting the anonymity of the participants, the participants are presented with a unique identifier or code. This identifier is unique to each participant and indicates the sample grouping as referred to in Sections 2.4.1 and 2.4.2. Two different types of participants were selected for the in-depth interviews and the focus groups. The participant types were the learning and development professionals indicated in the participant's code with an 'L', and organisational leaders indicated with an 'O'. Fifteen participants were selected, of which eight are from the O-type and seven are from the L-type. Each of the participants is introduced in the following Section.

3.2.1 The participants

Each participant will now be introduced to the reader. A short background for each participant is provided to create context of the relevance of the participant to the study and the insights each participant brought to the study through the data. An indication

is also given when the participant was interviewed as a place marker within the research journey.

3.2.1.1   Participant MTCO

MTCO is a talent management consultant and learning and development practitioner with 25 years of experience within the field of people development. MTCO serves on the organisation's leadership team. MTCO's current responsibilities are the development of human talent, including determining and executing organisational talent strategies. MTCO has vast experience in various fields of organisational learning within the South African talent market. MTCO participated in Interview 1 on 09 October 2019 and Interview 2 on 01 April 2020. MTCO also participated in the focus group discussions.

3.2.1.2   Participant MWCO

MWCO is a business development manager within the field of learning solutions and has five years of experience in learning and development. MWCO serves on the organisation's leadership team. MWCO is responsible for developing and managing sales efforts of learning solutions for the organisation with a vast experience of the corporate environment in Sub-Saharan Africa. MWCO participated in Interview 1 on 20 January 2020 and Interview 2 on 30 January 2020. MWCO also participated in the focus group discussions.

3.2.1.3   Participant ACCO

ACCO is a director of client solutions within the field of learning products with 20 years of experience within the people development environment. ACCO serves on the organisation's executive team. ACCO is responsible for developing and implementing market strategies and learning products for the organisation. ACCO has extensive experience of the corporate learning environment in Sub-Saharan Africa. ACCO participated in Interview 1 on 02 February 2020 and Interview 2 on 31 March 2020.

3.2.1.4   Participant IBCO

IBCO is a director of student enablement with 18 years of experience within the people development environment. IBCO serves on the organisation's executive team. IBCO is responsible for developing and implementing operational strategies, student support and student assessment strategies for the organisation within the academic field. IBCO has extensive experience of the corporate learning environment in South Africa as well as the South African academic environment. IBCO participated in Interview 1 on 31 January 2020 and Interview 2 on 30 March 2020.

3.2.1.5   Participant RLSO

RLSO is the Head of Learning: South & Southern Africa with 16 years of experience within the field of learning and development. RLSO serves on the organisation's leadership team. RLSO's current responsibilities are the co-ordination of learning efforts through effective learning strategies across the Southern African region, serving 16 countries throughout Africa, including South Africa. RLSO has extensive experience in various fields of organisational learning as well as learning and development management including learning delivery, facilitation, curriculum development, instructional design and learning measurement. RLSO participated in Interview 1 on 17 February 2020 and Interview 2 on 24 March 2020.

3.2.1.6   Participant MESO

MESO is the Learning Partner: South Africa and Africa Regions with 15 years of experience within the field of learning and development. MESO's current responsibilities are the determination of learning requirements through skills gaps identification, the sourcing, or developing of suitable learning solutions, and the implementation of such solutions within the business unit. MESO serves a business unit that operates within the African region, serving 18 countries throughout Southern, East and West Africa, excluding South Africa. MESO has extensive experience in various fields of organisational learning as well as learning and development management including learning delivery, facilitation, curriculum development and learning measurement. MESO participated in Interview 1 on 14 November 2019 and Interview 2 on 20 February 2020. MESO also participated in the focus group discussions.

3.2.1.7   Participant MHMO

MHMO is the Head of Organisational Learning with 16 years of experience within the field of learning and development. MHMO serves on the organisation's leadership team. MHMO is responsible for crafting the learning strategies for the organisation, overseeing all learning efforts and the procurement of learning solutions for the organisation's learning needs. MHMO has extensive experience in various fields of organisational learning as well as learning and development management including learning delivery, facilitation, curriculum development, instructional design and learning measurement. MHMO participated in Interview 1 on 03 February 2020 and Interview 2 on 30 March 2020. MHMO also participated in the focus group discussions.

3.2.1.8　Participant YOCO

YOCO is a business development manager with seven years of experience in the field of learning and development and 13 years' experience in the field of financial management. YOCO focused on providing solutioning to learning needs within financial services organisations in Sub-Saharan Africa including South Africa. YOCO is responsible for crafting custom learning solutions for clients, utilising personal experiences within the financial industry, the understanding of learning practices and applied learning methodologies. YOCO only participated during the focus group phase of data gathering.

3.2.1.9　Participant MMFL

MMFL is a Learning Designer with 11 years of experience within the field of learning and development. MMFL is responsible for identifying learning needs within the business unit, sourcing, or designing the learning solution, and delivering the learning solution to the identified learning audience. MMFL has extensive experience in the field of organisational learning design with a high focus on digital learning and high-impact learning. MMFL participated in Interview 1 on 22 October 2019 and Interview 2 on 18 February 2020. MMFL also participated in the focus group discussions.

3.2.1.10　Participant EBFL

EBFL is a freelance Learning Facilitator with 28 years of experience within the field of education and corporate learning. At the time of the Interviews EBFL provided a facilitation service to various corporate organisations and educational institutions within South Africa. EBFL has extensive experience in the field of education as a lecturer for undergraduate students and corporate qualification students. EBFL participated in Interview 1 on 25 October 2019 and Interview 2 on 21 February 2020.

3.2.1.11　Participant CMFL

CMFL is a freelance Coach, Instructional Designer and Learning Facilitator with 12 years of experience within the field of personal coaching using the ontology coaching methodology, and High-Impact Learning Methodology. At the time of the interviews CMFL provided a learning design, facilitation and coaching service to various corporate organisations and individuals across many African countries. CMFL has vast experience in the field of High Impact Learning methodology and was schooled by Robert Brinkerhoff. CMFL participated in Interview 1 on 28 October 2019 and Interview 2 on 21 February 2020.

3.2.1.12   Participant YFCL

YFCL is a Faculty Manager with six years of experience within the field of learning and development. YFCL is responsible for crafting the faculty development plan, managing the development of the faculty and ensuring the quality of faculty delivery within the classrooms across a range of clients within various Africa countries. YFCL has experience in various fields of corporate learning as well as learning and development management including learning delivery, facilitation, curriculum development, and learning measurement. YFCL participated in Interview 1 on 10 October 2019 and Interview 2 on 24 January 2020. YFCL also participated in the focus group discussions.

3.2.1.13   Participant JBFL

JBFL is a freelance Coach and Learning Facilitator with 15 years of experience within the field of personal coaching, learning facilitation and organisational development facilitation. At the time of the interviews JBFL provided a learning design, change management, facilitation and coaching service to various corporate organisations and individuals across various African countries. JBFL has vast experience in conversational learning, team establishment processes, organisational learning, and behaviour change journeys. JBFL participated in Interview 1 on 27 March 2020 and Interview 2 on 23 June 2020.

3.2.1.14   Participant RHAL

RHAL is a business development manager with 13 years of experience in the field of learning and development. RHAL is a corporate learning facilitator. RHAL is responsible for facilitating of learning solutions and delivering teaching products through physical and virtual learning programmes. RHL was only interviewed in Round 1 on 29 June 2020.

3.2.1.15   Participant MJFL

MJFL is a Learning Development Architect with 23 years of experience in the field of learning and development. MJFL is responsible for the design and development of learning solutions within the academic field of corporate learning, responsible for designing learning curricula, learning material, learning experiences within a traditional classroom and digital learning experiences within a virtual environment. MJFL is also responsible for designing of academic assessment instruments. MJFL only participated during the focus group phase of data gathering.

3.3 Stories of the lifeworld gathered during interviews

During the following Sections, the researcher will share the stories of the participants lived experiences within a hermeneutic phenomenological perspective, as described in Section 2.3.1. The lived experiences were extracted from the interview transcripts as the first analysis step, and as the initial coding was conducted. The stories in the participants' words were used as part of the analysis process to better understand the lifeworld of the participants through their lived experiences within the current world in which they find themselves. Analysing the participants' lived experiences further assisted the researcher during axial coding of the data through constructivist grounded theory, described in Section 2.3.2, which provided empirical insights into the data.

As described in Section 2.3.3 and specifically Figure 2.2, the stories from the interviews are presented, which is part of the data gathering that focused on the participants' lived experiences, as illuminations of the phenomena. The illustration of the phenomena through the participants' lived experiences is organised and presented according to the research sub-questions as posed in Section 1.6.4. The stories of the participants' lived experiences provide a unique view of their current world, a disruptive 4IR/5IR world before the COVID-19 pandemic. The stories further provided a view of the future, a possible post-COVID-19 'new normal' as a counter to the 'current normal'.

It is important to note that the data gathering processes started two months before the official announcement of the new coronavirus strain COVID-19 in December 2019. At that stage of data gathering, the researcher was unaware of the global impact of the virus, and that the events that would unfold during data gathering will be the most significant disruption of modern time. Therefore, the extraction of the lived experiences as part of the disruption and no historical reference, point to similar phenomena.

3.3.1 Adaptability – human and organisation

With 4IR and 5IR conversations focused on disruption that leads to improvement and optimisation of business and client services processes, a pitfall is opening that adaptation becomes more profit driven. The focus of the disruption and thereby the adaptation becomes the improvement of technology, processes and artificial intelligence only to the financial benefit of the business. The participants' responses to this conversation were – *"4IR view is trending towards the way business engages*

with customers…", "The budget is influencing the delivery of learning - how much can be done, not what needs to be done…"; "It seems to be a financial, profit economy approach - demand, supply - buy. Learning is not a strategic driver in the organisation".

From the 4IR and 5IR conversation it appears that there is little focus on human development, and that learning and development efforts are desperately trying to align to the demands of a disrupted business efficiency mindset – *"The budget process drives the silo behaviour – there is no focus on human potential development…"; "The budget is influencing the delivery of learning - how much can be done, not what needs to be done…"; "There are signs of an open system, but it is closed down by the availability of financial resources".*

Adaptation should be more focused on the ability to continually position the human better, becoming better at anticipating the future and anticipating required human adaptability potential to become fit-for-purpose within a new future. According to the participants – *"Adaptation is becoming fit for purpose…"; "The ability to do things differently than before…"; "Adaptation is the ability to continually position yourself better…"; "Becoming better at anticipating what might happen may help with adaptation".*

Organisations and humans will become irrelevant if they do not adapt to a new world of social requirements including work. Staying relevant to the changing environment – work, business, social and ecological, is most important for the survival of the humanity system. Participants experienced the sense of adapting to stay relevant as – *"I will become irrelevant if I cannot adapt…"; "Organisations that cannot adapt will become irrelevant…"; "You are dead if you don't adapt…"; "It's staying relevant within changing environment".*

However, despite the realisation of relevance to a new world, human potential development is still seen as a process to be managed rather than the development of new levels of intelligence. Large parts of organisations are still traditionally orientated with only pockets of innovation and agile approaches appearing to become commonplace. In a sense, traditionalism persists with the focus of learning practices maintaining a machine-like replication of old and sometimes irrelevant knowledge. The participants views were – *"The larger part of the organisation is still focused on a traditional work ethic…"; "Still many traditional learning elements…"; "The current view of this organisation is that there are no new skills required…" The focus is on skills deficiency rather than on new skills requirements - only do what needs to be*

done now…", "The current approach to learning is traditional…"; "Most of the organisation is still too accustomed to the traditional mandatory training".

Adapting to stay relevant coincided with the notion that humans as well as organisations adapt through an emotional connection with the change. Adaptation due to rapid change requires the human to detach from the known world that is perceived as safe. The human is emotionally connected to its environment, making the change in the environment and the adaptation to the new environment personal. The change is therefore often experienced as difficult, painful and filled with anxiety. Participants expressed this experience as – *"Although the feeling is discomfort, it is acceptable to be in a state of discomfort…"; "The emotion is anxiousness - the mindset is excitement…"; "Boxed-in experience is frustrating…"; "4IR is creating anxiousness because the future will look very different from the present" "Change is difficult…"; "Adaptation is about the emotional connection to the change…"; "To adapt you must grow through the change…"; "Change or adaptation is painful…"; "Detachment from specific concepts rather than getting attached to the mistake…"; "Emotionally hard to adapt, to let go of our beliefs…"; "There is a focus to stay relevant, which is causing the anxiety".*

Organisations are experiencing a high requirement for adaptation, with a corresponding need for faster skills development. From the participant view – *"The pace of adaptation required is high…"; "There is a demand for a higher speed of adaptation…"; "There is a corresponding need for faster skills development…";"The pace of learning is driven by speediness in business results…"; "The learning pace is too slow for the required rate of change and disruption…"; "There is no awareness, but the move is not fast enough…"* Therefore*,* organisational learning should be about the visualisation of the required adaptation, not the current competencies. The quality of learning towards adaptation should be measured through the level, speed, and impact of adaptation.

Organisational inefficiency, ambiguities and traditional learning systems seem to be the cause that adaptation efforts are not pro-active and do not necessarily link to the learning system, slowing adaptation. The participants felt that – *"There is a lot of ambiguity that slows the adaptation down…"; "Our organisations' efforts to adapt are not pro-active enough…"; "Organisational ineffectiveness and ambiguity creates some confusion…"; "Organisational change is happening slowly".*

3.3.2   Adaptive-Intelligence

[Adaptiveness is linked to the level of agility.] Adaptive-Intelligence is seen as the ability to be agile and flexible. For organisations to respond with more agility, they must be able to innovate more and faster. Innovation is the reaction to change and the pro-action to adaptation. For the participants – *"The organisation, my role does not allow for fast-paced innovation…"; "I am frustrated with the slow pace of innovation…"; "Slow innovation is limiting, creating a "boxed-in" experience…".* Innovation is the reaction to change and the pro-action to adaptation.

Adaptive learning requires a quick reaction to change. A quick reaction with innovative solutions to a fast-changing context seems the be the response of Adaptive-Intelligence. People respond more innovatively as a reactive impulse rather than a pro-active adaptation strategy. Slow innovation through a competency set is limiting, creating a boxed-in experience. Participants indicated that – *"Innovation is still slow…"; "We respond with more agility as a reactive impulse rather than proactively adapting to a changing industry…"; "There is a lot of trying to innovate, move faster, learn new things…"; "Learning system must be responsive in real-time…"; "If leadership is not driving innovation there is no learning organisation…"; "A focus on optimisation of performance creates a reactive learning system…".* Traditional roles do not allow for rapid innovation. The requirement for a new learning system that is based on Adaptive-Intelligence.

With the organisational system not responding quickly enough to the changes experienced in the world of work, the re-activeness of the entire system seems slow. The slow response might be due to a cumbersome and slow strategy or system. It might also be due to a machine-like mindset and organisational culture, leaving organisations unable to adapt fast enough. – *"The organisational system is not responding quickly enough to the changes experienced in the world of work…"; "Adaptation to the environment is often re-active…"; "The rate of adaptation seems slower than our competitors…"; "The organisation is still machine like and not geared for quick adaptation…"; "Our response time to adaptation must be quicker…"; "Immediate responses to business requirements are necessary…".* The response time to global and social changes must be quicker to ensure adaptation for relevance and survival.

A shift in mindset is required to enable collaboration and adaptive thinking. The shift in work is more to organic work, collaboration, shared accountability, and collective outputs. The human should become more self-maintained and open to continual learning linked to an Adaptive-Intelligence. Legacy thinking must make way for new

thinking of integrated technology, human or otherwise. The lifeworld of the participant indicates – "*Moving to agile required a shift - behaviour - mindset – knowledge…*"; "*Collaboration requires a new mindset…*"; "*Agility is required because of a fast-changing world…*"; "*There is a shift in behaviour to be more collaborative…*"; "*There is a shift towards an agile mindset…*"; "*Abandon old thinking for modern, technology thinking…*". Work is more organic and requires more new knowledge through research. Learning and human growth becomes part of work and decoupled from profit or cost. There should be a shift away from machine-like work to organic work that is fluid, which requires a new vision for learning, that of integrated fluid learning.

The focus of the aims of the 4IR and 5IR may diminish human potential if there is no consideration for the augmentation of intelligence. Learning efforts could become a combination of technology and human efforts. Focusing on the optimisation of human potential can lead to evolutionary thinking, which might include the augmentation of intelligence. Drawing from the participants' experiences where – "*Automation and the Internet of Things may diminish human potential…*"; "*Create more digital and blended learning opportunities…*"; "*Being focused on optimisation of human potential allows for evolutionary thinking…*"; "*Technology can be an improvement tool in optimising human potential…*"; "*Technology may replace some memory tasks…*". Technology can be an improvement tool in the optimisation of human potential, with technology replacing some memory tasks that can augment the creativity of the human.

Focusing on the optimisation of human potential can lead to evolutionary thinking, which might include the augmentation of intelligence. – "*Overcoming the fear of combining the human world with the technology world…*"; "*Higher dependency on big data…*"; "*More utilisation of technology such as Artificial Intelligence…*"; "*There is a demand for blended learning rather than digital only…*"; "*Transactional thinking should be automated…*".

There is still an over-reliance on content in the traditional approach to learning and not enough focus on context, although sense-making is slower than information sharing, but more impactful than knowledge. Therefore, more time should be spent on sense-making and innovation than on the recall of information. From the participants' view – "*Sense-making is slower than information sharing…*"; "*It is important to take time before finding a solution to closing skill gaps…*"; "*It is important to look at the data and don't make emotional, irrational, uninformed decisions…*"; "*60% of my time is spent on sense-making, working in an innovative organisation…*".

Transformation and adaptations are enabled through sense-making, not through content or information. Traditional organisational standards and measures are blocking sense-making and slowing down learning. Sense-making creates learning-impact and enables adaptation. Sense-making requires relevance of content within the context of complexity. A paradigmatic shift is required that learning is sense-making.

As mentioned earlier, 'speed' seems to be the means to quicker adaptation, yet sense-making of results and actions are traded off for speed of delivery. The participants' lived experiences is that where – *"Sense making is traded off for speed - speed is a means to quicker business results…"; "There is a sense of loss of creativity…"*.

The learning practice that is made available by the system seems irrelevant to the learner and how it addresses the learners' problems. There seems to be a lack of organisational understanding of learning at pace. For the participants this was – *"There seems to be a mindset that learning, organisational learning happens during work time, Learning is work - work should allocate the time - learning is not seen as an enabler of work…"; "There is a lack of organisational understanding of learning at pace…"; "Old way of thinking is holding progress back…"; "A strong, clear philosophy and methodology is required…"; "The view on human potential development is superficial…"; "Increase in speed is possible…"*. The participants also expressed that *"Motivation for learning is linked to relevance of role…"; "Motivation for learning is personal…"; "Local learning with choice to relevance…"; "Similar information with different learners will become more prevalent…"; "Business requires innovative agile learning that is iterative, quicker and has higher impact…" "Our thinking must be faster…"; "It is the mindset that slows learning down…"*.

The motivation within a learning practise should come with a choice of relevance. Relevance requires innovative, adaptive learning that is iterative and quick with high impact that can be achieved only through the motivation of relevance and sense-making for realities. Organisational learning is slowed down due to a slow mindset of overthinking and planning for a perfect outcome. Thinking, organisational thinking, must be faster to enable organic learning – learning decisions must be made for sense-making, not cost.

It would appear that in South Africa, more than other Africa Regions, learning economies seem more based on historical and reputational views rather than to optimise human potential views. With a seeming traditionalist mindset, learning efforts are seen as only for work improvement, not for the development of the human

potential. Participants' views were – *"In South Africa, learning economies are more based on historical and reputational views than optimisation of human potential…"; "The traditionalist mindset of training only for work is preventing human potential optimisation…"; "The biggest frustration is the static mindset of leadership…"; "Collective intelligence requires trust in humans…"; Multiplicity of human – potential, behaviour, communication…".* The biggest frustration within these learning systems seems to be the fixed mindset of leadership, focusing on work improvement and business outputs. Optimising the human potential and harnessing collective intelligence requires trust in the complexity of humans – potential, behaviour, and communication.

3.3.3 Problem ecology and the learning space

Improved outputs from a learning system require a close alignment to the problem ecology wherein learning efforts are focused on the strategies aligned to future problems of the organisation. An adaptive approach to the learning space is required due to the fast shifts in work problems where optimisation of human potential is more evident within the context of problem-solving. The participants indicate that – *"Deliver learning to the strategy – problem space…"; "Improving learning outcomes require a closeness to the problem space…"; "Unpack the problem to see what success looks like…"; "The human potential to create will be more evident within the context of problem-solving…"; "Clarify the problem – what must change – what is the line of sight…"; "Clarity in the purpose of the learning – understand the line of sight…";* should be prioritised within the learning space.

Adaptive learning should not be outcomes-based - standard outcomes - but problem-based. Learning efforts should be aligned with a clear line-of-sight to the business or work problem. The line-of-sight to the work problem clarifies the purpose of the learning. Traditional learning designs are not focused on the success in the work, but the achievement of sometimes unrelated learning outcomes and prescribed competencies. – *"Current learning designs are not focused on success – the specific change required…"; "Learner must understand a problem, then have the skill to solve the problem…"; "You cannot solve a skills problem without solving the knowledge gap…".*

Adaptive learning requires a *space* of learning, not a *place* for learning. [A 'space' of learning is meta-physical], with less control of logistical constraints, with the freedom to learn. Technology is the means to the freedom of ideas, not the logistics of content.

For the participants – *"Less control of logistics and more freedom to learn…"; "Purpose of technology is mobility of ideas…"; "Collective human intelligence brings multi-dimensional access and independence to the open learning system…".*

An open learning system within the context of a space of learning cannot be visualised by a logistical space context, making it difficult to conceptualise a truly open learning system. Within an open learning system, conceptualised within a space of learning, non-locality of learning is where simultaneous geographical reach can be established, thereby breaking the logistical constraints of learning. – *"Through non-locality a bigger simultaneous geographical reach can be established…"; "Collective human intelligence brings multi-dimensional access and independence to the open learning system…"; "Within an open learning system, collective human intelligence provides a richness that provide enhanced levels of collaboration…".* Collective human intelligence, not competency-controlled learning, could bring multi-dimensional access and independence to the open learning system.

3.3.4 Collectiveness to increase seed and impact of adaptation

Traditional training according to a schedule where all learners should end at the same level, is too slow for the changing world. Focusing on individuals to have equal skills is slowing the system down. Speed-of-change makes the human slow to adapt when the human is limited by the system to be moulded to look like everyone else. For the participants – *"There is still an individual focus for skills development, linked to individual performance management…"; "In the past ten years or so, training was and still is according to a schedule…"; "Speed-of-change makes the human slow to adapt…"; "Learning industry and education regulators are preventing learning at speed…".* Learning regulators are focused on individuals being the same, standardised learning, slowing down the system to adapt – the human system becomes slow.

The participants considered a learning practice within a specific place as limiting on the speed and impact of adaptation. Collectiveness is possible with elimination of a physical place of learning through the application of virtual medium technologies allowing for increased speed due to faster access to learning — more time for learning due to the increase of capacity without the limitations of travelling to a locality. The participants views were – *"More time for learning due to increase in capacity brought by virtual classrooms…" "Overcome the limitation of physical space with technology…"; "Speed in adaptation is less obvious…"; "The increase of speed for*

sharing information is obvious…"; "Requiring adaptation to a virtual facilitation delivery system…"; "Elimination of limitations of physical space allows for increased speed due to faster access to learning…"; "Ensure continuity in skill enhancement through digital learning…". The limitation of a traditional locality for learning can be overcome by using technology. Overcoming the limitation of locality with technology might become an essential part of a new learning system. Ensuring the continuity in skills enhancement through learning might be optimised by focusing on intelligence rather than repetitive skills or competencies.

Current traditional learning practices or learning systems show poor understanding of the importance of coherence between learning practice and the impact of learning on change and adaptation. Learning efforts are designed as a product, a commodity, and not to create an impact on adaptation. Learning design is currently fast but incoherent, and this is due to the myth that speed is about speed-to-market which is a profit paradigm. Participants reflect on current learning practices as – *"The incoherence of the response can indicate uncertainty of how to deal with the fast pace required within the learning environment…"; "I don't know if we are having an impact on the businesses we deliver learning to…"; "Learning interventions are designed on order and not for impact…"; "Designing a learning intervention is fast but incoherent…"; "A focus on the output of a learning process helps with implementing and applying the learning to the work problems…"; "More reflection and retrospection to find correlation and coherence with the line-of-sight…".*

The dynamic between coherence and correlation is required to establish connection within the system. Participant experiences indicated – *"Coherence and Correlation establish connectivity of the system…"; "Isolation in learning is not effective…"; "Correlation is about the way we connect…"; "Cross-functional connectiveness of learning paths…".* The coherence-correlation dynamic is about the way we connect to the system, providing cross-functional connectedness of learning pathways. Isolating the learning practice within the system is not adequate, it will require a higher level of understanding of the coherence-correlation dynamic within the system.

In a traditional learning practice, there might still be a school of thought that exists that creates a non-correlating learning approach. There seems to be only some coherence in the current learning effort to the changing world. There may be an extreme focus on performance output with a low focus on learning input, creating a low coherency between the learning approach and work output. From a participant perspective, their views were – *"There is still a traditional thinking – Learning and Development must 'fix' the skills problem…"; "There is some coherence in what we*

do and what is changing…”; “Extreme focus on performance output with no focus on learning input…” “With the system not being coherent you must operate outside the system for survival…”; “Work and learning approach are not coherent…”; “Coherence, correlation provides the purpose for the system…”; “A learning system without coherence and correlation is flawed…”; “Coherence clarifies the purpose…”. Coherence provides a sense of clarity and direction in the system. Coherence to the strategy, the adaptation and correlation between the parts and ends provide the purpose for the learning effort and learning experience. A learning architecture without coherence and correlation would be flawed. Coherence should clarify the purpose as it exists within a problem definition.

Collective human intelligence is more than the sum of all – access to the thinking of multiple people across organisational functions will harness more depth and texture than a single intelligence. The new requirement for intelligence is to share and contribute rather than personal promotion and status. The lifeworld of the participants reviled – *“Collective human intelligence is more than just the sum of all…”; “Access to the thinking of multiple people across organisational functions…”; “A new requirement for collective human intelligence is to share and contribute rather than personal promotion and gain”…; “Anyone might not know everything, but together they may know everything…”* [know more]; *“Harnessed collective intelligence has more depth and texture than a single intelligence…”; “Humans seem to have a natural disposition to collect information…”; “Collective intelligence is groups thinking coherently…”.*

The learning system should promote open participation of consciousness. Collective cognition through connected consciousness improves the coherence of the system leading to a collection of human connectedness. Collective human intelligence links the consciousness of the organisation, where higher-order learning skills, deeper learning, lead to collective understanding, developing, and strengthening the collective organisational consciousness. Through collective human intelligence, alignment in thinking is created.

Organisational learning should focus on the collective of self-organising teams. If self-organising teams are how the future organisation will be structured, learning should be focused on the same ideology of the collective of teams, collective learning, and collective intelligence. Organisational learning should align to organisational problems that relate to the adaptation speed of the organisation. Participants shared – *“Organisations learn within the collective…”; “Shared output – shared goal – shared problem…” “Align to organisation direction or problem”. Collaboration creates more*

capacity to learn as a system, which leads to a more intelligent human system. "Collaboration creates more capacity…"; "Collaboration in a world with limitations on social contact via technology…". Technology is the tool for connecting and collaborating within a world of social distancing and physical restrictions.

3.3.5   Coherence and correlation in a learning system

It seems that there is a lot of frustration within the corporate learning system. Learners are feeling frustrated and are experiencing a sense of failure leading to the loss of curiosity. – *"The closed system creates frustration…"; "I am so frustrated, and I am expressing a sense of loss and failure…".* The frustration seems to be caused by a traditionalist view of the system leaders, indicating narrow-mindedness, leading to a closed system filled with frustration to the curious of mind.

The closed system seems to lace critical engagement with content to create context and curiosity, the freedom to create knowledge without consequences, learning without limitation. Participants felt that – *"Narrow-mindedness indicates the closed system…"; "The closed system creates frustration…"; "The system seems to lack awareness or consciousness…"; "There is frustration due to the traditionalist view, and the focus on role/job only…"; "Freedom to create without consequences…".*

Traditional organisational structures are not allowing 'nimbleness' in their learning efforts. [Organisational structures are not focused on smaller self-organising, self-contained working teams that can learn and adapt more quickly. Therefore, the learning system is unresponsive and slow because it is focused on an individual mindset rather than a collective, self-organised team mindset.] Optimising organisational structures for maximum profit is placing strain on resource capacity that slows down the system's ability to learn and adapt fast. The participants reported – *"Our current organisation structure is not allowing us to be nimble in our learning efforts…"; "Two issues are keeping organisations from speeding up adaptation, structure and approach to value…"; "The learning system is unresponsive and slow…".*

Learning systems are following the business model, mainly because learning is not strategic and has no authority. The focus is on profit, not on the intelligence of organisations. Nevertheless, the demand for learning, growth and adaptation is much higher than organisations can provide. According to the participants – *"The business system dictates the requirement and the learning system reacts to the order for skills…"; "Learning is slow because it has no priority within the business system…".*

3.3.6   Paradigms for learning practice

Learning practices seem to be traditionally separated from, and unintegrated with work. With learning separated from work, adaptation is slowed down – learning must happen, then work must happen. The participants expressed the separation as – *"Learning is separate and not integrated with work…"; "Learning is a place where you send people to get them fixed…".*

To improve the effectiveness of learning efforts, there is an expressed need for learnt skills to be implemented immediately for the benefit of adaptation. From the participants – *"Learning approach should be based on work requirements…"; "Considering learning with work creates relevance for learning…"; "Learning becomes more impactful as learning is spread to coincide with work, the problem…"; "There is a requirement for learnt skills to be applied immediately…".* Learning should not just be part of work; learning is the work. Learning practices become more impactful when integrated with the work context.

A shift in the paradigm of learning should lead to human learning at a deeper level of cognition, the level of the 'Being' (human existence) through a shared consciousness within a shared reality. Collective human intelligence may create an enhanced organisational learning experience, whereas a traditional learning competency is confined to the individual's experience. Participants expressed their lived experience as an – *"Indication of deeper learning, but human learning at a deeper level of cognition. – emotional, the Human Being…"; "The demand to change is coherent with the teachings in the class…"; "Collective human intelligence has similarity in problem-solving…"; "Creativity must be harnessed…"; "Value ideas generated through the coherent thinking…"; "In a traditional organisation, intelligence is confined to expertise…"; "Collective human intelligence may create an enhanced learning experience…".* Harnessing creativity within the learning effort to generate value-ideas and new knowledge through coherent thinking.

From the lived experience of the participants, organisational leadership has not yet adopted a mindset that allows for a learning organisation. – *"Skills development strategies are dependent on the mindset of leadership…"; "Leaders have not adopted the mindset to be a learning organisation…"; "Leadership has a fixed mindset around learning…"; "Change the mindset of the custodians of organisational learning…"; "A mindset of collaboration and engagement where learners feel supported is required…".* Future-focused learning strategies are dependent on the mindset of the leaders towards the purpose of learning. There is still a fixed mindset around learning and the purpose of learning. A new leadership paradigm and mindset, or 'leadership

consciousness', is required to align to the purpose of the organisation, not the organisation's efficiency.

3.4 Stories of the lifeworld gathered during the focus groups

During the following Sections, the researcher will share the stories of the participants lived experiences from a constructivist grounded theory perspective, as described in Section 2.3.2. The lived experiences were extracted from the video recordings of the focus group conversations conducted after focused coding. The stories captured in the participants' words were still part of the analysis process to better understand the participants' lifeworld through their lived experiences from a particular context. Analysing the specific contextualised lived experiences helped the researcher complete axial coding and a selective coding process.

As described in Section 2.3.3 and specifically Figure 2.2, the stories from the focus groups are presented as part of the data gathering that focused on the participants' lived experiences as part of theory building and will be presented together with the data in Chapter 4. Theory building around the phenomena through the participants' lived experiences is organised and presented according to formed hypotheses (Charmaz, 2014) generated by the researcher as part of the grounded theory methodology described in Section 2.3.2. The focus groups were constructed around two general questions, and four hypotheses developed during focused coding.

The stories of the participants' lived experiences provide a unique view of a possible world or new normal in a post COVID-19 world. It is important to note that at the time when the focus groups were conducted, was when most countries in Africa had lifted the pandemic lockdown regulations. Most of the focus groups' participants were forced to establish home offices and were not allowed to work from their regular organisational offices. Some of the participants were still in a situation where it was unknown if they would return to the organisational offices and be expected to continue working from their home offices as their 'new normal'. The opportunity was used to generate some new understanding of the lifeworld of the participants as they enter a new future and test their view on a new world of work or 'new normal'.

The focus groups were conducted according to the research design, as described in Section 2.5.2. However, given the researcher becoming aware of the time-sensitivity of the changes that the world and, indeed, the participants were experiencing, the researcher decided to conduct the focus groups within a one-month time window. The decision was made to provide a view of the lifeworld at a point in time. It would

provide a point where all the participants would have had the same time within the new world of work, within or after, the global lockdown. All participants would have had the same time frame to adapt to a possible 'new normal'.

The focus groups were, therefore, selected to provide three distinct views. The first group was to provide a view from the perspective of a provider of learning solutions. The second group was to provide a perspective of delivering a learning solution. The third group provided a perspective of acquiring a learning solution within a corporate organisation as the business representative of the learning fraternity.

The time-sensitivity of one month created a situation where the focus group participants became very selective based on participants' availability within the selected month. The outcome of these availability constraints was that the focus groups were very small. The researcher recognised this and took this into consideration by analysing and discussing this data in later chapters.

3.4.1   The 'new normal'

The opening conversation with the focus groups was about the new world of work, the changes they are experiencing, and the possible description of a new normal.

Group 1 the collective conversation was about learning being *"more part of the everyday role of the employee"* and not being a separate programme that must be attended. Group 1 noted their view that *"organisations might not be ready"* for what they are experiencing and seeing the new reality as *"disruptive"*, *"overwhelming"* and *"time demanding"*. Management and leadership were highlighted as areas that should be considered as areas of change to enable a learning environment that is integrated with the everyday role to ensure that work-time structures *"allow for learning in the workplace"*. Group 1 recognised that this new normal will *"require more accountability from the learner"*. However, it will also create the *"misconception that there is more time for learning with less travel"* due to a virtual delivery mechanism.

Group 2 also recognised that the new normal is *"still being formed"* bringing *"disruption"* and *"leaving multiple challenges"*. Many of these challenges being *"administrative"* in establishing a *"virtual classroom delivery system"*. The

administrative view was referred to as *"typical L&D thinking"* rather than *"focusing on organisational learning"* and adaptation. Group 2 referred to learning efforts becoming more *"bite-sized"* with *"quicker engagements"* when needed instead of longer *"pre-planned"*, *"day-orientated"* sessions. Learning efforts seemed more *"conversational"*, and sense-making orientated rather than the old *"instructing of information"*. The focus of learning efforts seemed more on the *"human skills"* than *"technical skills"*. The group also acknowledged that this might be due to the *"home office environment"* where *"human connections are more difficult"*.

Group 2 referred to the *"high level of receptiveness"* and *"organisational readiness"* to make the *"switch to a new technology-driven learning system"* or environment. The *"system was able to adapt quickly"* from *"physical events to virtual events"*. Although this adaptation was *"triggered"* by the global pandemic, the *"organisation was ready to move"*, and, therefore, would probably stay within this delivery system in future, not returning to the *"old normal"*.

Group 3 the discussion centred on utilising the time when people could not perform their regular duties and, as a strategy, the organisation increased their learning effort. Self-directed learning *"made available via LxP systems"* was *"ramped up"* almost like a *"time-filler"*, and that *"has now become the new normal"*. However, during the lockdown, there was an *"overall decrease in the volume of self-directed learning"*, with an *"increase"* in self-directed learning within the *"more professional roles"*. With the establishment of small offices or home office, the typical work tasks were performed, there was a further *"increase in self-directed learning once there was a return to daily duties"* and *"work problems"* even without a return to the physical workspace.

"More opportunities have been created", and more *"access to learning"* has been granted given the "*new thinking that staff have the time"* to use being at home. *"Given that everyone is at home, learning has been pushed"*, yet the recipients were *"not awarded the time to engage with the learning"* and make sense of the learning with regards to its application within the work and the *"work problems"*. The opportunity to integrate learning with work was not utilised, and *"learning stays separated from work"*. Learning is still seen and delivered as programmatic and *"not allowing for the learner to learn when working"*.

The researcher gained the understanding from the conversations that the new normal related to the corporate learning environment is indeed being established. There is a clear indication from all the focus groups that the *near* future, the next six to twelve months, will be very different from the past ten years. The following six to twelve months may form a new normal that is more appropriate for an adaptive, flexible and less control-orientated learning space.

The new learning space might well be an integrated environment of simultaneous work and learning at the place of work, which is highly likely to be a small office or home office. In other words, physically separated but not isolated from other employees in the system. Therefore, the learning space could require that learners take more responsibility to ensure that they learn what they need to learn to make quick adaptations to their work output. This responsibility may be facilitated through a physical or virtual learning experience. The new normal could be a space that is focused on sense-making for problem-solving that is not a perfect process but a human and organisational reactiveness through memetics rather than a single truth. Human connection is highlighted as an essential consideration for a learning system that might be completely virtual in the new future.

3.4.2   Necessity for organisational adaptation

The first part of the focused conversations during the focus groups was centred on the necessity for organisational adaptation. The conversations were contextualised in the exploration of learning and adaptation potential within the 4IR and 5IR (Section 1.2.3 and 1.2.4), adapting to a changing economy of learning (Section 1.2.5 and 1.2.6), and transitioning to the experience age (Section 1.2.2). The conversations were crafted around the hypothesis that adaptation potential requires a mindset of relevance, which was contextualised in the questions of adaptability versus stability, and speed and impact of learning related to the organisation's problem complexity.

> *Group 1* did not show high intuition towards the problem complexity faced by organisations. There was a recognition by Group 1 that there are *"fast-paced changes"* as a trait of the 4IR and 5IR. The fast-paced changes will require *"employees and organisations",* as collectives, to have the *"ability to think out-of-the box",* to *"think differently",* and *"to innovate as a reaction to the change".*

Group 1 viewed *"adaptability as more important than stability"* and that organisations should *"adapt to survive"*. However, the group immediately recognised that *"financial stability is still of paramount importance to the ability to be adaptable"*. The focus forward should be on *"adaptability and thereby creating sustainability"*. There was also the recognition of the *"illusion that profitability is sustainability"*. If sustainability is about the survival of organisations, *"only the most agile"*, the *"most adaptable"* organisations will survive within the 4IR and 5IR.

Group 2 also confirmed that organisations *"that will survive"* the disruptive world of 4IR and 5IR are the *"organisations that show high adaptability potential"* rather than high *"focus on stability"*. The focus of *"human potential with the means to adaptation"* rather than a *"focus of stability, financial or otherwise"*. The ability to manage both stability and adaptability was viewed as a "*dichotomy of adaptability"* within stability or *"stability within an adaptive world"*.

Group 2 viewed the problem complexity caused by a *"disruptive world"* to *"determine the width of the dichotomy or paradox"* of adaptability and stability. The COVID-19 pandemic created an *"unprecedented disruption"* with *"unforeseen complexity to which all organisations, big and small, had to adapt"*. People require a *"high level of resilience"* to adapt to the *"complexities of the new normal"*. High levels of resilience combined with the *"cognitive ability of the human"* allow the human to make the changes and find the patterns within the complexity of the new problems organisations are faced with within the 4IR and 5IR. The *"complexity of the problems"* allows the *"human to experience the world rather than to solve the changes"* of the world with *"exciting and known measures"*. There is a *"new organisational mindset"* and culture required where change or *"adaptiveness is more integrated"* into everyday business, and way of work. Allowing for a system where *"complexity is not just anticipated but actively prepared for"* ensuring that the people are ready with *"cognitive flexibility"* to adapt quickly and constantly.

Group 3 showed less intuition towards the adaptability versus stability of organisations. The lived experience was almost that of adaptability being a more prominent focus than stability is a natural or given phenomenon. All the participants within focus Group 3 agreed that organisations that *"show high adaptability"* rather than *"financial stability"* will be *"more likely to be successful organisations"* from a sustainability perspective.

Group 3 agreed that the *"size of the problem complexity"* like a national lockdown *"brings speed and action to planned strategies that were slow to be executed"*. *"COVID-19 forced a complexity onto the workplace"* but also *"enabled"* the workplace to *"respond (adapt) to a new normal"*. *"Problem complexity is relevant to the levels of complacency within organisations"*. *"The less the complexity, the more complacency exists"*. Organisations seem to need *"big problems", "complex problems"* to generate *"significant adaptations"*.

Group 3 affirmed that *"when the human is stretched or confronted with new complexities, there is a natural action to learn"*. People will learn, "*really learn when they are faced with a real problem"*. Problem complexities that inspire learning are problems that *"influence the survival or direct contribution"* of the individual. When the *"complexity is positioned within the emotional"* construct of the learner, or the being of the human, *"learning is more likely to occur"*, leading to higher adaptation potential.

The future lifeworld of the participants is trending more towards adaptability rather than stability as a business model. A theme forming within the participants' lived experiences was the view that crises, or a major disruption, will test an organisation's ability to sustain itself within a complex world of work that may sometimes seem chaotic. Learning and learning efforts should play a more active role in organisations' readiness to be adaptable through the Adaptive-Intelligence of their collective human potential. An organisation's adaptability potential might require a stronger focus on developing people's potential to adapt and deal with more complex problems rather than create cost-sensitive learning systems.

3.4.3   Adaptive Learning Architecture

The second part of the focused conversations were centred on an early hypothesis formed about an Adaptive Learning Architecture (ALA). The preliminary hypothesis of an ALA was posited to the focus groups as:

"A structure or system encompassing learning effort (Le) and learning experience (Lx), where Le is the integration of work and learning and Lx is the integration of human being and human doing (generating Africa humanness), with the primary aim to increase organisational adaptation potential."

The focus group conversations were seated in the exploration of learning architectures as aphorisms (Section 1.3.1 and 1.3.4), the memetics (Section 1.3.2),

the transitioning to and experience age (Section 1.2.2) and the teaching system (Section 1.3.4.1). Four constructs were examined within the preliminary hypothesis of an ALA, and data gathered are presented in the following sections. Each of the four constructs was extracted and formulated from the data gathered during the in-depth interviews.

3.4.3.1   Promoting deeper learning

The construct of deeper learning was positioned within an organisational learning system promoting deeper learning through its learning efforts focusing on the optimisation of human potential as an Adaptive-Intelligence (Ai) and the optimisations of Collective Human Intelligence.

Group 1 viewed *"human potential"* as *"adaptiveness"*. The *"general"* or public *"educational system"* within South Africa and the Africa Regions was seen as focused on "*knowledge, existing knowledge, transfer and not the unlocking of human potential in the context of this adaptiveness"*. Group 1 felt that business is now in an *"age where it is not as much about what we know."* Knowledge is seen as being in "*abundance with free accesses"* to most knowledge. It is more about the use or the experience of the knowledge, "*how knowledge is used to create a collective social consciousness"*. There is a new expectation from organisations to *"develop people to be more than just workers"*. The human cannot *"elevate to its full potential"* if it is only *"seen as a machine".* Group 1 opined that in the new normal, the human being will be looking *"deeper into the self as a being"*, as a contributor to the world. Therefore, learning efforts should *"ensure that there is a deeper focus on the mindset and paradigms that underpin technical skills"*, not just the technical skills.

Group 2 showed more conflicted views with the construct of deeper learning. The conflict seemed to be within the context of delivering on a deeper learning architecture and the organisational system's ability to do so. Group 2 acknowledged that *"adaptation as a human potential is innate to human nature"*. Group 2 interpreted Adaptive-Intelligence (Ai) as the "*human ability to quickly identify what must be learnt, learn, and apply the learning in a new adapted output rather than a learning system telling me what to do"*. Group 2 alluded to *"specialisation within work competencies is what often takes the human away from its innate nature to adapt"* with *"learning efforts not geared to the integration of*

competency and change". For Group 2, the learning system must *"demonstrate the capability to generate more value as collective intelligence"* rather than competency. *"The organisation and what it values, what it measures, will have to change to enable a collective human intelligence capability"*. Measuring "individual performance" versus measuring *"individual contribution"* was seen as the biggest obstacle.

Group 3 also provided a concerned view regarding deeper learning with a *"practical business"* approach. For Group 3, *"business"* might push back *"against the measurement of an intelligence"*, *"Adaptive-Intelligence as a business metric"*, or an *"indication of learning"*. Although Group 3 indicated that *"more should be done to integrate learning and work"* and that the measurement of learning effort should be *"included in the full learning cycle, from contracting of learning outcomes in correlation to business strategy to an adaptation of business outputs according to that same strategy"*. Like Group 1, Group 3 also referred to the *"current educational system"* that *"sets a paradigm of lower order thinking rather than developing higher-order thinking"*. The *"lower-order thinking paradigm blocks the opportunity for deeper learning"* as it excludes *"emotional intelligence"* [and personal significance] from the learning paradigm. For Group 3, *"learning seems to have moved on, but there are still a lot of people stuck in the old paradigm of what learning is"*. The new paradigm should cater to a *"broader capability"* rather than a *"narrow competency"*, which requires a deeper learning approach.

3.4.3.2   Axiomatic pedagogy

The construct of 'axiomatic pedagogy' was proposed as a teaching system that promotes the use of axioms as truth points leading to the use of knowledge rather than the detail or content of the knowledge. 'Axiomatic pedagogy' is contextualised within the teaching of co-creation and Adaptive-Intelligence within a transitive content.

Group 1 and Group 2 showed a low acceptance of the hypothesis of an axiomatic pedagogy. Group 3 however, as the business representative group showed the most acceptance and alignment to an ALA that host the construct of 'axiomatic pedagogy'.

Group 1 provided a dichotomy in their views of an axiomatic pedagogy concept with the idea of truth-points being the catalyst. Some views were against the idea because *"it goes against the current perception of the Learning and Development profession"* of *"accumulating knowledge over the years"* of experience. The notion that learning is *"not about what you know"* but should be more about *"truth-points that define a reality"* seemed more like a *"new social construct"* than learning to the group. For the group, it meant that *"everything can be questioned"* if *"there is no more truth"*, where truth is associated with knowledge. Group 1 did agree to a *"bigger focus of co-creation"* as a means to an *"Adaptive-Intelligence"*. In Group 3's view, a *"learning system should not judge only on specific acceptable facts"*, but the *"system should be more open"* to *"allow for different thinking"*, *"different learning paths"* leading to the same outcomes.

Group 2 was concerned with *"who will determine or agree on the truth-points"*. For Group 2, the truth-points can be seen as *"indicators of the moment of reality"*. Moment of reality referred to the *"moments of realisation"* rather than *"truth as a fact"*, a *"realisation of the moment of truth as an intelligence"*. Group 2 was of the view that *"Adaptive-Intelligence would not be achievable with a focus on content or detail of content only"*. For this group, *"building truth-points around decision making and co-creation"* would appear to be a good approach to *"achieve quicker adaptation"*.

Group 3 viewed truth-points as those *"moments"* or *"nuggets"* that a learner will *"take from the learning"* effort that is *"continually referred to"* or *"reflected upon"*. Truth-points, *"if they can be programmed into the learning effort can help with the connectivity of the human"*, which will *"help with Adaptive-Intelligence"* of the human. This group viewed this question as a necessary *"realisation for any learning organisation"*. Group 3 mentioned that a learning architecture that promotes *"programmatic learning"* might be a *"limitation to the unlocking of human potential"*, not *"providing in-the-moment learning that is relevant"* to the situation of the learner.

In current learning architectures that drive content, the problem is that *"content is seldom useful across context"*, where using *"truth-points are contextually relevant"*. Group 3 saw *"content as not useful for personal growth and the development of human potential"*. Applying truth-points as an *"axiom will help the learning"*, the *"sense-making of many other things we are trying to teach"*. Learning

should be about the *"sense-making of content within whatever the context"*. *"As the managers of learning, we might feel safe in our content rather than making learning about the person that must make sense of the content within a variety of contexts"*.

3.4.3.3   Multi-truth pedagogy

The construct of a 'multi-truth pedagogy' was proposed as a teaching system based on 'multi-diverse' world views where the context of human truth is considered more important than a single representation of reality. A 'multi-truth pedagogy' could consider the augmentation of intelligence as the combination of 'human intelligence' and 'artificial intelligence'.

Group 1 showed some division regarding the construct of a possible multi-truth. Expressions such as *"I do not like this"*, *"I do not like multi-truths"*, *"there can only be one truth"*, *"it is your interpretation of reality, it is not truth"*, and *"can the perception of truth override the evidence of truth?"* Reflected the single view paradigm. In these expressions are the cruxes of the hypothesis. Group 1 also provided expressions such as *"your truth is determined by your paradigm of how you navigate your own world"*; *"It is how truth interacts with your reality and how you experience what that truth means to you"*; and *"we can create much more impactful learning and experiences if we are willing to look toward multi-truths because you will allow people to use their intelligence"*.

Group 2 confirmed the articulation of the hypothesis of a 'multi-truth pedagogy'. Group 2 indicated that this articulation is *"critical for learning as there is no one way of learning"*, *"which is required for an adaptive new normal"*. Such an approach will *"take away the indoctrination of a specific approach"* or *"way of thinking, doing and being"*. Although described as a pedagogy, "*it should be owned by business"*, it should be an *"organisational architecture"*. If an *"organisation is built or constructed on an axiomatic and multi-truth pedagogy, the organisation will learn and adapt in a more acceptable"*, *"faster",* and more *"relevant"* way. It asks the question of relevance, the relevance of organisation and relevance of leadership.

Group 3 expressed their view that a 'multi-truth pedagogy' will allow the *"neutralisation of diversity issues"* and the *"reflection on learning from various truths"* *"without control"* of a single solution. *"Diversity of human being is the context of human truth"*, opening the concept of a *"contextual truth"* or multi-truth, solving for multiple and sometimes unseen problems. The context of relevance, similar to Group 2, was also discussed in Group 3. Relevance within a multi-truth pedagogy is *"not the representation of fact, but the experience of truth"*. Finding and connecting different yet similar experiences *"connects the system"*, allowing for a collective human intelligence. Multi-truth can be more than a *"shared understanding of an experience"*, *"more than the fact"*, or the information being true. It can be an *"exponential experience"* of a collective. Learning in the new normal might be more about *"constructing a network scaffolding"* system, where the *"scaffolding might be more about the truth-points or axioms than the facts"* or the content.

During the second part of the focused conversation regarding an ALA, the researcher became aware that organisations, in general, are still a long way away from the concept of an Adaptive Learning Architecture as a possible new learning architecture. However, organisations could benefit from an ALA as it attempts to enhance human adaptiveness through cognitive flexibility and agility of thinking. An ALA could help individuals invest deeply in their own futures and thereby in their organisations' futures. However, the ALA should clearly and visibly be connected to business results within the context of organisational adaptation potential to create the right leadership conversations that can deliver value faster and with more impact. An ALA could establish integration between work and learning, and business output and employee performance, individually or collectively. An ALA could assist leadership to move away from a control mindset to an innovation mindset, thereby increasing the adaptation quotient of the organisation.

3.5   Conclusion

In this chapter the researcher shared the data gathered as the lifeworld of the participants to contextualise the qualitative data of the study. The chapter focused on the stories the data provided based on two of the three data gathering methods: the in-depth interviews and the focus groups. The third method, participant observations, did not contribute to understanding the participants' lifeworld but rather provided data

on the practical application of some of the concepts studied. Therefore, the data from the participant observations will be introduced during Chapter 4, together with the data analysis process.

CHAPTER 4:
Data Analysis

4.1   Introduction

In Chapter 3, the data collected were presented through the data's stories to provide the context of the participant's experiences of the phenomenon of a learning architecture within the field of the study. As posited in Chapter 3, the data presented are an interpretation of the lifeworld of the phenomenon through the lived experiences of the participants, extracted during the constant comparative analysis process followed. In this chapter, the researcher will explicate the data analysis details based on the blend of hermeneutic phenomenology and grounded theory through mainly abductive inference as described in Chapter 2. The use of a blended analysis approach has proven valuable in studying this complex phenomenon within the participants' current and future lifeworld. Biggerstaff (2012) and Giorgi (2012) explanations of data analysis in hermeneutic phenomenology and Charmaz (2013) and Gibbs (2010b) data coding in constructive grounded theory influenced the researcher's approach to the data analysis.

4.2   The process of data gathering and data analysis

Data gathering and data analysis were conducted as an integrated single process. Applying the constant comparison method as described in Section 2.3.4.6, data analysis started when the first data were collected. Data analysis methods were adapted according to the type of data collected to ensure that the data analysis stays in context (Reeves & Hedberg, 2003), as described in Section 2.6.1. The data analysis process progressed sequentially with the research study, consistently collecting, analysing, and comparing the data. Throughout the data analysis process, the researcher made careful notes of relevant thoughts, hunches, interpretations, and decisions by applying field notes and memos.

The Sections that follow show how the data were analysed through the process of coding and content analysis. The data are presented according to the analysis process rather than the data-gathering process, encompassing both rounds of in-depth interviews from a hermeneutic phenomenology and grounded theory perspective. The in-depth interviews will be followed by the hypothesis testing in

grounded theory and content analysis via the focus group discussions and participant observations.

4.3   Analysis of interviews

The first data collected were through the process of in-depth interviews as described in Section 2.5.1. The first two interviews were used as *pilot testing* of the questionnaires. After the first two interviews, the leading questions were adapted to improve the ease of the interviews as well as to improve the insights shared by the participants. As indicated in Section 3.1, the interviews were conducted over 14 months from October 2019 to November 2020. The extended interview period was due to analysing each interview, comparing the data with other already completed interviews before conducting the following interview. The researcher approached the interviews in this extended process to adhere to the research design of constant comparative data analysis (Section 2.3.4.6) and theoretical sampling (Section 2.3.4.7).

Each interview was recorded during the interview and then transcribed verbatim onto MS Word 365. The transcription of each interview was done through a professional transcription service. Each transcript was thoroughly quality assured by the researcher after transcription. To quality assure the transcripts, the researcher would simultaneously listen to the interview and read the transcript. Although this may seem time-consuming, this was the first opportunity for the researcher to immerse himself in the data. As suggested by King Gabrielides (2018) the transcripts were re-read a few times before and during the analysis process to ensure insight into the meaning of the data.

4.3.1   Field notes

The immersion into the data ensured that the researcher did not jump to broad categorisation prematurely, as cautioned by Charmaz (2013), and Bryant and Charmaz (2007). During the immersion, as a supplementary data gathering method, the researcher made filed notes (Section 2.3.4.9) on the research process in general and specifically on the data analysis process. The field notes assisted the researcher to adapt and improve the research process constantly. An example would be where the researcher made the following field note on 17 January 2020:

"Given the responses so far during Round 1 interviews, I came to realise that there are deficient levels of thought in regard to collectiveness within the L&D strategies. Therefore, in preparations for Round 2 interviews, I am adding a question to the question set on the concept of collective intelligence".

Field notes, such as above, were used throughout the research period. Field notes were used as opportunities for the researcher to reflect on the research process and what is happening in the process, as suggested by Gibbs (2012). The field notes' primary purpose was to find areas where the research process could be improved as the researcher journeyed through the research study. Field notes were written and kept as a personal journal, as shown in Figure 4.1 below.
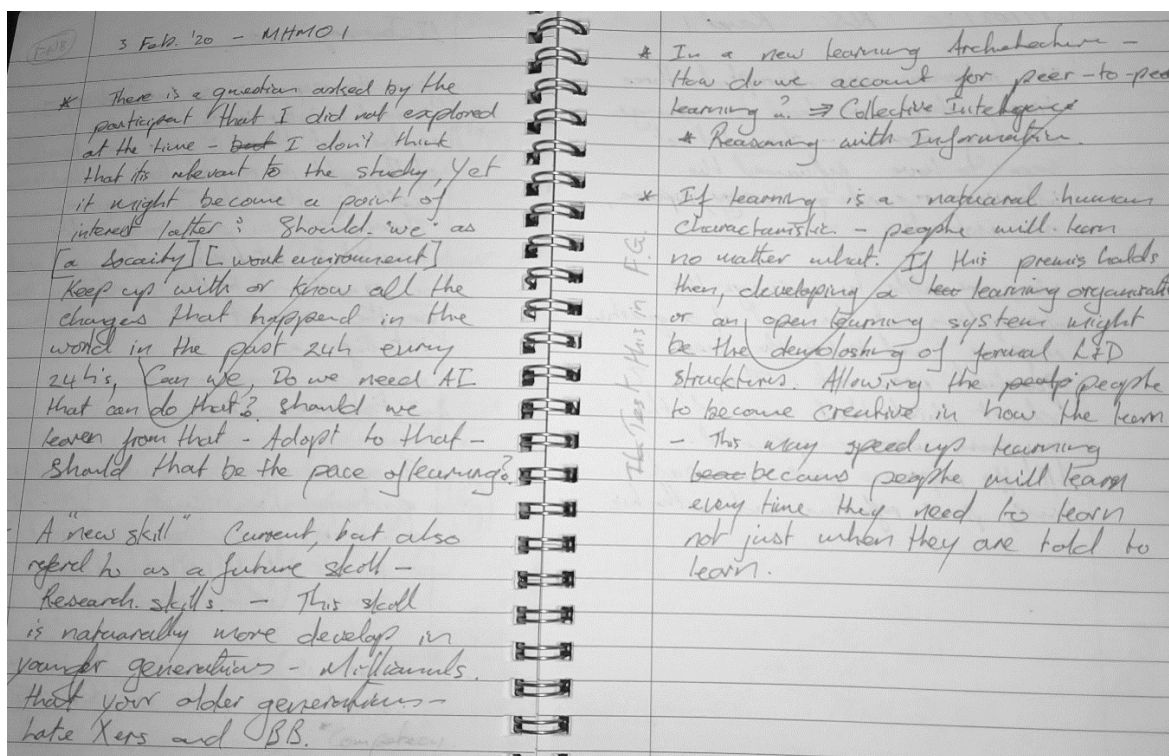
Figure 4.1 Example of Reflective Journal containing field notes. (Source: Own compilation)

At the end of the field work, the field notes were captured and tabulated in MS OneNote 365 for easy reference during the study's discussion phase. As suggested by Gibbs (2012) the notes were organised into categories indicating notes on observations, methodology, theory and personal. Examples of the field notes are available in Appendix H.

4.4 Data Coding

The researcher approached data coding with the awareness that "coding is not a precise science, it's primarily an interpretive act" (Saldaña, 2016:4). Interpreting the data into codes involved the process of assigning an interpretive label or code to concepts, ideas and constructs that arise from the data (Carmichael & Cunningham, 2017). The purpose of data coding in qualitative research is to enable collected data to be assembled, categorised, and thematically sorted in order to create a platform for the construction of meaning from the data (Williams & Moser, 2019).

As indicated by Saldaña (2016:291-298), there are no less than 40 different approaches to coding, and there is nothing to say that a series of coding rounds cannot be implemented. Using this argument, the researcher utilised two approaches to coding to coincide with the blended methodology of hermeneutic phenomenology and grounded theory as described in Sections 2.6.2 and 2.6.3, respectively. The decision to utilise the two approaches is confirmed in the effective use of the two approaches by King Gabrielides (2018), who refers to Strauss and Corbin (1990b) and Charmaz (2006).

4.4.1 Manual coding

The researcher made an early decision to manually code all data, following Martins, Martins and Viljoen (2017) who argued that manual coding is better because it provided the researcher an implicit feel for the qualitative data. Although this was an enormous task and probably added to the long duration of the data gathering and data analysis process, this decision was made to allow the researcher to draw his own constructions and interpretations (Charmaz, 2000:520) from the data. As Weng (2012:8) argued, the utilisation of a manual method of coding provides room for creativity in demonstrating a non-causal framework that makes the most sense in a meaning-making process. Charmaz (2013) confirmed creativity in coding, indicating that coding is very much a creative process of interpretation of concepts.

The manual coding process allowed the researcher to immerse himself in the data through a well-managed iterative process. The iterative process was managed on a Kanban board, as shown in Figure 4.2 on the next page.
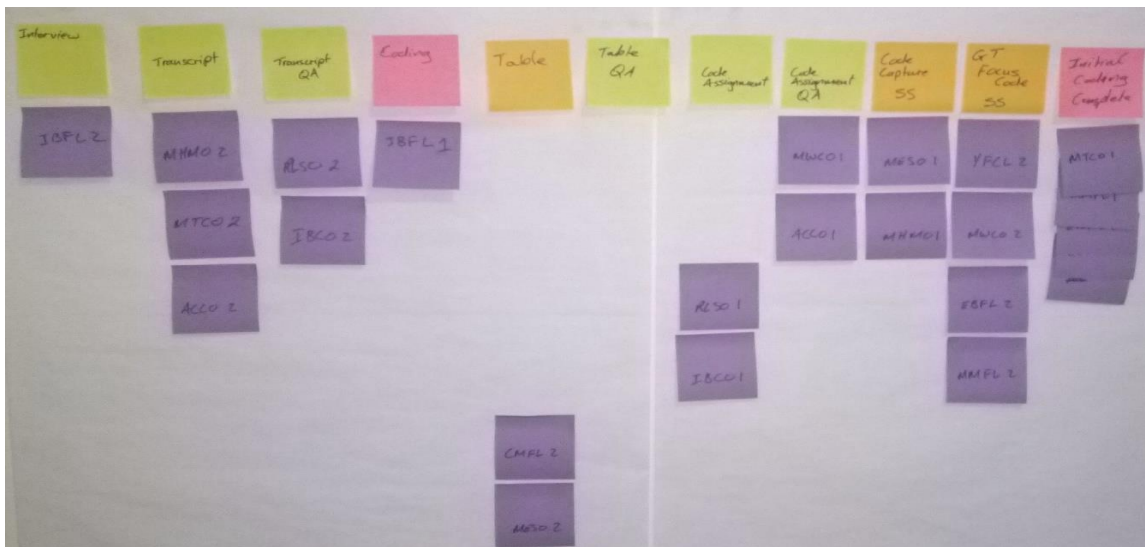
Figure 4.2 Kanban board for research progress. (Source: Own compilation.)

Figure 4.2 above shows the progression of each interview as it moved through the stages of analysis. The top row shows the stages of analysis including the process of interviewing, transcribing interviews, quality assurance, first immersion, coding and capturing the codes. Each interview was assigned a number that was then moved along the process-line as it progressed through coding.

As the constant comparison of data gathering and data analysis through the various stages of coding processes progressed, emergent sub-categories were plotted onto a mess-map using 'sticky notes'. Creating a visual mess-map of the coded data helped the researcher identify emergent relations and extract categories and themes. The growing mess-map is indicated in Figure 4.3 on the next page.
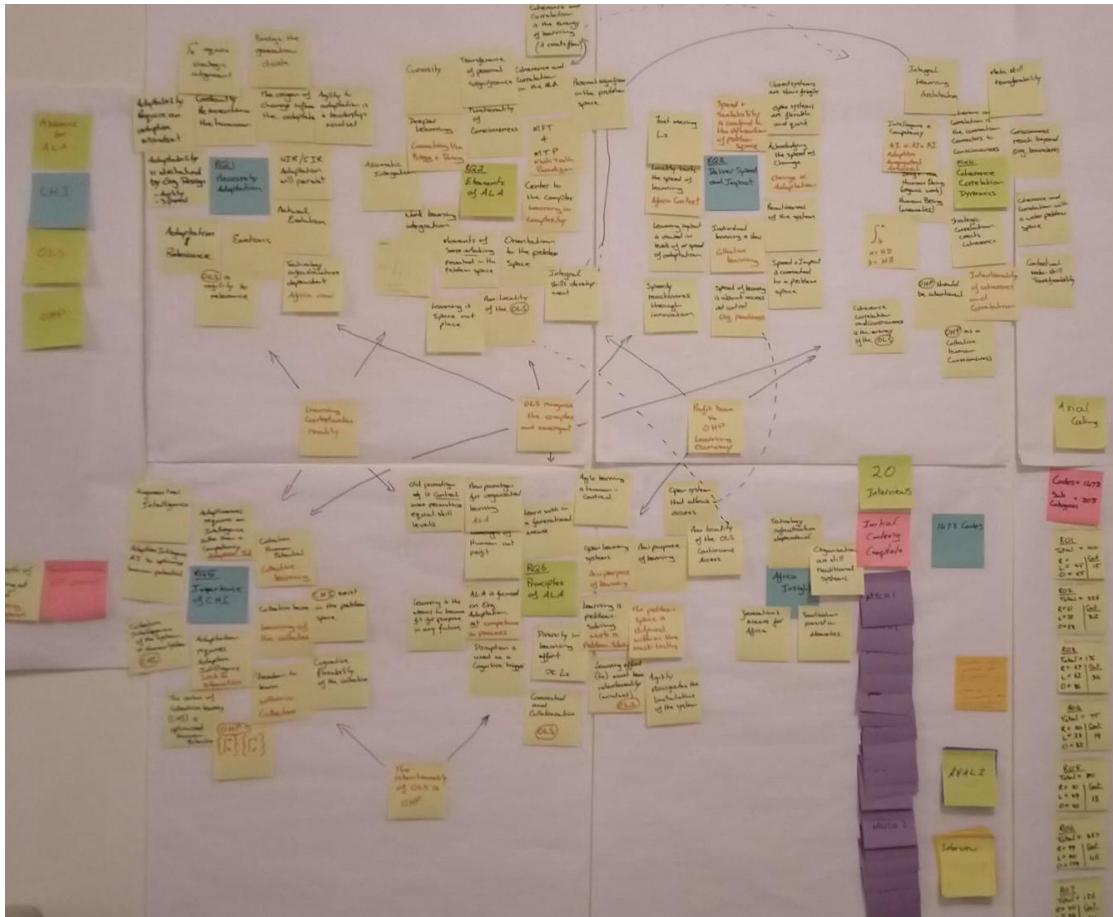
Figure 4.3 Constant Comparison Mess-Map. (Source: Own compilation.)

Figure 4.3 above shows the mess-map in its final stages. A mess-map in systems thinking means a visualisation of the chaos to translate the full system picture to meaningful insights by identifying any relationships that might emerge between the elements of the system. Similar to a causation model, except that the relationships are traced without reference to the "roles" played by each relation (Tahir-Gürçağlar, 2007). The mess-map provided insight to codes that were related.

4.4.2   Memo-writing

Memo writing formed an integral part of the data-coding process. As indicated in Section 2.3.4.9, memo-writing and field notes were written as reflective journaling capturing events, cases, codes, sub-categories, and relationships between categories. However, memos were linked explicitly to coding to illuminate the codes, as suggested by Charmaz (2013). Altogether 88 memos were written in the researcher's reflective journal, as shown in Figure 4.4 on the next page.
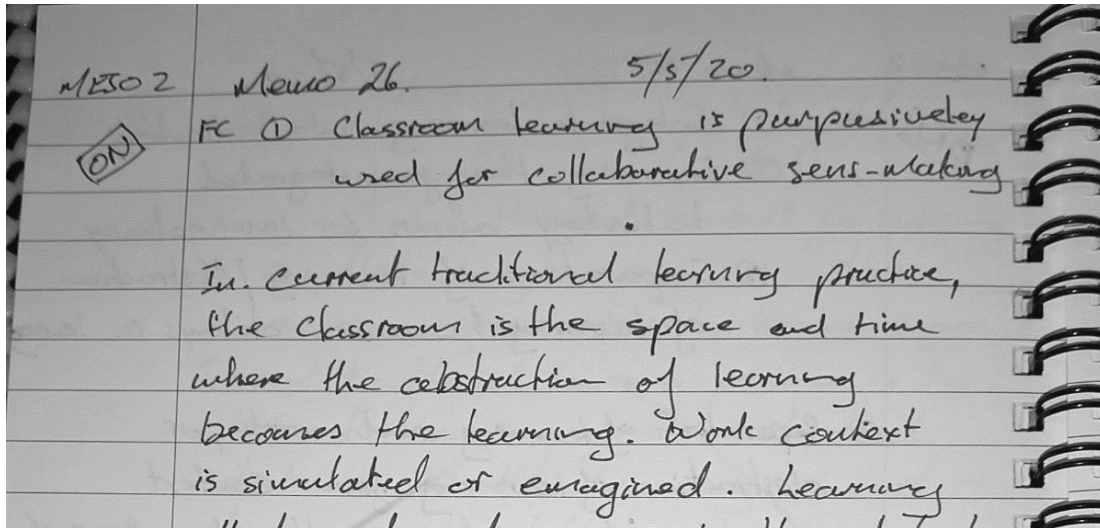
Figure 4.4 Example memo in the reflective journal. (Source: Own compilation.)

As shown in Figure 4.4 above, memos were written and organised into observational notes (ON), methodology notes (MN), theoretical notes (TN), and personal notes (PN), according to the suggestions of Gibbs (2012). Each memo was given a unique label indicating the memo number in the reflective journal and its relating interview. When the specific code was used, the memo label would be added as a superscript to indicate that a memo exists for that specific code. The memos were tabulated in Microsoft OneNote 365, as indicated in Table 4.1 below.

Table 4.1 Example of Memos. (Source: Own compilation.)

Date	Interview	Type	Label	Memo	Note
01/12/19	YJCL1	TN	M35_TN	The view is that change can happen so that, being in one industry may lead to diverse, therefore diversification is required.	RO1_R12_YJCL1
12/12/19	EBFL1	TN	M45_TN	The impact of 4IR is not viewed in light of technology but rather the relevance of human contribution.	RO2_R20_EBFL1
20/12/19	MESO1	ON	M43_ON	There is a strong indication that current leadership would abdicate their people development responsibility. - learning is not seen as a human process.	RO2_028_MESO1

Table 4.1 above indicates the organising layout and structure of the memo-writing process followed throughout the study. Each memo was captured according to the

memo's date, the interview that was analysed, and the memo type. The memo was provided with a unique label in order to keep track of the memos. The memo was captured as conceptualised by the researcher. All memos are referenced to the code marker generated during the initial coding process and noted in the note's column. Further examples of memos are included in Appendix G.

4.4.3   *Open Coding*

As indicated in Section 4.4, the researcher decided to apply a dual-coding process within the overarching coding process of 'open coding'; 'axial coding' and 'selective coding' were still enforced. However, during open coding and initial coding and a focused coding process described in Section 2.7.1 were deployed to integrate the blended methodology.

4.4.3.1   *Initial coding*

Throughout the open coding process, including initial coding and focused coding, coding was not based on existing theory but on discovering the meaning that emerged directly from the data. The initial coding process began by reading each interview several times and identifying the story's critical essence to discover the meaning within the data stories. During the reading process, the researcher highlighted the object of concern and the experiential claim to the object of concern as suggested by Larkin, Watts and Clifton (2006). The researcher also made his own comments relating the object of concern in the margin of each transcript. An example of a reviewed transcript is provided in Figure 4.5 on the next page.

Once the researcher was satisfied that the transcripts were fully interpreted, the identified object of concern and experiential claim and the researcher's notes were transferred to a table format in MS Word 365. The data table was stored separately per participant. Each of the data tables, of which an example is provided in Table 4.2 following, was further interpreted, and the lived experience for each participant per interview question was extracted.

So·if·you·say·that·in·your·area,·um,·your·approach·to·learning·is·agile–

Participant:·Okay

…just·explain·to·me·what-how·you·experience·that·on·a·day-to-day·basis.

Participant:·On·a·day-to-day·basis·it's…·means·that·we·have·to·be·closer·with·business.·So·day-to-day·basis·is·me·sitting·in·different·business·areas·and·talking·to·people·rather·than·conducting·an·annual·learning·needs·analysis·and·planning·for·the·year·to·say·this·is·what·we·do·to·skills·audit·so·we·ask·the·questions·around·how·is·your·business·changing,·what·do·we·need·to·build·in·the·next·month,·two·months,·three·months·to·a·year.·And·then·going·in·and·adapting·as·we·get·feedback·from·the·business.

[3:11]

agile

Okay.·And·how·does·it·feel·to·work·in·that·environment?

Participant:·Good,·nice,·I·like·it's…·it's·challenging·because·it's·hard…·is·the…·especially·from·learning·and·from·the·service·provider·prospective,·it's·the·targets·moving·so·you·never·achieve,·you·don't·know·if…·you·haven't·see·it·okay·we've…the·way·people·traditionally·measure·learning·is·we·train·x·number·of·people,·we·spend·x·percentage·of·budget,·you·can't·measure·it·like·that·anymore,·you·have·to·be·far·more·aligned·to·business·and·what·the·business·results·are·and·directly·show·how·you've·impacted·it·which·makes·it·hard·(how·to·quantify)

[3:57]

Is·that·how·you·measure·it?·By·linking·it·to·business·results?

Participant:·So…·trying·to,·but·it's·quite·hard·to·quantify…·so·because·sit·in·support·for·example,·support·is·an·enabling·function·which·means·that·you·can't…·you·can·see·a·line·of·sight·to·business.·Let's·say·finance·for·example·doesn't·actually·change·business·results.·But·it·is·an·enabler,·so·if·it's·an·enabler,·what·percentage·does·it·actually·enable·up·front·…·and·If·I·am·an·enabler·of·the·finance·team·how·do·I·quantify·that·for·myself·so·that's·the·challenge.

Handwritten notes (right margin):

Business here refers to the business unit

Being responsible to business needs not learning needs.

The challenge and resistance is due to measurement – a quantative measure to a qualitative measure or shifting the measure from L&D measure to Business measure

The measurement or indicator of success in learning is more blurred, especially in org structures that don't add to bottom line

Figure 4.5 Example of coded transcript. (Source: Own compilation.)

Figure 4.5 above indicates how the researcher indicated the object of concern (marked in yellow light shading) and the experience claim (marked in green darker shading). On the right-hand side of the transcript page, the researcher's notes on each conversation section are visible.

Table 4.2 Example of data table. (Source: Own compilation.)

Key object of concern	Experiential claim	Researcher's observation/interpretation	The Lived Experienced
what is your general approach to closing that skills gap? {R02}			
What is the nature of the gap	clients need	The focus is on the client, the buyer of the solution. There is no indication of the learner, the human that must learn {R02_R47_MWCO1}	It is a mechanistic world – find the gap, find the client need, find the solutions {R02_O35_MWCO1}
	what is the solution	The system is indicative of a profit/cost driven system {R02_R48_ MWCO1}	There is no view of the learner – the human {R02_O36_MWCO1}
How would the approach be different if it is skills versus knowledge? {R02}			
knowing about how to do it.		Although the participant clearly differential between knowledge {R02_R49_MWCO1} and skill, solutions are built to solve gaps in both. – integration of knowledge and skill is required. {R07_R18_MWCO1}	Knowledge and skills should be tied together through learning intervention {R07_O10_MWCO1}

Table 4.2 above is an example of the data tables created for each participant after the Round 1 interviews. Visible in the example is the alpha-numeric tag assigned to each interpretation of the researcher's observation and participant lived experience. The alpha-numeric tags were established as identifiers and reference points for the data. Each tag indicates the research conversation related to the research sub-questions. "RO" was used to indicate the research question. The next indicator was to identify the sample frame or sample group as described in Section 2.4.2. An indicator of "L" or "O" was used to indicate the Learning professional group or the Organisational leader group. The last section of the tag indicates the participant and the interview. The tags were carried forward and assigned to the codes generated from the interpretations during the final step in focused coding.

4.4.3.2   Focused coding

In focused coding, which started with the Round 2 interviews, the researcher's thinking became more consolidated with more adaptive inference. The focus was already implied through the type of enquiry within Round 2 interviews as much as within the grounded theory methodology applied for Round 2 interviews. Therefore, the researcher opted for line-by-line coding for the Round 2 interviews as applied by Gibbs (2010) and suggested by Charmaz (2014). The interview transcripts were

prepared differently from the round one interviews to allow for line-by-line coding, as indicated in the example in Table 4.3 below.

Table 4.3 Example of line-by-line coding. (Source; Own compilation.)

Line-by-line¤	**Interviewer:**°→[03:04]·¶	Focused¤	¤
¤	Given·that·response,·what·do·you·think,·if·anything,·	¤	¤
¤	what·can·be·improved·or·what·will·improve·the·	¤	¤
¤	outcomes·or·the·results·of·your·organization's·teaching·	¤	¤
¤	and·learning·efforts?¶	¤	¤
¤	¶	¤	¤
¤	**Participant:**°→[03:26]·¶	"	¤
¤	What·can·improve·it?·So·I·can·only·speak·for·support·at·	¤	¤
¤	the·moment.·So·from·support,·it·is·rarely·linking·it·to·	¤	¤
Strategy·link¤	strategy·in·every·single·area.·So·I·think·sometimes--·and	Focus·more·on·strategic· shifts¤	¤
Helping·the·strategic·shift·¤	it's·helping·the·organization·make·that·shift.·So·for·the·		¤
Organisational· understanding·of·learning·¤	organization·to·understand·what·learning·is.·So·there·	Become·a·strategic·partner· in·learning·¤	¤
Be·a·learning·partner·¤	are·two·things.·One,·as·a·learning·partner,·I·need·to·be·		¤
Strategic·link¤	more·explicit·in·what·the·link·to·strategy·is·and·drive·		¤
Linking·learning·to·strategy·	specific·learning·agendas·that·are·linked·to·strategy·or·		¤
Business·value·¤	business·or·business·value.·And·then·the·other·thing·is·		¤
People's·understanding·for· learning·¤	to·shift·the·people's·understanding·of·what·learning·is·		¤
Learning·is·too·formal·¤	because·there·is·still·a·feeling·that·learning·is·formal;·	Create·business·value·by· educating·the·system·on· what·learning·is¤	¤
Should·be·in·flow·¤	classroom·session·with·staff.·And·it's·not·in·the·flow,·		¤
Its·not·information·sharing·	it's·not·when·I·need·it,·it's·not·reading·an·article·or·a·		¤
Need·to·educate·the· system·¤	podcast·that·sits·outside·of·an·organization.·That· educating·of·the·system·is·what·needs·to·happen.¶		¤
¤	¶	¤	¤

Table 4.3 above indicates the prepared transcript for line-by-line coding. The line-by-line codes being extracted on the left, with the consolidation or focused codes generated from the line-by-line codes on the right. The reason for using line-by-line coding at this stage of the analysis was to break the patterns of thinking that might have formed during the first interviews coding process. As Gibbs (2010) explained, focusing on one line at a time and not a concept expressed through a complete sentence, forces the attention onto a few lines helps with the creativity of interrogating

the why…? where…? how come…? when…? and what happens…? questions (Corbin & Strauss, 2008). Like the initial coding, a unique identifier tag was assigned to the focused codes generated from the line-by-line coding.

In the final stage of open coding, the codes from the initial coding and focused coding were transferred onto MS Excel 365 Spreadsheet to organise further the codes and preparation for the next stage of the coding process. Table 4.4 and Table 4.5 below are examples of the final stages of open coding. The researcher is aware that the font size in the below two tables does not match the appropriate font size of this document. Therefore, an extract of the table with the appropriate font size is provided in Appendix I and Appendix J. The tables below are per example and to introduce the stages of the open coding procedure. The full tables can be made available on request. The first example, Table 4.4 below is lived experiences of the participants, the second example, Table 4.5 on the next page is the lived experiences as they relate to aspects of the research objectives.

Table 4.4 Example of final stages of open coding. (Source: Own compilation.)

Identifying Tag	Lived Experience Extracted - Learning Professional	Identifying Tag	Lived Experience Extracted - Organisational Leader
{RO1_L11_MMFL1}	Adaptation is not forced .	{RO1_O1_MTCO1}	The organisation is still machine like and not geared for adaptation .
{RO1_L12_MMFL1}	There is a lot of ambiguity that slows the adaptation down .	{RO1_O11_MESO1}	Change is difficult
{RO1_L13_MMFL1}	You become isolated from the world outside the organisation .	{RO1_O12_MESO1}	Change is personal
{RO1_L14_MMFL1}	There is less pressure to innovate and adapt within larger organisations.	{RO1_O13_MESO1}	New way of thinking required
{RO1_L15_MMFL1}	Finding solutions for learning seems to slow.	{RO1_O14_MESO1}	New learning for adaptation
{RO1_L15_MMFL1}	The right AI tools are not in place to become more relevant.	{RO1_O15_MESO1}	Learning necessary to adapt within learning architecture
{RO1_L16_MMFL1}	The ability to incorporate AI and to curate content is slowing adds to slowness.	{RO1_O16_MHMO1}	Business struggle with the application of learning in the new approach
{RO1_L17_YJCL1}	I will become irrelevant if I cannot adapt .	{RO1_O17_MHMO1}	Adaptation is linked to level of agility
{RO1_L18_YJCL1}	Continues disruption can be expected in 4IR.	{RO1_O18_MHMO1}	Adaptation needs are linked to evolving customer
{RO1_L19_YJCL1}	It will take more effort to keep up with disruptions.	{RO1_O19_MHMO1}	Adaptation is becoming fit for purpose
{RO1_L1O_MMFL1}	The organisation is still figuring out how to adapt rapidly.	{RO1_O1O_MESO1}	Adapting to agile Learning
{RO1_L21_YJCL1}	Organisations that cannot adapt will become irrelevant.	{RO1_O2_MTCO1}	Adaptation is to allow people to feel, to learn and to think within new circumstanc
{RO1_L22_YJCL1}	You are dead if you don't adapt.	{RO1_O21_MHMO1}	The need for adaptation is driven by the rang of choice in the market (Clients)

Table 4.4 above indicates how the extracted lived experiences of the participants were captured and organised. The data were captured according to the sample frame, with the learning professionals' extractions on the left and the extractions from the organisational leaders on the right. The two sample groups' lived experiences captured alongside each other provided the researcher with the opportunity to compare any difference in mindset within the sample frame.

After organising the lived experiences, using the identifying tags, the lived experiences were sorted according to research focus based on the research objectives as indicated in Table 4.5 on the next page.

Table 4.5 Example of final open coding. (Source: Own compilation.)

Research Objective 1: Adaptation Quotient and people adaptive potential			
Identifying Tag	**Lived Experience**	**Code**	**CA**
{RO1_L29_EBFL1}	Many students are still unaware of how their world of work will change – they are not seeing the need to adapt.	Acknowledging the speed of change	3
{RO1_L2O_YJCL1}	Acknowledging that things are changing.	Acknowledging the speed of change	
{RO1_L32_EBFL1}	The demand for changing will continue and intensify.	Acknowledging the speed of change	
{RO1_O11_MESO1}	Change is difficult	Adapt through emotional connection to change	9
{RO1_O12_MESO1}	Change is personal	Adapt through emotional connection to change	
{RO1_O23_MWCO1}	Adaptation is about the emotional connection to the change	Adapt through emotional connection to change	
{RO1_O25_MWCO1}	To adapt you must grow through the change	Adapt through emotional connection to change	
{RO1_O26_MWCO1}	Change, adaptation is painful	Adapt through emotional connection to change	
{RO1_O39_RLSO1}	Detachment to specific concepts	Adapt through emotional connection to change	
{RO1_O4_MTCO1}	Emotionally hard to adapt .	Adapt through emotional connection to change	
{RO1_O48_IBCO1}	The concept of adaptation sparks anxiety	Adapt through emotional connection to change	
{RO1_O49_IBCO1}	There is a focus to stay relevant, which is causing the anxiety	Adapt through emotional connection to change	

The example in Table 4.5 above indicates how the lived experiences related to Research Objective 1 (RO1) was organised. From the left, the identifier tag was indicated that would be used to refer to the original data if more depth of sense-making was required. Then the extracted lived experience was captured, followed by the code assigned to that lived experience. The data sheets were sorted according to the codes enabling similar codes to be viewed together. In the last column on the right, using content analysis (CA), the number of occurrences of a code were indicated. A total of 1478 lived experiences were extracted, which resulted in 203 codes.

4.4.4 Axial coding

The purpose of axial coding is to highlight relationships between categories by comparing codes with codes, detangling and describing the relationship on which the axis of the category is focused (Corbin & Strauss, 2008a). Moving into axial coding was not a linear process but an emergent process that called for active involvement and imagination within the process (Charmaz, 2014). Comparing codes to codes and codes within the sample frames, the researcher extracted the sub-categories. In extracting the sub-categories, the researcher constantly asked questions relating to the research sub-questions, "What are the relationships among the codes?" "What fits together, and what does not fit?" "Are there any codes that still need to be sub-divided?" "Are there codes that fit better within the context of another research sub-question?" "Are there any codes that need to be merged?" During this phase of axial coding, the emergent sub-categories were transferred to sticky notes, and a mess map of sub-categories was created, as shown in Figure 4.3 in Section 4.4.1.

The second stage of axial coding followed, using Strauss and Corbin's (1990:99) paradigmatic frame as explained by Amar and Haag (2017) as indicated in Figure 2.4 (Section 2.7.2) to move the emergent sub-categories to categories. This stage of the axial coding process required the researcher to deepen the analysis by investigating the conditions of the sub-categories within the paradigmatic frame. Deepening the

analysis allowed the researcher to rephrase the sub-categories and to organise the sub-categories around a central emergent phenomenon which was accepted as the category. An example of the use of the paradigmatic frame is illustrated in Figure 4.6 below.

Context:

Traditionally learning is separated from work

Causal Conditions:

Focus on ROI, measurement and profit

Phenomenon:

ALA requires an open system of integration

Strategies:

Diversity in learning
Learning to co-create
Curiosity

Consequences:

Coherence and correlation within an open system

Intervening Conditions:

Adaptive intelligence
Memetics
Learning effort and learning experience
Consciousness

Figure 4.6 Example of Axial Coding. (Source: Adapted from Amar and Haag (2017).)

Figure 4.6 above indicates how the emergent sub-categories were organised around a central phenomenon. The arrows indicate the relationship of sub-categories to the central phenomenon, either being a causal condition, providing context to the phenomenon, being an intervening factor, or an active strategy of the phenomenon leading to a consequence of the phenomenon. Viewing the relationships within the paradigmatic frame assisted the researcher to distinguish between the sub-categories and elevating the category from the data.

Axial coding allowed the researcher to deepen his insight into the participants' lifeworld and deepen his insight into the rich empirical data provided with regards to the phenomena and the research question. The 203 codes were distilled into 164 sub-categories from which 25 categories were extracted through the axial coding process.

4.4.5 Selective coding

'Selective coding', as the final phase of data coding, involved choosing and integrating categories as emergent themes (Scott & Howell, 2008). The themes were developed from the results of open coding and axial coding and concluded in conjunction with focus group analysis and the participant observations. During selective coding, the researcher moved from analysis and seeking understanding of each part of the text to understand the whole as a dialogue of the data within the context of the research aim and sub-aims as guided by the Hermeneutic Circle in Figure 2.3. For the researcher, selective coding was the process of increased understanding and deeper emergence of the lifeworld of the participants as a holistic phenomenon. As alluded to by Ajjawi and Higgs (2007), this in-depth interpretation helped to identify and describe meanings that the participants could not articulate considering the complexity and tacit nature of the studied phenomenon.

The researcher followed Alemu, Stevens, Ross and Chandler (2015), not only to select the final emergent themes as part of organising the data but also to confirm saturation of the data. As both Glaser (2001) and Charmaz (2008b) agree that data saturation is not seen as the point where the same pattern of data occurs, but rather where the conceptualisation of comparisons of incidents that yield different properties of the pattern is no longer found. The use of memos and constant comparative analysis combined with comparing the interview data with the data from the focus groups and participant observations contributed to a selective coding process that confirmed the saturation of concepts. The selective coding process affirmed the analysis process from a mere description of data to conceptualising the phenomena.

According to Benecke (2006) and Schwartz (2007), as referred to in Taljaard (2014), selective coding is complete when the conceptual framework of themes builds a single storyline that covers all inferred themes. To complete the selective coding process, the researcher considered, organised and grouped the selected 25 categories using a 'mess-map' using stick notes shown in Figure 4.7 on the next page.
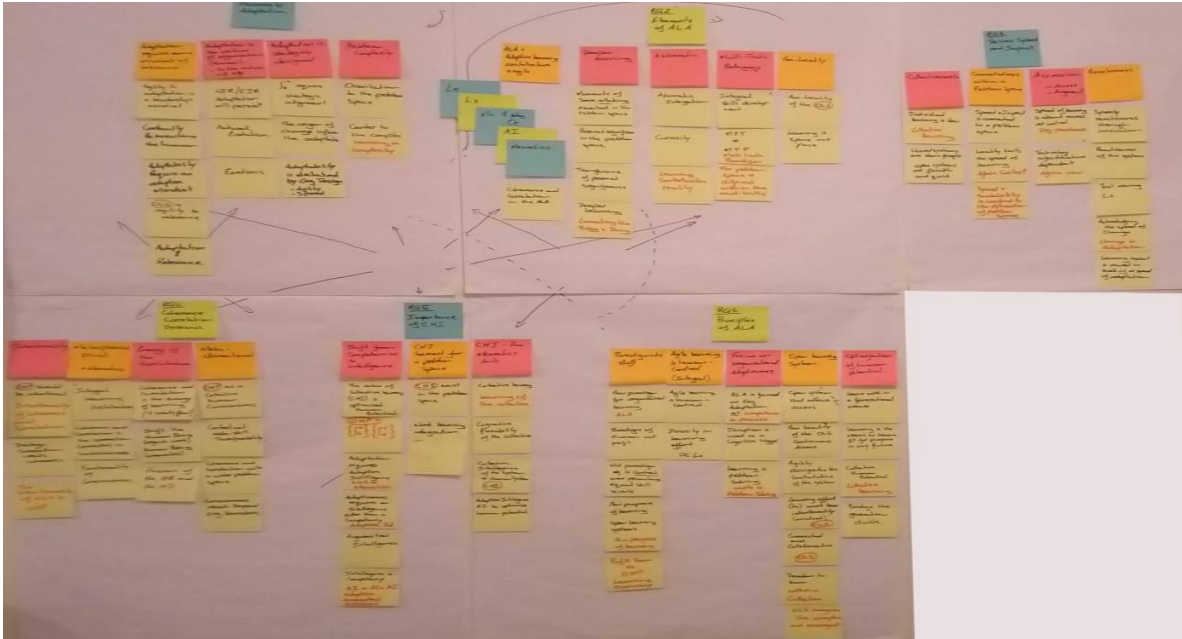
Figure 4.7 Map of Selective Coding. (Source: Own compilation.)

Figure 4.7 above illustrates how the researcher interpreted and grouped the categories into clusters or themes according to the central storyline. The storyline relates to the aim and objectives of the study. The 123 sub-categories were clustered under the 19 categories, which were grouped into five themes. These themes as the storyline or conceptual frames of the data for a new Learning Architecture (nLA) are indicated in Tables 4.6 to 4.10 following.

Theme 1: Organisational Adaptive Quotient (OAq) is shown in Table 4.6 below.

Table 4.6: Theme 1 - Organisational Adaptive Quotient.

Sub-category	Category	Theme
4IR/5IR impact will persist	Adaptation, the nature of the organisation	Organisational Adaptation Quotient
Pressure to adapt from social environment		
Pressure to adapt from external environment		
Adaptation is natural to people		
Acknowledged the speed of change		
Change is emotional		
Adaptation is acceptance		
Don't know how to adapt		
Utilise the natural evolution instincts		
Requires Adaptive-Intelligence		
Through emotional connection		

Sub-category	Category	Theme
The ability to become fit for purpose	Adaptation should be strategically designed	Organisational Adaptation Quotient (cont.)
Traditionalism [modernism] persist		
Transitioning of duality		
The origin of change		
Integration of work and learning should be aligned strategically		
Adaptability potential is dictated by the organisation design – agility and speed		
Disruption of the known and knowable	Adaptation to problem complexity	
Orientation to the problem space		
Leadership consciousness		
Shared consciousness of the problem		
Learning is linked to a problem space		
The problem space integrates the learning space		
Centre towards the complexity		
The emergent properties of sense-making		
Source: Own compilation		

In Table 4.6 above, clarify the construction of Them 1, Organisational Adaptive Quotient, Organisational indicating 24 sub-categories, folding into three categories, leading to the one theme. Adaptive Quotient (OAq) illustrates the constructs in the categories within the data storyline related to what an nLA should aim to do. It could be linked to the outcome of a learning architecture and be indicative specifically of the outcome of an nLA. The possible focus on the outcome of an nLA, being the improvement of OAq, could be within the understanding that adaptation is the nature of organisations. Thus, adaptation should be strategically designed to improve the potential to adapt, and the nature of organisational adaptation is dependent on the problem complexity of the organisation's environment.

Theme 2: nLA Requirements is exposited in Table 4.7 below.

Table 4.7 Theme 2 – nLA Requirements.

Sub-category	Category	Theme
Shift focus from ROI, measurement and profit	nLA requires an open system of integration	nLA Requirements
Traditionally [Modernism] learning is separated from work		
Focus on Adaptive-Intelligence		
Focus on memetics		
Focus on learning effort and learning experience		
Focus on consciousness		
Create diversity in learning		
Learning to co-create		
Generate curiosity		
Coherence and correlation within an open system		
Disconnect of the human being and human doing	nLA requires deeper learning	
Moments of sense-making presented in the problem space		
Personal significance in the problem space		
Transference of personal significance		
Deeper learning		
4IR requires strong multi frame thinking (MFT)	nLA requires an axiomatic pedagogy	
Learning contextualise reality		
Curiosity provides learning scope		
System promoting low curiosity		
Axiomatic integration		
Augmented intelligence		
Deeper learning		

Sub-category	Category	Theme
Low curiosity within the system	nLA requires a multi-truth pedagogy	nLA Requirements (cont.)
Low MFT within the system		
The problem space is defined within multi-truths		
The problem space is defined within multi-truths		
The myth of speed of learning		
Frustrated system leads to low curiosity		
Functionality of consciousness		
Augmented intelligence development		
Deeper learning		
Learning is not seen as problem solving	nLA requires consciousness	
Functionality of consciousness		
Learning is linked to business output		
Technology infrastructure dependence		
Sense-making		
Diversity in learning		
Source: Own compilation		

Table 4.7 above shows the construct of the biggest theme within the data storyline, consisting of 37 sub-categories, tapering into five categories, leading to the one theme. The theme of nLA requirements indicates what should be considered in thinking about constructing an nLA that could fit a *new normal*. In the conceptualisation of an nLA, the emergent requirements within the theme should be seen as points that should be oscillated between within a metamodernist ontology. The requirements within the theme indicate an open system of integration. Further, the theme indicates a requirement for deeper learning, which oscillates between pedagogical requirements of an axiomatic pedagogy and a multi-truth pedagogy. Finally, the theme also indicates the space's requirements, focusing on consciousness.

Theme 3: Organisational Learning System (OLS) is illustrated in Table 4.8 below.

Table 4.8 Theme 3 – Organisational Learning System.

Sub-category	Category	Theme
Individual learning is slow	Collectiveness of the system	Organisational Learning System (OLS)
Reactiveness of the system is slow		
Closed systems are slow and fragile		
Open systems are flexible and quick		
Ambiguity slows the adaptation down		
Faster thinking in the collective		
Adaptation requires agility in learning		
Speed and impact are connected to a problem space	Connectedness of the system	
Connected to a problem space		
Locality limits the speed of learning		
Speed is about access not control		
Speed and scalability are confined to the dimension of the problem space		
Organisational readiness - speed of learning is about access	Accession to the system	
Speed of learning is about access not control		
Technology infrastructure dependent		
Faster thinking		
Learning with impact		
Individual learning is to slow	Reactiveness of the system	
Reactiveness of the system is to slow		
Agility in learning		
Fast moving learning experiences		
Speedy reactiveness through innovation		
Source: Own compilation		

Table 4.8 above indicates the construction of theme 3, Organisational Learning System (OLS). Theme 3 consists of 22 sub-categories, linked to four categories and leading to one theme. Theme 3 builds on the first category within Theme 2, that of an nLA requires an open learning system. Theme 3 highlights the focus of such a possible open learning system through the categories of collectiveness of the system, connectedness of the system, accession to the system and the reactiveness of such a system and is then captured in the theme of an OLS.

Theme 4: – C-Dynamics is exposited in Table 4.9 below.

Table 4.9 Theme 4 – C-Dynamics.

Sub-category	Category	Theme
Lack of intentional C-dynamics	C-dynamics intentionality	Coherence-Correlation dynamics or C-Dynamics
OLS should be intentional		
C-dynamics within a wider problem space		
Coherence to adaptation requirements		
Strategic correlation creates coherence		
The intentionality of an open learning system is optimisation of human potential		
Work-learning separation creates low c-dynamics	C-dynamics, the meta-physical bind	
C-dynamics is the connection to consciousness		
C-dynamics creates connectedness		
C-dynamics in thinking		
Functionality of consciousness		
Integral learning architecture		
C-dynamics is the key to speed of learning	C-dynamics energy	
C-dynamics is in the learning architecture		
Fusion of the HB and HD		
Create shift in the HD (organic work) and HB (memetics)		
C-dynamics is the energy of learning - it creates flow		
Consciousness reaches beyond organisational boundaries	C-dynamics meta-dimensionality	
OLS as a human consciousness		
Apply C-dynamics of a wider problem space		
Contextual meta-skill transferability		
C-dynamics provides purpose		
Source: Own compilation		

In Table 4.9 above the construction of theme 4, C-Dynamics, is illustrated consisting of 22 sub-categories, folded into four categories and leading to one theme. Theme 4, C-Dynamics is a truly emergent property of the coding process developed from the complexity relationships between 'Coherence' and 'Correlation'. The concept of

'Coherence-Correlation dynamics' is hereafter referred to as 'C-Dynamics', indicating the oscillating relationship between Coherence and Correlation within an OLS, and will be discussed during Chapter 6. Within Theme 4, the importance of the interplay, the integration and the interrelationship of coherence and correlation in various aspects of an nLA are highlighted. These aspects are that C-Dynamics are intentional; C-Dynamics could provide a meta-physical connection within an nLA; C-Dynamics could contribute to the energy of an nLA; C-Dynamics could provide meta-dimensionality to an nLA.

Theme 5: Adaptive-Intelligence (Ai) is illustrated in Table 4.10 below.

Table 4.10 Theme 5 – Adaptive-Intelligence.

Sub-category	Category	Theme
Mindset of becoming irrelevant	Adaptation mindset	Adaptive-Intelligence (Ai)
Inability to grow		
Acceptance of change		
Adaptation requires a mindset of relevance		
Organisational agility		
Agile thinking of leadership		
Constantly reinvent the human		
The ability of relevance		
Work learning separation - lack of integration	Ai harnessed for a problem space	
Collective human intelligence exists within a problem space		
Cognitive flexibility		
Adaptive potential		
Learning as a collective		
Creating a memetic link		
Competency is focused on individual output to a problem	Ai paradigm shift	
Shift from competency to Ai		
Adaptation requires Ai		
Integration of work and learning and integration of being and doing		
Source: Own compilation		

Table 4.10 on the previous page shows the parameters of Theme 5, Adaptive-Intelligence (Ai). Theme 5 is constructed from 18 sub-categories, revealing three categories, leading to the one theme. The concept of 'Adaptive-Intelligence (Ai)' within the data and this theme is not related to 'Artificial Intelligence (AI)'. For this purpose, the abbreviation (Ai) is used.

4.5 Content analysis

Content analysis was mainly used towards the end of the data analysis phase, with a specific application during the analysis of focus groups' data and participant observation data. Viljoen-Terblanche's (2008:286) use of content analysis to integrate data obtained via different data-gathering efforts as a holistic attempt to explore the phenomena was followed. In contrast to hermeneutic phenomenology and grounded theory, in which a high level of interpretive complexity is required, content analysis as a thematic analysis (Griffiths, 2016) was more suitable for the researcher who needed a relatively low level of interpretation during the focus group and participant observation analysis as argued by Vaisimoradi, Turenen and Bondas (2013). At this late stage of data analysis, the researcher required an analysis strategy that determines trends and patterns of words or themes through their frequency, relationship, and information discourses (Grbich, 2006).

The purpose of both the focus group analysis and the participant observations was to observe or test some of the generated hypotheses during the grounded theory analysis. Given that no directly related studies or theories were found related to these phenomena, inductive inference was used as the approach to the content analysis (Hsieh & Shannon, 2005; Vaismoradi *et al.*, 2013). In an attempt to assist the reader to develop a broader understanding of the participants' experiences and, indeed the researcher's own thinking (Griffiths, 2016), content analysis was used to describe the phenomena conceptually (Elo & Kyngäs, 2008).

Content analysis involves the counting and comparing of key words or content, followed by interpreting the underlying context of the occurrences (Hsieh & Shannon, 2005). However, Zhang and Wildemuth (2009) aver that content analysis pays attention to the unique themes that illustrate the range of the meanings of the phenomena rather than the statistical significance of the occurrence of a particular datum. Saldaña (2013) confirms the importance to assess the frequency of phenomena and adds that frequency of occurrence is not necessarily an indicator of significance. As suggested by Saldaña, the researcher utilised the frequencies of

occurrence to ponder, scrutinise, and interrogate the phenomena to find emerging patterns that explain or enlighten the participants' experiences. The application of content analysis is indicated as per example in Table 4.5. *Example of final open coding* in Section 4.4.3.2.

4.5.1 Focus Groups

Focus groups were selected to provide three distinct perspectives to ensure data quality, as described in Section 1.12. The first focus group, consisting of Instructional designers, L&D Salespeople and Learning Solution Consultants, was to provide a perspective of a provider of learning solutions. The second focus group, consisting of seasoned learning facilitators, was to provide a perspective of delivering a learning solution. The third focus group, consisting of L&D Managers, Talent Manager, and L&D Business Partners, provided a perspective of acquiring a learning solution within a corporate organisation as the business representative of the learning fraternity. During the analysis process, the three perspectives were integrated to establish the unit of analysis and provide a consistent view of the data across the three perspectives.

As indicated in Section 2.5.2, the purpose of the three focus groups was to deepen the insights and richness of data of the emergent themes from the in-depth interviews. For this reason, the focus group process was designed with the ensuing analysis process in mind. The researcher hoped that a link between the emergent themes and participant conversations would be possible and that these conversations would provide the researcher with a contextual understanding of the themes from the interviews. With this context, the researcher followed a content analysis process similar to King Gabrielides (2018) based on the three-phase process of Elo and Kyngäs (2008) and Zang and Wildemuth's (2009) eight-step process. The applied process consisted of *Preparation*, including preparing the data, preparing the unit of analysis, developing a coding scheme; *Organising*, including extracting, coding and linking; *Reporting*, which refers to reporting of methods and findings.

4.5.1.1 Preparation of content

As indicated by King Gabrielides (2018), there is no defined rule for analysing data. However, the critical characteristic of all versions of qualitative content analysis is that large volumes of text are classified into much smaller content categories. Therefore, the preparation for content analysis started with the preparation of the data and the preparation of the unit of analysis. Although qualitative data analysis can be used to

analyse various types of data, generally, the data needs to be transformed into written text before analysis can start (Zhang & Wildemuth, 2009). In preparing the data, the researcher immersed himself in the video interviews. The focus group conversations were transcribed in summarised tables of conversations based on the essence of each of the focus group questions. Table 4.11 below is an example of the summarised conversations.

Table 4.11 : Example of focus group summarised conversations.

	MWCO	MJFL	YOCO
New Normal	Disruptive environment' across Africa there is a new dynamic, learning is at the workstation which makes it disruptive, more integrated with work-space, more local to the workstation and not to the group environment. There is a lot more learning requirements, more required from the learner. There is a sense of overwhelming learning which is a new dynamic in learning. There is a new requirement, the ability to translate the learning to the work immediately.	It might be a misconception that there is more time to learning at work. Due to less travel time to the place of work, there is a misconception that there is more time, yet time is more consumed by work tasks, higher productivity or output, not more underutilised work hours. Organisations might not know how to manage the new learning environment where people are learning in the workplace.	Learning is more part of the everyday role of the employee, not a programme every now and then. Continuous learning, self-directed learning, nuggets of learning and just in time learning is more evident.
Source: Own compilation			

Table 4.11 above indicates how the focus group conversations were summarised into tables to facilitate the participants' comparative responses for each of the questions. Summaries for each of the three focus groups were compiled for constant comparison of the data across the three perspectives created by selecting the participants for each of the focus groups. The three summarised tables defined the text or the unit of analysis.

In the following step during preparation, the researcher defined the coding scheme or coding framework. For the coding framework, the research used words, phrases or concepts from the themes, categories or sub-categories generated during axial coding and selective coding of the interviews. The approach generated alignment and ensured the enrichment of the themes rather than the discovery of new themes, as indicated in Section 2.5.2. Counting the number of occurrences of the words, phrases or concepts within the text formed the base for the framework, as indicated in Table 4.12 below.

Table 4.12 Coding framework for content analysis

	Concept	Occurrence	FG 1	FG 2	FG 3
	Self-directed learning	6			6
	Virtual learning	8	1	2	5
✓	Separation/Integration of learning	18	4	4	10
✓	Open system	17	4	3	10
✓	Problem	16	2	1	13
	Access	14	5		9
✓	Mindset shift	20	5	5	10
☑	Consciousness, awareness, focus	20	11		9
	New thinking, new design, new architecture	9		4	5
✓	New normal	22	7	6	9
	Speed and impact	12	4	2	6
✓	Adaptation and sustainable	30	6	14	10
	Complexity	16		6	10
✓	Adaptive-Intelligence	22	4	9	9
✓	Optimisation of human potential	20	4	10	6
	Paradigmatic shift	9	2	2	5
☑	Collective human intelligence	12	1	6	5
✓	Multi-truth	36	12	6	18
✓	Axiomatic, truth-points	20	2	5	13
	Agile	2	1		1
*FG1 = Focus Group 1, FG2 = Focus Group 2, FG3 = Focus Group 3 * ✓ = Qualified on first two criteria * ☑ = Qualified on the third criterion					

Table 4.12 on the previous page indicates the concepts that were selected from the interview analysis. A colour coding was applied to identify the various concepts within the text across the three focus groups. Further within Table 4.12 the number of occurrences for each concept is indicated as well as the number of occurrences per focus group. In the left-hand column of the table, a selection was indicated based on the selection criteria that were set by the researcher. Selection criteria were used to create focus on what the participants expressed the most views on and to eliminate some of the concepts that were not articulated as much as others or that did not seem that important to the participants.

The set selection criteria were:

1. The occurrence must appear in all the perspectives.

2. The total occurrence must be 16 or more as a total average of occurrences of concepts.

3. Occurrences less than 15 but indicated as a theme during selective coding.

Concepts that qualified based on the first two criteria were indicated by a ✓ symbol, and concepts that qualified on the third criterion only were indicated by a ☑ symbol.

4.5.1.2   Organising content

'Organising content' includes a form of open coding and idea abstraction (Elo & Kyngäs, 2008). The steps for abstraction and organising included testing the coding scheme followed by coding or extracting from the total unit of analysis (Zhang & Wildemuth, 2009). This process, as well as all of the other data analysis, was done manually. With full awareness of the research questions, the researcher immersed himself in the unit of analysis where key phrases were highlighted using various assigned colours to the selected words, phrases, and concepts. The researcher attempted to make the coding process as simple as possible by engaging in a constant comparative process between the content of the three focus groups. The organising phase was highly focused, with various iterations of reviewing the selected words and phrases, analysing the phrases within the context of the conversation, the context of the focus group question and the context of the ensuing conversation. The focus was on finding meaning within the participant conversations as it related to the research objectives.

The next step during organising was the grouping of extraction as a reduction process. The purpose of 'reduction' was to provide a means to describe the

phenomenon as they pertain to a theme or a research question (Elo & Kyngäs, 2008). The abstraction process intends to build on the initial understanding of the abstraction and analysis through the hermeneutic phenomenology and grounded theory analysis strategies, as discussed in Section 4.4. An example of the data abstraction is shown in Table 4.13 below.

Table 4.13 Example of abstraction

Relatable Concept	Content Category	Contextual Occurrence
Mindset shift	Control limitation	Traditional control mindset is hindering the or overriding the need for learning.
		The responsibility has shifted to the learner with the power to shape their own learning journeys with open access at an appropriate time for the learner as determined by the learner.
		Use nLA to stay away from a control mindset.
		There was a shift in power from the facilitator/learning team to the learner.
	Awareness	There is a shift, but organisations might not know what the shift should be or the rate at which they should be shifting.
		There is a new organisational culture or mindset required where change or adaptiveness is much more integrated as everyday business - way of work.
		CHI requires an orchestrator, (current systems paradigm or mindset).
		This will require a paradigm and mindset change
		COVID-19 forced a complexity onto the workplace, but it also enables to organisation requiring a shift [adaptation] for a post COVID-19 world of work.
		The key leadership conversations currently are - how do we reorganise work so that we can deliver value faster and how do we shift from order-taker workforce to consultant (problem solving) business partner
		Given the culture we are willing to also shift or reshape our truth to the culture.
Source: Own compilation		

Table 4.13 above shows the abstraction of a relatable concept to reduce the contextual occurrences within the focus group conversations, working from right to left in table columns. On the right is the extraction of the 'contextual occurrence' from the focus group conversations. The middle column shows the abstraction assigned to

the ideas within the contextual occurrences, referred to as a 'content category'. The column on the left relates to the themes and are referred to as 'relatable concepts'.

In the final step, the researcher compared the content categories related to the themes generated during the interview analysis and to the objectives of the study. During this comparison, 13 relatable concepts were abstracted from 78 content categories. The relatable concepts were linked to five of the six themes. The complete list can be viewed in Appendix K.

4.5.1.3   Reporting on content

The final phase of content analysis for the focus groups, interpreting and reporting the findings, was done only after data analysis, including the review of current literature. The researcher decided to move the interpretation and reporting to after the data analysis, allowing for the essence of the story of the participants' lifeworld to emerge fully. It further allowed the theory to be built sufficiently by using the data analysis holistically to develop integrated emergent properties of the phenomenon.

4.5.2   Participant observations

4.5.2.1   Process of observation

Participant observations were conducted, according to Section 2.5.3, during a learning intervention designed to improve leadership behaviour within the context of organisational culture. The outcomes of the intervention were within the auspices of preparing leaders for a disruptive future. Future-ready leadership was contextualised as being ready to transition into a 'new normal' where the new normal was not defined yet very real within the current disruption of the global pandemic.

The interventions were conducted as a three-day workshop within a live classroom setting at a secluded venue, allowing for a controlled environment. Therefore, the participants were not observed within their workplace but within a learning context and within the learning environment. Prior informed consent was obtained from both Cornerstone Performance Solutions (Pty) Ltd and the client which will be kept anonymous. The interventions were conducted over seven months. Unfortunately, the project was suspended twice during the delivery period due to the COVID-19 Lockdown restriction that prevented gathering people at the learning venue.

The intervention was conducted as team interventions with a focus on 'collective leadership behaviour'. The focus on teams and collective behaviour allowed for

observing incidents or phenomena of collective learning and collective intelligence which impacts on collective organisational adaptation quotient. Altogether 14 teams with 120 participants were observed. Observations were made covertly to ensure the integrity of participant behaviour within a natural learning setting.

Observations were structured by establishing a control position every day at the start of the day-session. As the day progressed, comparisons towards the control position were observed through focused reflection questions at the end of the day. The intervention outcomes guided the reflective questions, and participant responses were noted for analysis after the sessions. During analysis, the researcher would draw comparisons and observe shifts in participants' articulation of their experiences. Observable incidents of collective behaviour and consciousness of the collective and individual behaviour were present in the analysis. Shifts in paradigmatic position, worldview, or mindset during the day were also recorded. Observable incidents were qualified as evidence of the organisation's adaptive quotient and the adaptability potential of its leaders. The observations were structured to reveal evidence on pre-set areas of:

- Moments of collective learning

- Moments of collective intelligence as opposed to individual competence

- Moments of increased consciousness

- Moments of observed shift in worldview from Tier 1 to Tier 2

- Moments of shifts in mindset

- Moments of African Humanness

- Moments of quotable phrases generated as memes

During analysis, observed incidents that would contribute to the observable were provided with a value of one (1). Where incidents were observed that would be deemed as diminishing the status quo, a value of negative one (-1) was assigned. The value of -1 was not seen as an arithmetic negative 1. It was merely observed as a diminishing impact on value. Each group observed were provided with a unique number for identification purposes. The observed value across the various observed groups is summarised in Table 4.14 on the next page.

Table 4.14 Observed Incidents

Observed Groups	Moments of increased consciousness	Moments of collective learning	Moments of collective Intelligence	Moments of individual adaptation potential	Moments of World View shifts (paradigm)	Moments of Mindset shift	Moments of African Humanness	Total incidents per group
011220	4	1	4	2	2	4	0	17
030321	7	3	2 (-2)	2 (1 & -1)	2	3	0	19
051020	1	2	3	4 (3 & -3)	2	2	2	16
080321	3	1	4 (2 & -2)	0	0	5	0	13
101120	1	0	4 (1 & -3)	0	1	2	0	8
141020	6	0	5 (2 & -3)	8 (3 & -5)	3	3	0	25
150920	3	3	5	4	5	6	1	27
150321	3	2 (1 & -1)	3 (2 & -1)	4 (3 & -1)	0	2	0	14
161120	4	3	2	0	3	3	0	15
210920	5	3	2	6 (3 & -3)	8	8	0	32
211020	3	0	1	3 (1 & -2)	3	5	0	15
240321	2	1	4 (3 & -1)	0	1	6	0	14
251120	3	2 (1 & -1)	2 (1 & -1)	1 (-1)	3	3	0	14
280920	7	2	7	2 (1 & -1)	2	4	1	25
# Of Incidents	52	23	48	36	35	56	4	254
(-) incidents	0	2	13	17	0	0	0	32
Source: Own compilation								

Table 4.14 above indicates the number of incidents observed within each of the observed areas. Altogether 254 incidents were observed across the 14 groups. In addition, 32 incidents were deemed 'incidents of diminishing value'. The highest number of incidents was recorded in observed shifts in participants' mindsets towards the outcomes of the intervention. The second-highest number of incidents was observed within the moments of increased consciousness or awareness. The increase in consciousness and shift in mindsets were expected, given the focus of the intervention. The focus on the intervention was aligned to leadership consciousness and the awareness of own behaviours within a team. The following two areas of

observation, Moments of increased consciousness and Moments of mindset shifts, together provided 106 incidents, representing 70% of the incidents. Between the two observables, only two incidents of diminishing value were recorded.

4.5.2.2   Moments of increased consciousness

Moments of increased consciousness were observed when participants indicated that they had experienced higher levels of awareness of their own or their group behaviour. The heightened consciousness could be in any area of awareness or behaviour and was not limited to a specific incident or limitation. Table 4.14 indicates that in all groups, moments of increased consciousness was observed. Only one incident, as the lowest recording, was observed in groups 051020 and 101120, respectively. These two groups also recorded high incidents of diminishing value within the other observable areas. Groups 030321 and 280920 recorded the highest incidents of increased consciousness, that of seven each. The average number of incidents across the 14 groups was four per group. During the observations, the researcher noted that groups indicated that higher levels of consciousness lead to higher levels of consideration of the contribution of others.

4.5.2.3   Moments of collective learning

Moments of collective learning, where a group as a collective consciousness gains more understanding and insights into the group as well as the individual making the group, were observed when a group learned as a group about the group itself. The incidents were observed when the group engaged in activities that provided higher knowledge and insights about themselves as a group or collective leadership. As indicated in Table 4.14, three groups, 101120, 141020 and 211020, recorded zero incidents of collective learning. Four groups, 030321, 150920, 161120 and 210920, recorded the highest number of incidents (three each). Only two groups, 150321 and 251120, also recorded one incident each of diminishing value. Thus, an average of two incidents was observed across the 14 groups.

During the observations, the researcher noted that group 150321 was still focused on individualistic behaviour. The individualistic behaviour might have been due to low leadership awareness and a shared sense of belonging, which could limit collective learning. In the case of group 150920, by the middle of day two, the group was communicating through the collective rather than through the facilitator, using the opportunity of collective conversation to learn as a collective. Group 251120 struggled with collective work, seemingly due to a strong individualistic leader who kept conversations in the first person through individual accountability.

4.5.2.4 Moments of collective intelligence

'Moments of collective intelligence' were observed when participants expressed their realisation of the collective value of the team collective understanding of their world of work. Collective intelligence would be observed when a group expressed their understanding of increased empowerment due to the collective value of the group. The most prominent observation in this observable area is the high number of diminishing incidents. Of the groups, 50% recorded one or more incidents of diminishing value, with a total of 13 diminishing value incidents recorded. The diminishing value incidents might indicate a culture of individualistic behaviour measured by individual performance, which is the case as the organisation adopts an individual reward system as indicated in reward discussion in various group interventions. As indicated in Table 4.14, group 280920 recorded the highest number of incidents (seven), of which none was of diminishing value. Group 211020 recorded only one incident as the lowest observation. However, groups 101120 and 141020 recorded more incidents (four and five), respectively. They also recorded the highest diminishing value incidents of three each.

During the observations, the researcher noted that the diminishing value incidents are all related to blame being placed outside the respective group and placed onto senior leadership, deflecting the fundamental issues of individual thinking within the group. The continual use of the "I" concept indicates a collective reluctance or inability to think. The concept of a collective was created in all the groups, and although all the groups acknowledged the collective function, some groups struggled with the realisation of adaptation towards collective thinking.

4.5.2.5 Moments of individual adaptive potential

Moments of individual adaptive potential were observed when participants indicated that they are considering change, choosing to change and the possibility that there should be change. The type of change in the context of the observation was essential. The focus of observing this change was not on improving the "Doing", that of processes, planning and standards. The change here focused on improving the "Being", that of thinking, accepting, applying, and intentionality in the rephrasing of the approach to problem-solving. Table 4.14 indicates that moments of individual adaptive potential as an observed field could be described as a volatile observable. There were either no incidents recorded within a group or both value, and diminishing value incidents were recorded. Only two groups recorded only incidents of value potential, with four groups recording zero incidents. Two groups recorded a higher number of incidents than the other groups, yet it might be that they do not have a

higher potential to adapt. Group 141020 recorded eight incidents. However, five of the incidents were of diminishing value. Group 210920 recorded six incidents, of which three were of diminishing value. Together with group 051020, these two groups stand out due to all three of these groups recording a higher diminishing value of three or more, indicating a lower adaptation potential.

During the observation, the researcher noted that adaptation potential might be diminishing when members of a group display or view weakness in trust. The meme created in some groups of "trust by default" as a possible coping mechanism to low trust may, however, be influenced by the recorded low trust, diminishing the value of adaptation potential. It was also noted that potential development is within understanding the system's limitations and boundaries. Being stuck in the view of negativity towards the organisation, leading to low ownership that prevents innovation, groups may also diminish their adaptation potential.

4.5.2.6   Moments of worldview shifts

Moments of worldview shifts were contextualised as a paradigmatic shift in the fundamental way that the world of work or the world, in general, is viewed that might influence the implicit behaviour of the individual or the group as a collective entity. For observation purposes, the worldview was further contextualised as shifts in Human Being and Human Doing, shifts in Spiral Dynamics tier one to tier two thinking and shifts in problem ecology identification, shift in sense-making constructs, and shifts in correlation-coherence dynamics. Despite an in-depth contextualisation, observation of this observable proved difficult. As indicated in Table 4.14, only 35 observations were recorded across all 14 groups. Most groups only recorded one or two incidents. Two groups showed more significant shifts in worldview, that of group 150920 recording five incidents, and group 210920 recording eight incident respectively. It was also observed that these two groups, groups 150920 and 210920 recorded the overall highest number of incidents.

The researcher noted paradigmatic shifts in the view of people versus production, as quoted by a group – "We need to take our people along, not just our profits". The researcher also noted the shift in the view of the ecology in groups, indicating that they are part of a much bigger organisation than just their team.

4.5.2.7   Moments of mindset shifts

Moments of 'mindset shift' were observed when participants indicated a change or shift in their thinking about problem-solving strategies required to perform their leadership duties and operational duties. 'Mindset shifts' were further observed as a

clear shift in behaviour intentionality to a new adapted outcome or result. The researcher acknowledges that not all incidents of mindset shifts will be displayed or visible to the observer as many of these shifts will be implicit to the individual and not necessarily volunteered under covert observation. Some incidents were, however, observed. As indicated in Table 4.14, all groups recorded incidents of mindset shifts. The lowest number of incidents recorded per group were two, recorded by groups 051020, 101120, and 150321 respectively. Two groups, 080321 and 211020, recorded five incidents, and two groups, 150920 and 240321, recorded six incidents. The highest indication of a shift in mindset was recorded by group 210920, that of eight incidents. It is notable that group 210920 also recorded the highest shift in worldview.

During the observations, the researcher noted that a shift in mindset seems to lead to higher consideration for others within the group and others in general. Shifting mindset towards a people orientation or a human orientation enabled groups to move past their history. A shift in mindset from a mechanistic to a humanistic approach to work seems to have occurred. It was also noted that the mindset shifts occurred only later in the interventions and sometimes only on the last day of their interventions.

4.5.2.8   Moments of African Humanness

Moments of 'African humanness' were observed when participants related to aphorisms or axioms of an African nature or seemingly African origin. This observation was less common than expected, with only four incidents recorded across all 14 groups. Table 4.14 indicates that only three groups recorded incidents of African humanness, with one group, 051020, recording two of the four incidents. Examples of the African humanness incidents are shared below:

"Be *human* to support the *human*."

"Now I know the *person* and not just the name."

"To walk *fast*, you walk alone, to walk *far*, you walk together."

"I sense the *Bones* of the team."

Although not recorded under the observable African humanness, some memes as possible axioms were recorded during the participant observation. Together with the examples of African humanness, these memes make for quotable phrases that may assist in the development of people to illustrate the use of axioms as an element of an Adaptive Learning Architecture.

These memes as possible quotable phrases are:

Is it a bigger *difference* or a bigger *similarity*?

Be the culture we *deserve.*

Trust by *default.*

Put the label of "High Performing" aside and ask how we can do *better*?

We are a team that *shares*, not *supports.*

We must *slow down* to become *fast.*

Be the change we *want* to see.

It is a call to answer - live the *collective.*

Let us *go to* the people and not *wait for* the people.

My actions will influence the *team.*

I am *collective.*

4.6   Conclusion

This chapter provided the reader with an in-depth view of how the data collected for this study were analysed. It began by explicating the data transcription process of the participant interviews by using open-, axial-, and selective-coding. The process of data coding facilitated the blended research methodology of hermeneutic phenomenology and grounded theory. Facilitating the blended methodology allowed the analysis to move from parts to whole in following the process informed by the hermeneutic circle and ensuring data saturation had been achieved through constant comparative analysis. Finally, the data analysis process was explained in the codes, categories and themes that emerged as the analysis progressed through each stage.

The chapter continued to explain how content analysis was used within the two data collection methods of focus groups and participant observations. In each method, the researcher's observations were captured in text and analysed to integrate data obtained via different data-gathering efforts as a holistic attempt to explore the phenomena. Data from the focus groups and the participant observations were used to observe or test some of the generated hypotheses during the grounded theory

analysis. However, the content analysis paid attention to the unique themes that illustrate a range of meanings of the phenomena rather than the statistical significance of the occurrence of a particular datum.

In the following chapter, the focus is placed on extending the sense-making out of the data. The researcher will present literature according to the themes and emergent properties identified through the selective coding process and the content analysis, showing how literature was used as a form of data that was then integrated into the constant comparative analysis process.

CHAPTER 5:
Literature Review: From subsistence to being

5.1   Introduction

In Chapter 4, building from Chapter 3, the researcher provided a detailed account of the data-collection process and the data collected via the various data collection methods. In the following two chapters, Chapter 5 and Chapter 6, the researcher will explore literature related to the empirical data analysed, which might require the construction of a new theory or augment current theories regarding a new learning architecture. In the literature review chapters, the researcher will review literature seeking evidence to support insights gained from the data and whether there are any gaps in either the data or the literature. As per Urquhart (2013), a Full Literature Review was suspended so that a focused literature review could be conducted. The suspension as a research tactic avoided a time-consuming extensive review as indicated in Section 1.11.4 and Section 2.5.5. Instead, a more focused Literature Review was possible using the data stories from Chapter 3 and, themes, categories and codes from Chapter 4 to guide a focused review of literature, as argued by Locke (2001); Dick (2007) and Dunne (2011).

As the first Literature Review chapter, Chapter 5 is centred on an ever-accelerating disruptive world exacerbated by the COVID-19 pandemic. Using the data, Chapter 5 explores the possibilities of stepping into a new learning economy and the requirements to enable such a leap. It must be noted that the Literature Review did not simply compare the emerging themes in the data with existing literature but had a broader focus to include all the insights gained during the data analysis. Therefore, this chapter will present the literature reviewed according to insights drawn from the sense-making process of data analysis. Finally, in Chapter 5, the literature will be presented according to the following key insights: A new normal perspective; Organisational adaptation; Organisational memetics – The Being meme; Adaptiveness and the Problem ecology.

The researcher conducted the Literature Review recognising that undertaking a Literature Review is not only exploring and highlighting existing literature regarding a specific phenomenon. A Literature Review is also about constructing conceptual thinking and organising phenomena to theorise within the gaps between the empirically collected data and the extant literature. To this end, it is appropriate to clarify the researcher's approach to concept development. Primarily, the researcher will follow Podsakoff, MacKenzie and Podsakoff (2016) guidelines in defining,

describing, and organising concepts. Building on the seminal work of Sartori (1984), Goertz (2006), and Judge & Kammeyer-Mueller, (2012), Podsakoff *et al.* (2016:161) define concepts as "cognitive symbols or abstract terms that specify the features, attributes or characteristics of the phenomenon in the real or phenomenological world, rendering meaning for the scientific community that uses the concept". According to Sartori (1984:74), cognitive symbolism is consistent with concepts providing the basic 'unit of thinking'. For Goertz (2006:27), describing concepts is more than providing a mere definition, and it shows what is important about the concept. Podsakoff *et al.* (2016) further opine that concepts are similar to hypothetical constructs, viewed as theoretical entities. Concepts as hypothetical constructs relate to the more multidimensional concepts that require a more constructivist conception, at least regarding the ontological relation between the sub-dimensions and the more general or abstract concept (Judge & Kammeyer-Mueller, 2012).

5.2   New normal perspective

According to Asonye (2020) of the World Economic Forum, a 'new normal' is a state to which an economy or a society settles following a crisis when the new situation differs from the situation that prevailed before the start of the crisis. According to Hällgren, Rouleau and de Rond (2018:114), such a crisis is triggered by extreme events that occur outside the core activities of societies, communities, or organisations. The term of 'new normal' has been employed in relation to World War II, the September 11, 2001, attacks on America and the subsequent retaliation in Iran and Iraq; the 2008 global financial crisis, and now the COVID-19 pandemic. During the COVID-19 pandemic, the term 'new normal' has been used increasingly to refer to the change of human behaviour during and after the pandemic outbreak (Hochman, 2020). Reinwald, Zimmermann and Kunze (2021) posit that the COVID-19 pandemic can be described as an extreme disruption from organisations' perspectives as much as for society. As a result of the physical, psychological and material consequences for organisations, there is still uncertainty about how organisations and society will settle.

The long-term reach of the COVID-19 pandemic, and the settling into a 'new normal' raises questions about organisations' ability to cope with the effects of resettling. These questions include if organisational members are affected in their work behaviour by the extreme event, especially if the leaders can intervene to assist with the external events on their employees (Reinwald *et al.*, 2021). The current academic and empirical literature on COVID-19 as an extreme disruption does not provide conclusive answers to these questions. The literature focuses mainly on the

development of temporal organisation impact and stakeholder disruption, neglecting possible cross-level effects on its employees. However, related research indicates that extreme organisational disruptors such as extreme weather or terrorist attacks can affect individual workers through increased absenteeism, burnout, lower job satisfaction, a drop in work intensity and decrease in individual learning effort, as argued by Byron and Peterson (2002) and Toker, Laurence and Fried (2015).

As the global society slowly comes to grips with the effects of the COVID-19 pandemic as an extreme disruptor it is arguably still long before it resettles into a new normal. Anderson, Rainie, and Vogels (2021) solicited a view of a possible resettling or new normal in the year 2025. Although their view is provided through non-scientific canvassing based on a non-random sample and their opinion is not generalisable, it does describe the human impact view of the possible new normal. They sounded many broad themes describing the most likely opportunities and challenges emerging as humans accelerate their use and applications of digital technologies. Their study indicated that most people see that their future, after COVID-19 will be different with a reconfigured reality regarding the physical presence of people, and trust and truth as the biggest change in reality (Anderson *et al.*, 2021) They predict that a possible new normal in 2025 will be much more complex, requiring a different human approach to the world with a higher application of human intelligence rather than standardised and traditional decisions and responses. It might require society, social institutions and individuals within societies to transcend.

'Transcendence', as contextualised within human development, is described by McCarthy and Bockweg (2013:89), and Reed (2014) as a developmental process resulting in a shift in perspective from a rational, materialistic view to a broader worldview, characterised by broadening personal boundaries within the inter-personal, intra-personal, trans-personal and temporal dimensions. According to McCarthy, Hall, Crawford and Connelly (2018), 'trans-personal boundaries' refer to a sense of connection with a dimension beyond the here and now. In contrast, 'temporal boundaries' refer to past, present and future blurring, re-interpreting events and experiences through a new lens. Dein (2020), referring to Gorelik (2016), denotes transcendence as an ego-dissolving encounter, a breakdown of self-boundaries submitting into an all-encompassing reality. Haidt (2012) describes transcendence as a highly emotionally and cognitively charged experience associated with a broadened worldview revealing hidden significant truth. The researcher contextualises the use of transcendence in this study as an experience of a person beyond their current existence, whereafter the person presents a newly formed paradigm or worldview about a concept within a context.

5.2.1   Transcendence to a multiple truth system

The segue on truth is mainly lead by the increase in access to information and the utilisation of the internet. The COVID-19 pandemic and the subsequent global lockdown strategies brought about significant social change and, per implication, change in technology usage, including internet use (Fourie, 2020). SEACOM, an operator of one of South Africa's major undersea fibre cables, reported a 15% increase in internet traffic during March 2020, the month of the first national lockdown (SEACOM, 2020). In a study of 1627 interviews on internet use conducted by Fourie (2020) during the fifth week of the first national lockdown, 66% of the respondents indicated that the coronavirus has helped them to embrace technology during their time of isolation. In addition, 60% of the respondents used video-calling platforms, 62% reported a higher usage of social media than before the lockdown, and 54% indicated an increase in online shopping with a significant shift in their shopping behaviour itself. Hence, the increased access to the internet, thereby recording information despite the struggle with network quality and low internet speed.

According to Popat, Mukherjee, Strötgen and Weikum (2017), the worldwide web is a vast source of valuable information. However, despite providing vast amounts of valuable information and valuable services, the internet is also a source of alternative truths. Through access to alternative information that would have been previously outside of cultural norms, there is an increase in what is seen as 'false claims of reality' through access to social media (Popat *et al.*, 2017). Kumar, West and Leskovec (2016), and Bovet and Makse (2019) argued that detecting false claims and validating credible sources of information is challenging, even for humans, with misinformation occurring in many forms such as erroneous quoting or reporting on politicians or companies, fake reviews about products or restaurants or made-up news on celebrities.

This misinformation or 'false truth' has come to be known as the 'post-truth culture'. Cosentino (2020:3) describes the post-truth culture as a world where emotions and beliefs trump evidence-based arguments, where the distinction between truth and lies has become increasingly blurred and where the very notion of 'truth' seems to have all but disappeared. The cause of post-truth is ultimately the nature of the audience itself. It is well established that humans are subject to what psychologist's call 'confirmation bias'; that is, we tend to believe things that confirm what we already believe sooner than we do things that challenge our views (Mair, 2017). Sawyer (2018) argue that the post-truth culture has accepted the online presence of a phenomenon as coincident with truth and that this logic can be stretched to allow

online phenomena to serve as events in and unto themselves without a relationship to an actual event or experience.

D'Ancona (2017) argues the declining value of truth in a political era where emotional narratives reclaim primacy in public conversations at the expense of factual and verifiable arguments. McIntyre (2018) and Salgado (2018) engage with the role of social media as drivers of post-truth through their analysis which includes post-modern cultural relativism as an antecedent to the current post-truth era. A common thread through these arguments is the emphasis on the declining trust in mediating authorities as to the ultimate casual factor behind the deterioration of truth (Cosentino, 2020), requiring the individual recipient of information to rely on human intelligence to distinguish truth from alternative truth or false truth, or information from misinformation.

The notion of post-truth introduces new complexity to an age-old information problem (Cosentino, 2020) and has become one of the defining concepts of the social media age. The theoretical contribution of Kalpokas (2018) describes a broader societal tendency towards self-promotion and self-branding practices that are incentivised by the operational logic of social media. Contrary to most academic accounts, Kalpokas (2018) does not consider the post-truth culture an inherently negative phenomenon (p42), positing that post-truth based on narratives or escapist fictions (p20) are imbued with affective and aspirational values. In the current post-truth predicament, a key distinction must be drawn between *misinformation*, the spreading of inaccurate or *false information,* while mistakenly thinking it is accurate, and *disinformation*, the deliberate spreading of false or inaccurate information (Harsin, 2018:7). Most of the post-truth world, and perhaps the new normal encountered via social media, seems to be more misinformation generated by the affective and aspirational value of the communicator.

5.2.2 Transcendence to an experience age

According to Cosentino (2020:19), the real concern of the present era is that a crisis of the trusted authorities of the past has fostered a social and political condition plagued by suspicions and scepticism, and inaccuracies with fabricated information for the primary purpose of self-gain. As the 'experience age' emerges, people become increasingly interested in seeking out meaningful interactions rather than passively consuming information (Annunziato, 2020). The experience age, as described by Zhang and Lin (2020:72), is an evaluation of value that is increasingly based on the

experience of the value. Cummings (2017:5) sees the experience age as a clear connection between the value expected and the outcome received, where links are drawn between the experience, the effectiveness, and the cost to obtain such an experience. Cummings further describes value within an experience age as achieving the expectation of diminishing a specific, contextual and highly individualised perception of challenges or problems. Allowing the consumer or user to define the value enables the provider to solve a specific outcome, leading to a value experience. The new narrative developing within the experience age is where the 'virtual self' results from 'everything experience' rather than 'everything accumulated' (Wadhera, 2016). This new narrative will require a complete paradigm shift on how humans interact with reality, including how humans interact with work realities, the organisation, and society.

In the experience age, organisations harness their employees' intuition value and 'gutfeel' in combination with rational analysis (Birkinshaw, 2016). Learning and teaching in the experience age will require the same paradigm shift, both in its leadership and teaching practices, to enable organisations to rely on employee intuition and rational analysis. Educators in academia and corporations face significant challenges due to the shift from the 'information age' to the 'experience age' (Wadhera, 2016). Moving from a teaching practice where students are passive and disengaged (Capps & Crawford, 2013) and often struggle to see the relevance of what they are learning to their lives (Gee, 2009) towards what is referred to as 21st-century skills such as empathy, systems thinking, creativity, computational literacy and abstract reasoning (Smith & Hu, 2013), will require new thinking about the learning architectures applied in an experience age. Hu-Au and Lee (2017:216) describe two distinct shifts in both formal and informal learning. The first shift is from an industrial revolution model, where a teacher transmits information to students via a 'one-size-fits-all' mindset to an information age model. The 'information age' model's highest priority is access to and accumulation of information. The second shift is from the 'information age model' to an 'experience age model' in which the ubiquity of inter-connectedness through mobile devices has led to experiencing new points of view as commonplace. By creating, sharing, and participating in technology-mediated experiences, the younger generations become accustomed to rich new learning environments.

The transitioning to the experience age is being led by a combination of advancements in technologies, artificial intelligence, social messaging and the Internet of Things (Heslop, 2020). Along with these technological advancements is the proposal that society has become saturated with information and therefore is

becoming selective about where and how it consumes information contributes to the emergence of the experience age (Bennett, 2019). Using technology as a bridge to a new connection, challenges, destinations and encounters, the experience age offers the promising opportunity to design our lives and a world in exciting and memorable ways (Annunziato, 2020). An example hereof is the 2018 release of the Netflix interactive file, *Bandersnatch*, which allowed the viewer to make choices for the main character, which influenced the story's outcome. Within the technologically advanced world, people want to connect to life itself and not to the information of life. In the 'experience age', people want to experience everything (Spacey, 2020). People want to be immersed in the *story of the experience*, creating the *feeling of living* rather than serving as an *informed bystander* (Bennett, 2019).

5.2.3   Transcendence to regenerative economies

The discourse on the 4IR or 5IR, is ingrained in some form of capitalism with the explicit focus of becoming faster and cheaper, more profitable quicker, feeding the economic need of capitalism (Simmons, 2018). The novel coronavirus first announced officially in Wuhan in late December 2019, although the first infections remain ambiguous (World Health Organisation, 2020). The alarm was only sounded when the western world showed increasing infections. Jadoo (2020) posits that the alert system for epidemic and pandemic diseases should have been activated earlier regardless of economic and political consequences. Although the exact reason for a late alert is not known, Galvani, Lew and Perez (2020) indicate that failures in a truly global society could occur and continue to occur because humanity has not yet evolved a global consciousness to match the global advances in telecommunication and transportation technologies that have created a socially and economically ever-shrinking planet. Galvani *et al.* (2020) further argue that the COVID-19 pandemic, in a way, is a direct result of the modernisation and globalisation process which is supported by economic policies of consumption.

Not as a result of or outcome of the COVID-19 pandemic but related to the above is the regenerative discourse led by Fullerton (2015) and Raworth (2017). According to Fullerton (2015:23), regenerative economies must embrace the continual process of 'becoming' necessary to sustain life in the natural world. Fullerton further argues that regenerative economies are about learning, adapting and continually evolving systems as a 'holon'. Economies, therefore, can be understood only through the dynamic relationships amongst all the parts of the economic system as a critical principle of holism. Further, Fullerton argues that, given the holon's regenerative

principles, there will be a demand to shift from a competitive, consumption and mechanistic worldview to a more collaborative, ecological worldview with a sophisticated understanding of the complexity of the human species. Raworth (2017) argues for the revolutionisation of 21st-century mainstream economics. Raworth posits that mainstream economic theories that support capitalistic behaviour also tax the earth's ecological capital and resources such as carbon dioxide emissions, ocean acidification and air, water, and soil pollution. She calls for a new paradigm in economic approach to solve these capitalistic problems (Indrawan, 2018). Although Raworth (2017) does not recommend concrete actions on shifting the world economic approach, she suggests at a foundational level seven ways of thinking that may influence the future.

As the world starts to settle back to a new normal a leap in the understanding of living systems seems to occur. Regeneration is the core characteristic of living systems (Sanford, 2020:23). According to Scharmer (2009:26), to regenerate is to reconnect with the deeper source of inspiration and self to reinvent both self and the system. For Sanford (2020:24), regeneration is the innate ability of a living system to bring itself to a new level of organisation and expression after it has been destabilised or disrupted. Ross (2019:83) interprets Raworth's suggestions as an economic approach where society and business stay within the two limitations Raworth proposes staying within a safe and just space for humanity where all people can live in wealth and prosperity, and not overshooting the planet's boundaries of regeneration. Raworth (2017) acknowledges that her ideas are not that new or original, but more a case of going back to the basics, understanding the origins of economics and the harmony between human existence and planet existence. Something that we still see in many African cultures today. Recognising that changing the paradigm of economics cannot happen overnight, there is a realisation that influencing a new paradigm is possible through the students that will make the decisions tomorrow (Ross, 2019).

5.3   Organisational Adaptiveness

'Organisational adaptiveness' is reviewed in context of an organisation's readiness to quickly respond and reorganise itself to a disruption within its ecology. Although many elements including economical, resources, technology and design are required to ensure adaptiveness, this review focuses on 'human adaptiveness'. 'Human adaptiveness' as a means to 'organisational adaptiveness' is specifically reviewed from the perspectives of learning and adaptability potential.

5.3.1   *Organisational adaptiveness and learning*

Organisational adaptation to changing conditions is a focal subject of organisational studies and is deemed necessary for all industries (Uhl-Bien & Arena, 2018). 'Organisational Adaptiveness' (OA) is an organisation's ability to adapt to a changing environment (ecological) and shifting market (economic) conditions (Birkinshaw & Gibson, 2004). Stouten, Rousseau and Cremer (2018) postulate a central concept captured in the notion that organisations need to change and adapt is moving quickly towards new opportunities, adjusting to volatile markets, and avoiding complacency. A refers to the core necessity for organisation sustainability. The sustainability of the organisation is contextualised not as the longevity (Aleksic, 2013) and profitability (Nouira, 2016) of the organisation but rather the organisation's contribution to a sustainable future. In the context of 'sustainability', OA is positioned as the organisation's ability to adapt to new or changing circumstances. As learning is an essential process for human adaptation (Aggestam, 2006), organisational learning (OL) is a significant contributor to the adaptiveness potential of the organisation.

In Chapter 1, the researcher posits that organisations will probably venture through a period of change to a new global economic approach due to epistemic shifts brought about by 4IR and 5IR advances, extreme disruption, and the emergence of the 'age of existence'. Combined with a paradigmatic shift from profitability to a contributor to sustainability, the organisation cannot expect to stay the same. Organisations as a socio-economic structure will have to adapt. Therefore, OL as a mechanism to adaptation should be important in the organisation's strategic thinking (Schwab, 2018). However, as the researcher, and maybe many organisations, anticipated a tranquil exploration through an epistemic and paradigmatic shift of the 4IR and 5IR, the extreme disruption of the COVID-19 pandemic exponentially accelerated the world onto a new path of adaptation. Lew, Cheer, Haywood, Brouder and Salazar (2020) recognises that the COVID-19 pandemic caused significant disruption to the total human-earth system. As it relates to organisations' socio-economic structure, the human-earth system has just begun its re-organising, re-learning, innovating and creating journey necessary for the human-system to transform itself and adapt to a new context of the planet we inhabit (Lew *et al.*, 2020:2).

5.3.2 Adaptability Quotient

Organisational adaptiveness in the second and third decade of the 21st-century might be completely different from previous adaptation events. Due to new technology, settling back to a new normal during a semi-post COVID-19 period will not be a minor adjustment. Settling into a 'new normal' might not be a calm process as intended by the idea of 'settling' might instead be the 'perfect storm'. The consequences of 4IR, 5IR, COVID-19, facing the world's biggest problem, global warming, and transcending to a new era will all contribute to a momentous shift in humanity, society, and organisations alike. From a regenerative economic theory viewpoint, settling into the new normal will entail the ability to alleviate the tension between exploitive and explorative behaviours (Uhl-Bien & Arena, 2018). Schulze and Pinkow (2020) explain that 'exploitation' consists of 'closing behaviour' such as sticking to plans without considering the future environment, adhering to old rules, and establishing unquestionable routines. On the other hand, 'exploration' consists of 'opening behaviour' such as giving room to new ideas, allowing errors and encouraging learning. As a predictor of organisation success in settling into the new normal Adaptability Quotient (Aq) will become a prominent indicator (LinkedIn Workplace Learning Report Editors, 2021), with 'adaptability' being the most crucial skill (Van Nuys, 2021).

'Adaptability quotient' is currently defined from a few perspectives. Panozza (2020) defines Aq as the capacity to cope and thrive with change by demonstrating flexibility to self and others, remaining open and curious, unlearning and relearning, refocusing resilience to persist, delaying personal gratification for greater gain, applying problem-solving skills, and tolerating failure through to succeeding. Powell (2018) loosely defines Aq as the ability to adapt and thrive in a fast-changing environment. Hughson (2020) provides a slightly nuanced definition as the ability to determine what is relevant to forget, obsolete knowledge, overcome challenges and adjust to change in real-time. Kraljic, Tankovic and Prodan (2020:465) follow a similar vein to Hughson, indicating that Aq primarily refers to an individual's ability to absorb new information and adapt to changes in real-time. The researcher proposes the following as a working definition for Aq: *The measure of an individual's ability to adapt in real-time to a rapidly changing context and resettle to thrive in a more agile system.*

5.3.2.1 Organisational adaptive quotient

For this study, it is essential to contextualise the concept what the researcher refers to as 'Organisational Adaptive Quotient' (OAq). Organisational adaptation is described by Sarta, Durand and Vergne (2021) referring to McMahan and

Evans (2018) as equivocal and requiring a transdisciplinary study. Applying a transdisciplinary approach, Sarta *et al.* (2021:44) define 'organisational adaptiveness' as intentional decision-making undertaken by organisational members, leading to observable actions that aim to reduce the distance between an organisation and its economic and institutional environments. Mdluli and Makhupe (2017:10) describe 'organisational adaptation' as the concept of Aq, being the organisation's ability to adapt quickly to the rapidly changing global context by shifting resources to opportunity areas, new business strategies, a plethora of new legislation, working across cultures, dealing with temporary virtual teams, and taking on new assignments all demand that leaders be flexible, nimble and agile. According to Patel (2019:8), OAq is defined as the ability to adjust course, product, service and strategy in real-time to unanticipated changes in the market.

From the above, the researcher proposes a working definition for organisational adaptative quotient or OAq as *the measure of an organisation's collective intelligence to rapidly apply intentional problem-solving strategies in response to new business contexts reselling and thriving in an open organisational system*. Underlying this working definition of OAq is the hypothesis that organisational leadership can assess the organisational problem ecology and capitalise on relevant opportunities to act, be successful, and increase the organisations' survival odds (Sarta *et al.*, 2021). This working definition conceptualised OAq in four themes. First, intentional in that the organisational members are conscious of their environment or problem ecology, resulting in choices to react to, redesign, reframe or regenerate (Scharmer, 2010) the problem space. Second, relational, whereby organisations, environments and problem ecologies have a direct influence on each other. Third, conditioned, through the behaviour of the collective intelligence of the organisation's members. Fourth, convergent, in that those organisations seeking to adapt are attempting to move closer to a new set of business environment conditions or characteristics. Within the four themes, OAq is seen as the cognitive capabilities, including cognitive flexibility (Teece, 2007), that allow organisations to move quickly into new environments and pursue new technologies (Helfat & Martin, 2015), recognising the learning orientation for the development of OAq (Sarta *et al.*, 2021).

Within the working definition of OAq, the researcher recognises explicitly five concepts. The first four concepts, the collective meme, adaptive potential, problem ecology, and Adaptive-Intelligence, will be reviewed within the context of organisational adaptiveness. The fifth concept, an open organisational system, will be reviewed within the context of the coherence-correlation dynamics, as described in Section 6.4.5.

5.4   Organisational memetics: The Being meme

At the heart of this chapter is what the researcher refers to as the 'Being meme'. The being meme is captured in what Graves (1974) refers to as the momentous leap from subsistence to being. To try to establish some meaning to this reference of leaping from subsistence to being the researcher will review the literature within the context of organisational memetics.

5.4.1   Memetics

Although the theory of memetics appeared as an up-and-coming science in the late 1990s and early 2000s, it is no longer considered a scientific theory among contemporary evolutionary scholars. It has assumed the status of a pseudoscience because of the lack of ontological rigour, specific to its origin in the gene-centred anti-group selectionist argument (Chvaja, 2020:542). Contributing further to the degrading of the memetics theory was the inability to align or agree between the two mainstream theorists regarding an 'ontological stance'. The first mainstream theorist's postulation was Boyd and Richerson's (1976) "dual-inheritance theory", also referred to as Gene-Culture Co-Evolution theory or GCCE (Henrich, 2016). The second mainstream theorist was Dawkins (2006), with what he called 'memetics'.

Boyd and Richerson (1976) and Dawkins (2006) argued memetics within the context of cultural evolution. Both understood culture as being subject to evolutionary dynamics and reducible to some units named cultural variants by Richerson and Boyed (2005) and memes by Dawkins (2006). The fundamental difference between both theories was anchored in their approaches to the concepts of 'units of selection'. GCCE theorists worked with cultural traits, understood the human ability for cultural transmission to be an adaptation, and focused on the adaptive potential value that culture traits might have (Richerson & Boyd, 2005). Memetics considered culture to be reducible to gene-like units of cultural selection, which often spread at the expense of human fitness (Dawkins, 2006). What is similar in both theories is that information within the meme field is often questioned and seen as false truth or untruth, the powerful axiom-like reality of messages transmitted within a culture remains. This logic affords to formulate an at least partly adaptationist perspective on memetic evolution wherein some memes are valued on their contribution to the memetic fitness of the bearer, based on decoupling the link between biological and memetic fitness (Chvaja, 2020). Given the above, it would be appropriate to define the concept of memes and memetics for use during this study.

Memetics can be described as the theoretical and empirical science that studies memes' replication, spread, and evolution (Heylighen & Chielens, 2008). Schlaile, Bogner and Mülder (2019:84) argue that organisational memetics provides a valuable theoretical and empirical framework for capturing the complexity of organisational culture. Memetics is also described as the study of how culture evolves through the creation, selection, and biological replication or transmission of information patterns or memes - ideas, beliefs, theories, and other sorts of mental constructs (Ermakov & Ermakov, 2021). Therefore, the researcher proposes a working definition of the concept of organisational memetics as *the study of memes relating to the complexity of the organisation culture messages that replicate, transmit and evolve through the collective memes of its members*. The researcher will also refer to memetics as the 'collective meme' of the organisation that includes collective ideas, beliefs, theories and mental constructions of the organisation.

5.4.2   Memetics and learning

As most memeticists agree, memes can transmit through social learning as models of adaptive value and basic models of transmission biases within the replicators (Chvaja, 2020). Richerson and Boyd (2005) argue that the replicators do not adopt a natural selection operation but rather that the selection of memes operates primarily on behaviour phenotypes created by cultural heredity. The core memetics proposes that memes compete for human attention and a place in human memory. In this case, the success of memes is determined mainly by human psychology (Brodie, 2009). Memes are concise states of mind (Aunger, 2002).

Given the working definition of organisational memetics, the collective meme could be seen as helpful to expose attractive or useful memes that are important for change, growth and stability of the organisational culture (Schlaile *et al.*, 2019). Memes are successful when they attract people's attention and stay in their memory long enough to start and complete another transmission (Chvaja, 2020).

5.4.3   Spiral Dynamics

Human development is driven by the biological, psychological, sociological and technological need to balance the human systems at all levels of family, group, institution, organisation and society (Wood, 2020). 'Spiral dynamics' is a concept that provides a firm view of human development from this complexity view. Considering

the aim of this study, the researcher considered three specific descriptions of what is commonly referred to as 'Spiral Dynamics'. *First* are the levels of existence from the Emergent Cyclical Levels of Existence Theory (ECLET) seminal work of Graves (1959). Graves introduced the ECLET based on a core concept of a double helix, similar to the DNA double helix, with one strand of the helix describing neurological system or configuration and the other strand the existential problems faced. The combinations or links between the two strands provided the various levels of existence (Graves, 1970). *Second*, Beck and Cowan (1996) expanded the concept and introduced memes as a description of the Graves theory based on their research in North America and South Africa. They named it 'Spiral Dynamics' and added colours to the different levels to simplify the use of the theory. The different colours within the spiral were further described by Beck, Larsen, Solonin, Viljoen and Johns (2018) who expanded the colours to what is now referred to as vMEMEs. *Third*, Viljoen and Laubscher (2015b) further explained and solidified the concept within humanness in conceptualising Spiral Dynamics within Human Niches. Blom and Viljoen (2016a:293) describe human niches as the areas in which people excel because of their questions of existence.

From a 'new normal perspective', human development seemingly requires rapidly moving towards the moment when humanity is ready to take the momentous leap (Graves, 1974) from the *first-tier* to *second-tier* thinking (Wood, 2020). Therefore, the focus for this part of the Literature Review is understanding the transcendence from Tier 1 to Tier 2 within the context of Spiral Dynamics. However, it would be important to provide an overview of the first tier, before focusing on the second tier. Given the strong relationship with culture, organisational development, and the strength of their application of Spiral Dynamics in Africa, the researcher will use the concept of human niches as a thinking system to describe the first tier of Spiral Dynamics.

5.4.3.1   Human Niches

The summation of Human Niches provided below is based primarily on the work of Viljoen (2015) and Blom and Viljoen (2016a). According to Laubscher (2013), thinking patterns have changed over time, and new thinking patterns have led to new and different realities, extending the concept of human niches. Viljoen and Laubscher (2015b) see the different human niches as cyclical and interactive, and linear and cumulative, making human niche integral. Human niches are emerging waves and not rigid categories (Laubscher, 2013). In addition to the summation of the general characteristics of each Human Niche, the researcher will add two views on the learning system for each of the human niches. The first view relates to Gravesian

learning theory as presented by Beck and Linscott (1991). The second view is from an instructional interactivity perspective, as presented by Kahveci (2006).

5.4.3.1.1 The Beige Human Niche

In the 'Beige Human Niche', all human energy is directed towards survival through innate sensory abilities and instinctual relations. In *Beige*, humans tend to form small, loosely organised 'herd' like living structures, operating independently (Viljoen, 2021). Food, water, warmth, and physical safety are of high priority with the most basic subsistence level (Blom and Viljoen, 2016b). *Beige* is still visible in today's world in slums, squatter camps and homeless people living on the streets (Viljoen & Laubscher, 2015b). The reason for learning in *Beige* from a Gravesian learning theory perspective, to satiate sense and responses to biological drives. The responding learning system would be habituation and instinctive. The responding teaching system should focus on physiological and biological needs (Beck & Linscott, 1991). Graves (1971) posited that there is no need to develop learning systems at the first level of human existence. The Beige human niche relates to the 'first subsistence level', which Graves (1974:73) called 'Automatic Existence'.

5.4.3.1.2 The Purple Human Niche

In the 'Purple Human Niche', collective subsistence systems are formed where the individual or self is sacrificed for the family, clan, leader, or union of the group or tribe (Blom & Viljoen, 2016b). Within the 'Purple Human Niche', ancestralism plays a vital role, as the future is directly impacted by the blessings of those who have been before (Viljoen & Laubscher, 2015b). The 'tribe' preserves sacred objects, places, events and memories. Traditional rites of passage, the seasonal cycles and the tribal customs are still observed. The strength of the past exists in the present, and the future is axiomatic to *Purple* (Viljoen, 2015). The reason for learning in *Purple* is to find safety and carry on the traditions or axioms of the tribe. *Purple* shows humanness through a sense of sacrifice to the tribe, high loyalty, caring and goodwill (Laubscher, 2013). The learning system is that of 'classical conditioning', and the teaching system is that of assuring a periodical need, rituals and repetition (Kahveci, 2006). Forms of learning suitable for *Purple* include paternalistic teachers, step by step sequences, rituals and routines, small group nests, and the use of symbolism, metaphoric stories to emulate the magical and fantasy worlds (Beck & Linscott, 1991). The *Purple* human niche relates to the 'second subsistence level', which Graves (1974:73) called 'Tribalistic Existence'.

5.4.3.1.3 The Red Human Niche

The 'Red Human Niche' presents an expressive individualistic thinking system that represents the first emergence of effective individual action of the ego (Blom & Viljoen, 2016b). The individual or self that was *sacrificed* in *Purple* wants to break away from the constriction of *Purple* to stand tall, receive attention and demand respect from others. A low developed 'Red Human Niche' would show in the form of conflict, aggression and corruption (Viljoen & Laubscher, 2015b). A highly developed 'Red Human Niche' is more hero-like, with an innate ability to take action mirrored in results in people. *High Red* shows humanness in the sense of always being in control (Viljoen, 2015). The reason for learning in *Red* is to feel own power and break loose from constraints (Kahveci, 2006). The learning system is 'operant conditioning', and the teaching system that of survivalist, psychological self-image and power. Approaches to learning that are useful to *Red* include immediate rewards for learning tasks, an influential teacher image that allows for toughness, rejects rigid structures, and learning tasks that allow for self-dependent direction (Beck & Linscott, 1991). The 'Red human niche' relates to the 'third subsistence level', which Graves (1974:74) called 'Egocentric Existence'.

5.4.3.1.4 The Blue Human Niche

The 'Blue Human Niche' is often described as the truth force because it is organised around absolute beliefs in one right way, with total obedience to that truth or its authority (Blom & Viljoen, 2016b). The 'Blue Human Niche' is a *sacrificial* system where the self is sacrificed for the transcendent cause, truth or righteous pathway (Viljoen, 2015). 'Blue Human Niche' people believe that living justly produces stability and guarantees future rewards impulsively controlled through guilt (Viljoen & Laubscher, 2015b). The reason for learning in *Blue* is to be told what is right and find approval in truth (Kahveci, 2006). The learning system is 'avoidant of alternative' fulfilled with a teaching system of structural, order and show of meaning that provide a sense of security. The learning approaches within *Blue* are indoctrination from a rightful authority, punishment for errors, moralistic direction and the possibility of deferred reward in the future (Beck & Linscott, 1991). The 'Blue human niche' relates to the 'fourth subsistence level', which Graves (1974:75) called 'Saintly Existence'.

5.4.3.1.5 The Orange Human Niche

The 'Orange Human Niche' believes in better living through technologies, with the main idea being that we can shape, influence, promote progress, and make things better through the use of scientific methods, quantification, trial and the search for

better solutions (Viljoen, 2015). In the 'Orange Human Niche', the stronger and more enterprising members of the *Blue* niche realise that they are being held back by adhering to the rules and procedures of *Blue* and that better results are possible through individual action (Blom & Viljoen, 2016b). *Orange* seeks to manipulate the world's resources most effectively to gain material prosperity through merit. The reason for learning in the *Orange* is to weigh options and discover how best to prosper (Viljoen, 2015). The learning system is 'expectancy', encouraged through an experimental teaching system, seeking adequacy and success (Kahveci, 2006). Forms of learning suitable for *Orange* are trial-and-error experiments where success brings anticipated gains, competitive gaming with high technology and high-status tools (Beck & Linscott, 1991). The 'Orange human niche' relates to the 'fifth subsistence level', which Graves (1974:75) called 'Materialistic Existence'.

5.4.3.1.6   The Green Human Niche

The 'Green Human Niche' exists in the quest for inner peace and human connection, and inclusivity (Blom & Viljoen, 2016b). Connectedness becomes the highest value. The well-being of all the people is a critical consideration. The 'Green Human Niche' shows its humanness as the need to *sacrifice* the self for both self and others, for humanity in the present (Viljoen & Laubscher, 2015b). The 'Green Human Niche' sees its role as renewing humanity's spirituality, bringing harmony, and focusing on the enrichment of human development (Viljoen, 2015). The reason for learning within *Green* is to sense harmony and peace with self and others (Kahveci, 2006). Therefore, the learning system in *Green* is 'observational', complemented with a teaching system with a high acceptance that is affiliative and promotes human understanding. Forms of learning within *Green* are exploring feelings and learning by watching others' actions, sharing here-and-now experiences to enhance interpersonal skills (Beck & Linscott, 1991). The 'Green human niche' relates to the 'sixth subsistence level', which Graves (1974:75) called 'Personalistic Existence'.

5.4.4   From Subsistence to Being

Graves (1974:72) opines "The error which most people make when they think about human values is that they assume the nature of man is fixed, and there is a single set of human values by which he should live". To find deeper insight into the challenges society-at-large and organisations specifically face today, the researcher consulted the original text of Graves and what he described as the momentous leap required. According to Graves (1974), the humanness nature is an open, constantly evolving

system which proceeds by quantum jumps from one steady-state system [also referred to as vMemes (Beck, 2011) or Human Niches (Viljoen & Laubscher, 2015b)] to the next through a hierarchy of ordered systems, necessitated by the change in the circumstance or life condition of the human.

Not being a static progressive system, the human is set to progress through the system [spiral] as each of the life conditions is solved with the value system [vMeme]. When new problems arise, higher-order dynamic neurological systems are biochemically activated to solve them (Graves, 1974). However, as much as the human can naturally progress to higher levels of existence, the human can also become fixed at some level and even regress to a lower level. Moreover, the progression of the human can be stunted by external circumstances such as poverty, helplessness, social disapproval, and the like.

More than fifty years ago, Graves (1971) noted that humanity in the societal effects and technological advances is coming to the pinnacle of the sixth theme of existence. Nevertheless, the struggle for human emergence has imperilled the survival of that life, bringing the human back to a first theme-like existence problem. Today, humanity and the existence of humanity is in question. At this point, with humanity in question, as evident in the higher frequency of disruption and even extreme disruption, the leading edge of socially effective development is currently solving the problems of the sixth theme, that of 'Personalistic Existence'. Therefore, some parts of society are being readied to begin ageing with the first theme of existence yet in an entirely new and more sophisticated variation.

Graves (1974) described the first six levels of existence, the 'Beige human niche' through to the 'Green human niche', as 'Subsistence Levels'. The subsistence levels are concerned with the human's existence in the establishment of individual survival and dignity. 'Subsistence' is contextualised as the emergence of the individual of the species Homo Sapiens and its subsistence on this plant. Beck and Cowan (1996:247) refer to these first six levels as 'First Tier' of human development. The following two levels of existence, 'Yellow human niche' to 'Turquoise human niche', are described as 'Being Levels' (Graves, 1974), truly becoming a human being, as the essence of humanness. Beck and Cowan (1996:247) refer to these two levels as 'Second Tier' of human development.

5.4.4.1   Deeper insight of Second Tier

As the human moves from the 'personalistic level', 'Green human niche', the level of being with self and others, to the 'cognitive level of existence', 'Yellow human niche',

a chasm of unbelievable depth of thinking is crossed (Graves, 1974). This gap between the 'First Tier' and 'Second Tier' is between getting and giving, taking and contributing, and destroying and constructing. Graves described this as the *momentous leap*, which will not just be challenging to develop the required thinking, or required paradigms for, but also mindset or realisation that giving, contributing, and constructing, regenerating is where a 'new normal' should settle. The focus is, therefore, on the deeper insights of the 'Second Tier'.

5.4.4.2   The first Being level (Yellow):

Graves (1974) named the first *Being level* 'Cognitive Existence'. He also referred to it as the systemic existential state (Graves, 1981). Blom and Viljoen (2016a) refer to this level as the 'Systemic Functioning'. Wood (2020) uses the term 'Authentic Integral' to describe the first Being level. According to Graves (1974), 'Cognitive Existence' is the human understanding of the meaning of passing from the subsistence of 'being one with others' to the cognitive level of knowing and having to do so that all humans can be and can continue to 'be' [to its full potential]. The individual sets aside the competitive nature of the human and replaces it with co-operative humanness. Beck *et al.* (2018) refer to the 'Yellow value system" as a system that creates functionality, 'flow and flexibility'. Only here in the first *Being level* can various thinking structures be woven together in a functioning mesh, they explained.

The 'Yellow Human Niche' is concerned with the survival of the self and all others (Viljoen, 2021). The 'Yellow Human Niche' is concerned with functionality and grapples with the problems of the universe (Blom & Viljoen, 2016b). The 'Yellow Human Niche' is individualistic and expressive, displaying many of the health expressions of all the 'First Tier' niches, integrating them into a more effective system. *Yellow* recognises the different evolutionary stages and works to unblock hurdles standing in the way of healthy systemic flow for humanity (Viljoen, 2015). The humanness of *Yellow* is the understanding that chaos and change are a natural part of the process (Viljoen & Laubscher, 2015). Learning within the 'Yellow Human Niche' is to gather data and make choices based on own principles (Kahveci, 2006). The learning system for *Yellow* is informational with a teaching system that is integrative of existence, knowing and being free. The forms of learning suited to *Yellow* are self-directed access to knowledge and materials, individual development without compulsiveness or fear, and eclectic in diverse interests (Beck & Linscott, 1991).

5.4.4.3   The second Being level (Turquoise):

The 'Second Being Level' Graves (1974) called the 'Experientialist Existence'. Blom and Viljoen (2016b) refer to this level as 'Integral-Holistic'. Wood (2020) again uses a different term, 'Transcendent Unity', for the 'Second Being Level'. In the 'Second Being Level', humanity, driven by knowledge, will move forth on the crests of broader humanness rather than vacillate in the animalistic needs. The individual human will have to learn how to live so that the balance of nature is not again upset. The *vMeme* will not be that of the elders' accumulated wisdom but the 'knowledge of the knowers'. Laubscher (2013:239) supported Graves (1970) in that the 'Turquoise Human Niche' is *Purple* at a higher level of complexity. Viljoen (2021) posits that *Turquoise* is the thinking structure that results in seeing archetypes, patterns and underlying archetypes that bind together humanity in the cosmic reality. She stresses that without integration of centres of gravity of the 'First Tier' niches, the second tier cannot manifest.

The 'Turquoise Human Niche' presents a complete and fully developed ecosystem (Blom & Viljoen, 2016). To *Turquoise*, the world is a single dynamic organism with its collective mind. The self is at the same time distinct and also a blended part of a 'larger compassionate whole'. The Turquoise Human Niche is highly complex, with everything being interconnected and holistic where intuitive thinking and cooperative action are expected (Viljoen, 2015). *Turquoise* yearns for a full-merit economic system where exchange recognising the totality and efficacy of serving the biosphere will replace all monetary forms of exchange (Viljoen & Laubscher, 2015b). In the 'Turquoise Human Niche', learning is to participate in the life process and gain insights into the current and future (Kahveci, 2006). The learning system is 'experiential', and the teaching system is the 'holistic expansiveness of becoming and regenerating'. Turquoise's learning forms are interaction with 'Whole-Earth' networks to expand awareness and explore diverse ways of being and thinking through intuitive learning (Beck & Linscott, 1991).

5.4.4.4   Transcending to the second tier:

Laubscher (2013) reminds us that Spiral Dynamics are chronological and not hierarchical. She refers to Graves, indicating that the person is born into the bottom of the spiral and moves up as they progress through life with no-one jumping a level. Freeman (2018) concurs that Spiral Dynamics provides a way of viewing the whole human psychosocial development since birth. As human development progresses, the human gains and keeps access to all the levels experienced by Crofts (2008). Laubscher (2013) adds that children might be born at a level higher than their parents

were. She does not indicate how these children gain access to the earlier levels or at what level the parents were. However, it is concluded that the name Spiral Dynamics indicates that the journey of human development is dynamic, not static. Transitioning from one level to the next is indeed possible and, if possible, there is potential to assist the transitioning (Beck *et al.,* 2018).

The transition between levels, including transitioning from the *First Tier* to the *Second Tier*, might happen as we settle into a 'new normal'. Maybe the COVID-19 pandemic creates different life conditions for the transition from *First Tier* to *Second Tier* to occur (Viljoen, 2021). As humanity moves forward on the spiral of existence, it spends less and less time at each new level. It took millions of years for our ancestors to reach the 'Purple Human Niche' while, in the technologically advanced world today, humanity is moving from the 'Orange Human Niche' through *Green* to the *Yellow* in a scant fifty years (Graves, 1974). As the theory of Spiral Dynamics proposes, the human will not change unless pushed into changing by an outside agent or circumstance. Likewise, Laubscher (2013:240) postulates that the transitioning will not happen if the coping mechanism in the human brain cannot deal with the new questions of existence. She provides two factors to consider the shift to a more complex system of humanness. The first is that the human has potential, and, therefore, the higher structures are available in the brain. Second, the solution of the existential problems which the human must face in the more complex system.

Wood (2020) argues that humanity's psychological and sociological evolution needs to be accelerated if we want to end the 21st century more alive and thriving than when we entered it. As we enter into a 'new normal', 98% of humanity still lives mainly in the 'First Tier' (Beck & Cowan, 1996), which correlates with Wood who indicates that only 1% of the world population find themselves in the 'Second Tier'. The *vMemes* in the 'First Tier' are characterised by fear, anxiety, and stress (Graves, 1981). Therefore, during times of extreme change, translation between the different niches becomes imperative to the system. However, all the characteristics of the 'First Tier' begin to change with 'Second Tier' thinking. Because 'Second Tier consciousness" is fully aware of all 'First Tier' development stages, 'Second Tier' thinking appreciates the necessary role of all of the various *vMemes.* 'Second Tier' *vMemes* think in terms of the overall spiral of existence and not merely in terms of any one level (Wood, 2020). Beck *et al.* (2018) highlights the importance for 'Second Tier' thinking for historical human problems to be reconsidered and addressed.

5.5 Adaptiveness

Adaptiveness, in relation to organisational adaptiveness, relates to the individual or the collective of individuals. Adaptiveness focus on the potential of the human being to adapt within a formal structure that organises work realities. For this part of the review, the researcher will therefore focus on the elements that influence adaptive potential and the adaptability of individuals within structured organisations.

5.5.1 *Adaptive potential*

Laubscher (2013) indicates that a requirement for moving from one niche to another is the human's potential, indicating the adaptiveness of the human. Therefore, conceptualising adaptive potential (AP) would be essential to understanding and assisting organisations to move their people through the spiral. From an internet search on adaptive potential, it appears that adaptive potential is defined within two mainstream sciences: evolutionary gene manipulation and artificial intelligence in machine learning. Therefore, a working definition for AP should be contextualised in Adaptive-Intelligence (Ai) and Organisational Adaptive Quotient (OAq) in the context of 'human adaptive potential'.

The base point for conceptualising and developing a working definition for AP in the context of Human Adaptive-Intelligence should be Organisational Adaptive Quotient (OAq). However, within the literature on OAq, it seems that AP is not described or defined. Therefore, the researcher will review literature from general psychology and etymology.

In general psychology, there is some conceptualisation of AP. Maddux (2002) links AP to self-efficacy, influenced by the responsiveness to environments, especially the social environment. The development of self-efficacy beliefs encourages exploration, enhancing the sense of agency. Cohen and Sherman (2014) refer to a cycle of adaptive potential creating a positive feedback loop between the self-system and the social system. Dziuban, Moskal, Cassisi and Fawcett (2016), in the context of adaptive learning, refer to the fundamental objective of adaptiveness as to provide greater flexibility and multiple paths to achievement with reduced time constraints. Musingwini (2017) set AP as a requirement for embracing change. Seaborn, Griffith, Kliskey and Caudill (2021) posit that 'adaptive ability' includes the willingness and intention to respond to change based on knowledge about anticipated change and proactive modified behaviour. Seaborn *et al.* (2021) describes potential in the context of evolutionary biology, referring to future evolvability. The researcher proposes a

working definition for AP as; *the currently unrealised ability to evolve or transcend to a future state at the moment that it is required*.

5.5.2   *Adaptive-Intelligence*

Considering the working definitions for OAq and AP as posited by the researcher in the above sections, some attention should be given to humans' 'Adaptive-Intelligence' (Ai). The researcher will use the abbreviation Ai, with the lower case (i) not to confuse the abbreviation AI used for Artificial Intelligence. To conceptualise Ai in the context of this study, it is appropriate to start with a broader perspective on human intelligence and then hone-in on human 'Adaptive-Intelligence'. The broadest description of human intelligence is described as general intelligence indicated by the letter 'g'. Spearman originally proposed the existence of the 'g' or the 'g factor' in 1904 as a construct in psychometric investigations of cognitive abilities and human intelligence. According to Ruhl (2020), Spearman defined 'intelligence' or 'g' as the mental abilities necessary for adaptation to, as well as shaping and selection of, any environmental context. More specifically, to general intelligence, Dellermann, Ebel, Söllner and Leimeister (2019) describe 'g' as the ability to accomplish complex goals, learn, reason, and adaptively perform effective actions within an environment. Cherry (2021) defines 'g' as a construct that is made up of different cognitive abilities that allow people to acquire knowledge and solve problems. Therefore, the researcher does not deny the importance of 'g' in reference to defined properties of problem-solving, cognitive abilities or cognition and adaptiveness.

'Adaptive-Intelligence' (Ai) is defined as the ability to apply knowledge to novel situations, such as solving problems and conversing with others, demonstrating an effective ability to interact with and learn from the environment (VandenBos, (ed) 2013). Sam (2013) defines Ai as a capability to use information for convenient reasons, such as managing struggles and communicating with other people, displaying a robust ableness to connect with, and educate oneself on the surroundings or climate.

In a sweeping analysis, Sternberg (2021) argues that we are using a fatally flawed, outdated conception of 'intelligence', one which may promote technological advancement but which has also accelerated climate change, pollution, the use of weaponry, and inequality. Instead of focusing on the narrow academic skills measured by standardised tests, societies should teach and assess Adaptive-Intelligence, defined as the use of collective talent in service of the common good.

For Sternberg (2020), 'Ai' differs in three key aspects from 'g'. *First*, 'Ai' is about creating a future for generations to come. The *second* difference is in the kinds of problems 'Ai' solves and the kinds of problems 'g' are referring to. *Thirdly*, 'Ai' problems have a different kind of criterion for what constitutes a good solution. A good solution is described by Sternberg (2019) as one that (a) helps to promote a common good (b) over the long- and the short-term, by (c) balancing one's interests with more extensive interests and those of others (d) through the infusion of positive ethical values. Freeman (2018) argues that the Graves theory and Spiral Dynamics offer a view that human psychology can be seen through stages of development where people's worldviews are adaptive systems that support them to thrive in changing life conditions. Freeman (2018) further refers to Spiral Dynamics Integral (Sdi) (Beck, 2006) as a descriptive framework for the many ways in which nations, societies and social structures, such as organisations, are currently living and what they might expect next in their development.

Dawlabani (2020) reminds us of the foundation of the Graves' model, the double helix model. Like the DNA double helix, the Graves' model has two helices with different names but serve the same purpose in coming together from the essential base pairs and the sequences that define the overall psychological health of a person, organisation of a culture (Cowan & Todorovic, 2000). This first strand in Graves' double helix is called 'existential problems', which Beck and Cowan (1996) referred to as 'Life Conditions' (LC). 'LCs' represent the different challenges arising from the multitude of habitats in which societies or communities in societies reside. 'LCs' can be social, political, environmental or situational. A 'new normal' that we are expecting to settle into after COVID-19 will present such an 'LC'. 'Existential problems' should not be confused with difficulties, troubles and other negative connotations but should be seen as life equations in the form of mathematics if those problems need to be solved (Dawlabani, 2020). 'Existential problems' are not necessarily adverse, but rather seen as 'LCs' as these problems are growth-producing (Graves, 1970), presenting new factors and combination in the equation of living.

The second strand in Graves' double helix appears in solving the existential problems, which Graves referred to as the 'Neuropsychological systems' within the human (Beck *et al.*, 2018; Dawlabani, 2020). Beck and Cowan (2005) called it the complex Adaptive-Intelligence (Ai). According to Graves (1970), the depth and breadth of our understanding of the 'LCs' are awakened by a broader spectrum of our dormant Ai (Dawlabani, 2020). As the particular level of Ai evolves, it becomes more resilient through the interaction with the 'LC' and imbeds itself in the collective knowledge and institutionalises the psychological foundation for a specific level and the levels that

came before it (Cowan & Todorovic, 2000). Thus, 'Ai' is the means through which the human overcome and thrive within an 'LC' and become ready for the next level of existential problems that should be solved (Graves, 1970).

Although Ai is recognised as the coping mechanism for dealing with various or current LCs (Beck & Cowan, 2005), and the means to solving the existential problems (Graves, 1970) as one of the strands of the double-helix model, mostly it is recognised that there is an intelligence in that generates 'the spiral'. The human can create new systems or *vMemes* in response to changing LCs (Beck, 2011). 'Human intelligence', the capacity to create new systems, is not static and can shift as societies cope with shifting LCs. Human intelligence is adaptive.

From the above sections, the research posits a working definition for 'Adaptive-Intelligence (Ai)' as *a learned ability to interact with a social environment or life conditions (LCs) in general and a problem space in particular through adaptive thought, response and accrued knowledge to become fit for a 'new normal'.* 'Ai' applies to individuals as much as to collectives such as societies or organisations. The researcher agrees with Sternberg (2020) in that Ai could be used in three possible ways. *One*, to change themselves, individual or collective, to better fit the environment, present or future. *Two*, to shape the environment to better fit the individual, the collective, or others' needs. *Three*, to find a new environment that is a better fit than the one presently inhabited. However, for the researcher, these three uses of 'Ai' as postulated by Sternberg should not be seen or used as separate concepts but rather as integral. In its integral state, 'Ai' focuses on more than problems, but rather problem ecologies, and more than cognition, but 'cognitive complexities'.

5.5.3 Cognitive complexity

'Cognitive complexity' as an integral application of 'Ai' that requires a contextual view on the meaning and use of the concept of 'cognitive complexity' and 'cognitive flexibility'. 'Cognitive complexity' was first conceptualised from the fields of psychology by Kelly (1955) and in the field of communication by Bieri (1955). Stamp (1981) and Jaques (1986) advanced the application of connective complexity in their work in the field of organisational development, through 'time-span measurement' and 'stratified systems theory'.

Since the early research into 'cognitive complexity', various definitions and assessment procedures have been established (Lee & Ostwald, 2019). Some of

these earlier explanations of 'cognitive complexity' include O'Keefe and Sypher (1981) defining 'cognitive complexity' as a variable that describes a person's socio-cognitive system. Burleson and Caplan (1998) identify individual difference variables which measure the degree of differentiation, articulation and abstraction within a socio-cognitive system. Johnson-Laird (1983) proposed mental models as the basic structure of cognition, arguing that mental models play a central and unifying role in representing objects within daily life's social and psychological actions. Lee and Ostwald (2019:158) provide an adopted definition of 'cognitive complexity' as the degree of differentiation of cognitive activities, cognitive properties, and the individual cognitive structure as the relationship between cognitive activities. Chen and Unsworth (2019:5) follow Kelly's original definition of 'cognitive complexity' as the degree to which an individual differentiates and integrates multiple constructs in describing a particular domain of phenomena. Du Toit (2006) referring to Beck and Cowan (2003) further asserts that cognitive complexity finds similarity in the movement in Spiral Dynamics in the direction of greater complexity.

5.6   Problem ecology

Defining the concept of a 'problem-space' and a 'solution-space' provides a contextual setting for the environment, time, place and substance, that formulates the existential challenges of the species humans. The 'problem-space' refers to the entire range of components that exist in the process of finding a solution to a problem. Olsen (2015) provides a very commercial description of the 'problem space', that of the space where all customer needs live. Hendricks (2020) provides a broader description of the 'problem-space', as the space where all the various components that create a resolution of a problem are visualised. The 'solution-space' is described by Olsen (2015) to include any product or representation of a product that is used by or intended for use in accordance with a need. Therefore, the 'problem-space' can be seen as everything associated with the problem, including the history, the stakeholders to the problem, and the 'problem value'. 'Problem value' (PV) is what is left behind when the problem is resolved. The 'solution-space', in contrast, constitutes the world of resolution, products, services, and policies that have been created as value to address a particular problem.

Given the interrelatedness of 'problem-space' and 'solution-space', the researcher posits that understanding the contextual settings for existential challenges is more descriptive within the concept of ecology. According to Friederichs (1958:154), Haeckel first defined 'ecology' as a 'science' in 1869, as the entire science of the

relations of an organism to the surrounding exterior world. Since Haeckel's definition of 'ecology' as a general science about the relation of organisms with the environment, modern ecology structures have broadened the definition considerably. According to Evstropov, Trushkova and Egorova (2019), 'modern ecology' is closely connected within two sub-directions, including 'physiological or person ecology' and 'applied ecology', which is more relevant to this study. Gaston, Soga, Duffy, Garrett, Gaston and Cox (2018:917) further extend the definition of 'person ecology' to 'personalised ecology' as the investigation of the direct interaction between individual people, nature and their ecological dimensions. From a 'cybernetics' view, Bateson (1979) is interested in the impulses to unify and sanctify the total natural world of which humans are part. Bateson (1972) argues 'ecology' in the connections of relations between context and its content. In a 'modern cybernetics' approach, Werner (2018) highlights the interrelationship of organisms and their environment in the context of understanding 'ecology' where the organism is goal orientated. Following this context, Werner argues that once organisations become goal-driven, it provides the system, the environment, for the organism to inhabit the system and thrive, and an ecology emerges.

Given the above sections, the researcher posits a working definition for the 'problem ecology (PE)': *everything associated with the value creation or problem value (PV), including the history, stakeholders and value expectations, in regenerating balance within a system*. The researcher also posits two more 'contextual problem ecology' definitions. The 'PE of organisational adaptiveness': *everything associated with the PV in regenerating balance within organisations adapting to a 'new normal'*. The 'PE of learning architecture': *everything associated with the PV in regenerating an adaptive learning architecture resolving to an open, generative, open-flow learning system*. Being in the 'PE of learning' is more than building understanding, new skills, competencies and standards about the current learning gap or skills gap. Focusing on a 'PE' during learning is about discovering new questions about a possible future and possibly new or adapted self, individual or collective (Bachmann, 2011). Borrowing from behaviour ecology, Sng, Neuberg, Varnum and Kenrick (2018) refer to 'adaptive problem ecologies', and therefore the focus of learning become mechanisms to deal with recurrent 'adaptive problem ecology'. As argued by Fankenhuis, Panchanathan and Barto (2019), computer sciences and machine learning, the PE is understood as sequential, state-depended decision problems. Understanding the state of the PE which can be described using spiral dynamics as states of existential problems, and the value meme of the state assists in developing agency to interact and learn from and within the PE which maximise the expected fitness for the state of the ecology.

5.7   Conclusion

This chapter provided an overview of a Literature Review on a possible new normal perspective for a new learning architecture. The focus of the literature review was on organisational learning and the development of the human system within organisations. The literature review was delayed until this stage of the research project, as suggested by grounded theory practice, and provided a significant advantage in that it provided enough focus to split the review into two chapters, as mentioned in the introduction to this chapter. The researcher realised that, given the review's focus, based on the research aim, objectives, and questions, the literature would have to be transdisciplinary. The researcher found this to be accurate, with the study fields of human development, organisational development, human behaviour, sociology, psychology, economics, technology and computer sciences being crossed. Therefore, the researcher found guidance in the themes and codes of the data analysis and the research sub-questions to complete this literature review chapter. In the next Literature Review chapter, literature that might open new possibilities for a new learning architecture will be explored in more detail.

CHAPTER 6:
Literature Review: Shifting with an African aphorism

6.1   Introduction

In the second literature review chapter the focus moves towards the future. In this chapter the researcher reviews literature that might give an indication of a new learning architecture (nLA) that could be more suitable for the new normal. Still drawing from the data collected and analysed, however, more focused on the grounded theory analysis, the researcher sets out to explore possibilities. These possibilities are drawn from the insights gained during the data analysis and the previous literature review chapter, Chapter 5. In Chapter 6 the researcher is more adventurous in exploring insights and ideas that emerged from the study so far rather than empirically stated through the data analysis. Chapter 6 focuses on highlighting literature that might help to transcend learning architectures by deliberately slowing the organisational learning system down and anchoring it in humanness.

6.2   Paradigm shifts for the new normal

Paradigms are general viewpoints or ideologies (Perera, 2018) of an ecological nature that include several components, including ontological and epistemological considerations (Scotland, 2012). Paradigms are assumptions about how things work based on considerations such as ontology and epistemology, illustrating a worldview involving a shared understanding of reality (Rossman & Rallis, 2011:9). Marques, Maciel, Jacob, and Jacob (2019) defines a paradigm as an entire constellation of beliefs, values, techniques, and so on shared by the members of a given community. Agah (2020) posits that the term paradigm has become a commonly used word in every kind of discourse, usually to mean something like 'way of thinking' or 'approach to a problem'. According to Mishinsky (2021), paradigms are interconnected leading systems of views, notions and concepts due to the civilisational evolution of humanity.

The world as it is experienced is through the paradigms of people. A change at the paradigmatic level would be required to change the experience and, thus, the reality of humanity. However, it is to be recognised that a shift in paradigm is not easy or quick due to a paradigm's deeply shared constellational nature. According to Marac (2019), a paradigm shift is a radical change in the core concepts and practices of a given domain and discipline. A paradigm shift causes the entire domain to think

and act in new ways. Paradigm shifts require new knowledge to be introduced into the system through new evidence or as a result of new ways of conceptualising or thinking about a problem. Agah (2020) posits that a paradigm shift is a revolution, a transformation, and a metamorphosis, as it changes from one way of thinking to another. Mishinsky (2021) agrees with Agah that a paradigm shift in a particular area of human activity means a revolution in this area. Moreover, Mishinsky (2021) argue that the results of such a revolution in the domain will inevitably lead to revolutionary changes in other spheres of human activity. Therefore, a new paradigm for a new normal should be explored, given the disruptions of the current world. The researcher will explore several concepts as paradigm shifts required for a future learning architecture in the following sections.

6.2.1 Competence to Adaptive-Intelligence

If it is hypothesised that a 'new normal' should require a new learning approach or learning architecture, one of the current paradigms that should be explored is competence versus intelligence or specifically Adaptive-Intelligence (Ai). In this section, the researcher will review and conceptualise the appropriateness of a competency-based paradigm and the move to an Ai paradigm related to human development in general and organisational learning specifically.

6.2.1.1 Adult development

Understanding human development within the context of a paradigmatic shift from competence to Ai is crucial in conceptualising the need for a new paradigm towards an adaptive learning architecture. Adult development in the context of human development refers to the body of research confirming that various human development lines show increasing complexity stages (Reynolds, 2019:10). Graves (1981) describe these lines of development as transcendence through an open-ended progression throughout adulthood expressed in one's worldviews, paradigms and behaviours. The stages of adult development include the development of ego identity (Loevinger, 1976), morality (Kohlberg, 1969), and cognitive abilities (Kegan, 1980) as a complex and holistic development system. From the perspective of a holistic or integral approach to adult development, the researcher agrees with Reynolds (2019:11) that the paradigm within a new learning architecture should go beyond the traditional paradigm of formal operational human development (Piaget, 1954) and socialised human development (Kegan, 1980). These stages beyond operational and socialised are known as the 'post-conventional'

(Cook-Greuter, 2013) and 'post-formal' (Commons & Richards, 2003) stages. These later stages, the 'post-conventional' and 'post-formal', seem relatively rare in current or traditional learning architectures (Reynolds, 2019).

In the 'conventional' and 'formal', as an inquiry to the nature of ego development and cognition, Piaget (1970) as referenced in Reynolds (2019) argued for four significant stages of development from infancy to adulthood. These are a) Sensorimotor, the physical movement in response to sensory input; b) Pre-operational, the ability to think symbolically; c) Concrete operational, the ability to use logic in organised and rational thought; d) Formal operational, the ability to think about abstract and theoretical concepts. The four stages are visible in many traditional learning systems within organisations today, underpinned by a competency-driven paradigm.

In the 'post-conventional' and 'post-formal' stages, the focus is drawn to non-linear complexity as a general phenomenon (Commons & Richards, 2003), meta-cognition and meta-theoretical perspectives that account for the complex, multi-levelled interdependence of all things (Wilber, 1996; Laszlo, 2017). With a complexity perspective, paradigms focused on cognitive flexibility (Kegan, 1982; Kegan & Lahey, 2009), psychosocial maturity (Erikson, 1982), ego development (Cook-Greuter, 2013; O'Fallon, 2013), and biopsychosocial (Graves, 1970; Beck & Cowan, 1996) would become more important. However, as Reynolds (2019) argues, referring to Graves (1981), the idea is not to move all adult development efforts to post-conventional and post-formal stages but rather to focus on the paradigm that would enable going beyond the conventional and formal.

6.2.1.2   Organisational development

The arch of organisational development efforts as an output of human development, specifically adult development, shows that how people think about things affects how people interact with those things and the organisation (Reynolds, 2019). Similarly, leaders in organisations at the post-conventional and post-formal stages of adult development are essential factors in facilitating societal and organisational transformation or organisational adaptation (Commons & Ross, 2008; McGregor & Donnelly, 2014). Wilber and DiPerna (2018) postulate that the evolution of societal structures, including organisations, implies a move towards deliberate organisational development. Being a deliberately developmental organisation requires a more deliberate paradigm and probably more focused on post-conventional and post-formal development interactions.

According to Reynolds (2019), modern society, and thereby, the modern organisation, was designed to create formalised workers. Within the paradigm of formalised, creativity, post-conventional and post-formal, becomes a threat to the well-oiled, well-known machine-like organisation. The researcher agrees with Reynolds that contemporary education and current organisational learning architectures promote socialised, conventional ways of being through a competency paradigm. Nussbaum (2011) adds that most people within a society or organisation are not allowed to practice complexity [mainly due to a formal paradigm]. To enable the deliberately developmental organisation necessitates ways of organising and learning that foster and utilise the post-conventional and post-formal stages of adult development. The deliberately developmental organisation and its managers and leaders are associated with wisdom, increased integration, deeper understanding and insights, and higher awareness of whole systems (Reynolds, 2019). An intelligence (Adaptive-Intelligence) paradigm could be more appropriate than a competency paradigm in pursuing the deliberately developmental organisation. An intelligence paradigm would allow stripping away future illusions, transforming oneself, and creating conditions for others to transform (Cook-Greuter, 2013).

6.2.1.3 Learning in organisations

Most adult development is concluded within social structures such as organisations. Berkhout *et al.* (2006) argue from an organisational theory perspective that organisational learning draws on behavioural studies on how organisations change their behaviour through human development. Annosi, Martini, Brunetta and Marchegiani (2020) aver that the study of organisational learning is concerned with understanding how organisations learn from direct experience, how they learn from others, and how they develop conceptual frameworks for interpreting experiences. Berkhout *et al.* (2006:140) referring to Aldrich and Auster (1986) and Staber and Sydow (2002), describe organisational learning as involving the encoding of lessons learnt from experiences into organisational routines that lead to change in organisational behaviour. Routines are how organisations carry out activities by matching appropriate procedures to situations. Routines include a wide variety of phenomena such as rules, procedures, strategies, technologies, and conventions around which organisations are built and through which they operate (Berkhout *et al.*, 2006). According to Grote, Weichbrodt, Günter, Zala-Menzö and Künze (2009), organisational memory, whether in written rules, courses of action or experiences-based tactics, is captured in routines. Although routines are not static (Pentland & Feldman, 2005) and can be adapted and regenerated to achieve organisational change, routines do form a static, stable and rigged paradigm. With a

routine-like paradigm, organisations would continue to follow existing routines until a gap opens between the organisation's objectives and outcomes (Feldman & Rafaeli, 2002).

From a routine paradigm, which can also refer to a competency paradigm, Scholten, Sharkey Scott, and Fynes (2019:432) define 'organisational learning' as the embedding of knowledge acquired from experiences into routines that guide behaviour. They further argue that organisational learning occurs if, through the processing of information or experience, the range of potential behaviour is adapted or changed. The leading principle within their definition of learning is still the basis of routine. Routines are adapted when organisations experience a novel situation for which appropriate procedures have not been developed, and current routines prove unsuccessful (Berkhout *et al.,* 2006), opening the requirement for learning. Organisational learning only happens when alternative routines that promise greater advantages are discovered or developed internally or externally to fill the gap (Gavetti & Levinthal, 2000).

6.2.1.4   *The organisational learning system*

There are several definitions and concepts of "organisational learning systems' (OLS), in close relation to 'organisational learning', with seemingly no universal agreement on the phenomenon (Curado, 2006). Curado (2006:3) further suggests that most researchers consider organisational learning the product of organisational members' involvement in the interaction and sharing of experiences and knowledge. Akaraeen and Al-Ashaab (2021:445) argue that an OLS is viewed through three different lenses: understanding the role of knowledge within the organisation, systemic learning, and management practices fostering organisational learning. The ontological dimension of the OLS or the agency of organisational learning is repeatedly presented in two levels, the individual level and the collective level (Curado, 2006). March (1991) postulated the concept of mutual learning, considering that both the individual and the organisation learn. In this way, organisational knowledge is leveraged through the individuals within the organisation. It could be considered that the OLS enable organisations to learn because they have capabilities that are identical, or equivalent, to those individuals, allowing them to learn (Curado, 2006).

OLS as the organisation's learning process still seems to remain a "black box", with consistent fit and misfit scenarios between the organisation's learning and the organisational design (Curado, 2006). Burton and Obel (2004) describe organisational design as a set of consistent choices determined by contextual factors such as the organisation's strategy and environment. Therefore, Burton and

Obel (2004) posit that there would be a fit when organisational learning aligns with the design in manners such as strategy and environment. According to Leonard-Barton (1992), an OLS should operationalise an organisation's ability to acquire and translate knowledge from external sources, operations, experiences and initiatives into improvement changes at the individual, team and organisational levels to realise the management goals of the organisation. During the 1990s some researchers, such as Olsen (1975); Simon and March (1991); and Levinthal and March (1993)' argued that an OLS cause 'myopia' that prevents innovation and causes structural rigidity and slowness, and are inhibiting the organisation's ability to respond to change. These adverse effects of OLS were contextualised and reframed to be more indicative of the limitation of the OLS by researchers such as Sato (2012) and Park, Choi and Lee (2015).

Reynolds (2019), refereeing to Laszlo (2001:15), argues that systems thinking within the context of organisations is an emerging contemporary view of organised complexity, one step beyond the 'Newtonian' view of organised simplicity, and two steps beyond the classical world views of divinely ordered or imaginatively envisaged complexity. Reynolds (2019) views that humans have an inter-active role within people systems in an upgrade from 'Newtonian science' towards a holistic understanding of the interdependent nature of all systems in the universe which can be applied to specific people systems, such as an OLS. However, whereas science and technology are moving towards a universal concept of emergent complexity, seemingly economic and social systems remain firmly rooted in the long-standing "Newtonian" approach. Reynolds (2019) reminds us of the concept of 'Evolutionary Learning Community' (ELC), introduced by Banathy (1996) and Laszlo (2001:379), asserting that an ideal alternative learning system that seeks to catalyse the purposeful creation of sustainable and evolutionary futures gains agency for collective emergence.

'ELCs' shift the paradigm of the OLS from an 'open system' to a 'transdisciplinary system'. According to Orozco-Messana, de la Poza-Plaza and Calabuig-Moreno (2020), transdisciplinary can be defined as a team-based problem-solving approach that acknowledges complexity, social accountability, mutual learning, and the co-creation of knowledge including all stakeholders. A 'transdisciplinary approach' dissolves the boundaries between the conventional disciplines and organises learning and teaching around the construction of meaning in the context of real-world problems and themes (International Bureau of Education Editors, 2020).

The OLS as a 'transdisciplinary system' represents a way of networking together with the disciplinary knowledge, areas of localised expertise and evolutionary advancements in ways that honour the collaborative and emergent nature of new knowledge, focused on humanness principles (Reynolds, 2019). Such a 'transdisciplinary learning system' becomes both the source of evolutionary learning and a vehicle of evolutionary praxis (Laszlo & Laszlo, 2002). Budwig and Alexander (2020) confirm the need for a transdisciplinary learning system in their plea to reconsider current learning systems where students passively absorb the material presented by an expert.

6.2.1.5   Moving focus to dynamic capability

Scholten *et al.* (2019:431) opine that adaptation of organisational routines is vital in responding to non-routine events. Non-routine events are described as disruptive events to the existing routines (Feldman & Rafaeli, 2002). The process of modification of routines, embedded in organisational learning, requires specific effort and specific capabilities. Berkhout *et al.* **Invalid source specified.** describe two types of capabilities that would require learning for, and countering the non-routine events, 'operational capability' and 'dynamics capability'. 'Operational capability' enables the organisation to carry out its business activities, whereas dynamic capabilities enable the organisation to change and adapt.

Zollo and Winter (2002:340) define 'dynamic capability' as a learned and stable pattern of collective activity through which an organisation systematically generates and modifies its operating routines to improve effectiveness. Laske and De Vish (2018) refer to 'dynamic collaboration' in defining 'dynamic capability', linking to the social-emotional, cognitive and behavioural dimensions that are pulled together to activate deep or transformational thinking. Govender (2020:41) follows Teece, Pisano and Shuen (1997:516) in defining 'dynamic capability' as the organisation's ability to integrate, build and reconfigure internal and external competencies to address rapidly changing environments. From an organisational learning perspective, 'dynamic capability' as an organisation's response to non-routine events integrates into the organisational sense-making processes or routines. A new emphasis on organisational learning arises due to rapid changes in the business climate brought about by disruption and extremely disruptive events. 'Dynamic capability' as a paradigm for organisational learning would allow for a sense-making process embedded in multi-frame thinking (Brunette, 2017) within which experiences are understood and adaptive potential unlocked.

6.2.2   *Individual to Collective*

In the context of a suitable learning paradigm for a new normal, a shift to a post-conventional, post-formal paradigm as described in Section 5.4.1.1 might be required. Extending the complexity of the paradigmatic view is the concept of moving towards dynamic capability as described in Section 5.4.1.4. Dynamic capability, specifically in its character, further requires a paradigm of the collective rather than a paradigm of the individual. As Govender (2020) postulates, dynamic capabilities require organisations to integrate, re-configure and rapidly change internal and external competencies. If, indeed, reconfigured competency requirements are combined in complexity with the need for intelligence, the collective spirit of the organisation becomes focal, more so than an individual focus.

Laske and De Vish (2018) argue that without the structural pre-set competencies as the output of work, the collective of teams and organisation emerge through the collaboration of its members. Laske and De Vish (2018) further argue that where the work output becomes the responsibility of the collective and not the individual, every team member has to contribute and combine their abilities to achieve the collective outcome. Laszlo (2004:100) refers to the melting of ego boundaries as a person can have a sense of becoming an entire group with shared racial, cultural, national, ideological, political or professional characteristics. Consequently, team members feel more engaged, more productive with higher potential to survive and thrive. Colby (2003) postulates that the drive for human survival originates somatically, fulfilling those drivers manifest primarily through efficacy and diversity patterns of cultural, the collective culture. Efficacy as a collective has been a common subject of investigation through the seminal work of Bandura, Cioffi, Taylor and Brouillard (1988). With increasing cultural complexity, innovations in efficacy are learnt and passed on from one person to another within and throughout the collective. The speed of this process developing collective efficacy may be seen as a function of adaptive potential (Colby, 2003).

Together with the efficacy of the collective, being stronger than the efficacy of the individual, diversity, and especially diversity of thought, strengthens the adaptive advantage within a wide variety of situations (Colby, 2003). Colby further argues that a parasympathetic state of the autonomic nervous system promotes an openness and exploration response to diversity patterns across a collective. According to O'Bryan, Beier and Salas (2020), humans are individually complex, yet they often respond to each other in a relatively simple and predictable way when in a social formation Further, Laske and De Vish (2018) refer to the dimensions of social-emotional, cognitive, and behavioural which, when explored within the openness of a collective's

efficacy and diversity, promotes the adaptive potential of the collective and deep transformation of the individual within the collective. The paradigm shift from individual to collective is narrowed and focused within the below sections of collective efficacy in the learning system and collective intelligence in the learning system.

6.2.2.1 Collective efficacy in the learning system

Donohoo, Hattie and Eells (2018) refer to the observations of Bandura (1977) that a group's confidence in its abilities seems to be associated with the greater success of the group. Bandura (1997:477) defined collective efficacy as a group's (collective) shared belief in its conjoint capability to organise and execute the courses of action required to produce given levels of attainment. Donohoo *et al.* (2018) interpret this in stating that the assurance an individual places in his or her team affects the team's collective performance. Kim and Shin (2015) assert that, in organisations, when team members hold positive beliefs about the team's collective capabilities, there is greater creativity and productivity within that collective. Goddard, Hoy and Woolfolk Hoy (2004) describe 'collective efficacy' as the beliefs that organisational members hold about their teams' capability to organise and execute a plan of action necessary to reach desired goals. In addition to that, the researcher posits a working definition for collective efficacy as *the collective belief in its conjoint and dynamic capability to execute and produce open innovation at a higher collective level*.

Eells (2011), through a meta-analysis study of collective efficacy and achievement in education, demonstrated that faculty beliefs about the ability of their institutions are positively associated with learner achievements. Hattie (2016) positions 'collective efficacy' as the top factor that influences student achievement. Voelkel Jr. and Chrispeels (2017) assert that professional learning communities, or corporate learning institutions, without a shared sense that they can make a difference are unlikely to set challenging goals and evaluate student work in ways that reflect on faculty practise or invest in new ways of teaching. However, where a collective paradigm built from 'collective efficacy' prevails, greater faculty collaboration is predicted (Gray & Summers, 2015).

6.2.2.2 Collective intelligence in the learning system

In decomposing collective intelligence etymologically, Leimeister (2010:245) describes the term 'collective' as a group of individuals with different attitudes and viewpoints, revealing different perspectives and approaches, thus leading to better explanations and solutions within a given problem space. Intelligence,

Leimeister (2010) describes, is the ability to learn, understand, and adapt to an environment by using one's knowledge. Woolley and Aggarwal (2017:294) describe the term collective intelligence as the basic capacity to perform a wide variety of tasks that are consistently predictive of future performance. Jean, Perroux, Pepin and Duhoux (2020:2) refer to Salminen (2012), defining 'collective intelligence' as the demonstration of a system's behaviour on the macrolevel that emerges from interactions and individuals at the micro-level. Becker, Brackbill and Centola (2017) highlight that collective intelligence concerns a more efficiently connected network of problem solvers outperforming disconnected individuals. From the above, the researcher postulates a working definition for the concept of 'collective intelligence' (Ci) as the combined effort and ability to learn, understand and adapt as a connected whole in navigating problem ecologies to outperform disconnected individuals.

Intelligence manifests in the capacity to learn, understand, adapt, and influence others within a specific context (Runsten, 2017). According to Jean *et al.* (2020), Ci materialises based on how well a group collaborates with the perspective that individual actions become a collective system. In this manner, Ci can be linked with inter-professional collaboration (Awal & Bharadwaj, 2014). The manifestation of the ability to collectively learn includes each person's individual learning capacity and involvement in continued learning but is also more than the simple agreeing of each team member's individual intelligence (Bates & Gupta, 2017). Intelligence enables people to deal with changing and challenging situations (Leimeister, 2010), thereby harnessing organisations' Ci, which leads to a higher adaptive potential of the organisations. Woolley and Aggarwal's (2017) findings further demonstrates that organisations that harness Ci more enable teams to learn more quickly, both in their ability to tacitly co-ordinate and work together and absorb new information improving collective output over time. Moussaïd and Seyed Yahosseini (2016) attributes an organisation's capacity to evolve and to thrive to its Ci.

6.2.3   Raising consciousness

If a shift in paradigm from individual to collective is to be promoted, a rise in the collective consciousness or just consciousness per se is most likely to be established. The researcher posits that consciousness may have a profound influence on learning during the following decades. Brunette (2017:137) describes the process of learning as the synthesis of different strands of information within new contexts, creating a new knowledge experience. Learning leads to a heightened consciousness that

allows the learner to decide to change or not to change behaviour. Therefore, if raising consciousness becomes the focus of learning, the quality of behaviour change decisions improves.

Prinsloo (2018:60) postulates that 'consciousness' is profoundly important for the proliferation of life itself and for continued existence and growth. Hameroff and Penrose (2014:39) argue that consciousness implies awareness of subjective, phenomenal experiences and our sense of the reality of the internal and external world. Prinsloo (2018) agrees, stating that consciousness is more than sensory awareness, feeling and thinking. 'Consciousness' involves a sense of self that is inextricably embedded in a delicate awareness of transcendent consciousness, which manifests as a mental configuration that guides decisions towards achieving emerging personal significance. Laubscher (2013) refers to Sheldrake (1982:204), indicating that consciousness is primarily directed towards the choices between possible actions and its evolution is intimately connected with the increasing scope of conscious causation. According to Searle (2000:560-561), 'consciousness' consists of inner, qualitative, subjective states and processes of the sentience of awareness as it refers to complex, intelligent behaviour.

Prinsloo (2018:53) relates consciousness development to ECLET of Grave's (1959) as a comprehensive bio-psycho-social model of consciousness. According to ECLET, humans respond to life conditions by developing particular adaptive views and capacities, also referred to as 'values systems', which can be related to levels of consciousness, through which human development can be understood. Prinsloo (2018:54) further interprets Wilber (2001), who viewed consciousness development in terms of altitude as integral human development. As consciousness expands, so do the influence, concern and reach of the individual or collective as an All-Quadrant-All-Level (AQAL) conception of human existence. Like Graves, Wilber (2001) also describes the process of consciousness development in terms of levels or stages of fluid waves.

Within an altered paradigm of learning architecture, consciousness should take a forward position in the process and output of learning. Dennett (1991) views consciousness, as referred to in Prinsloo (2018:54), as the computational features of the brain. However, cognitive science tends to view consciousness as anchored in functional schemas of the brain or mind in the more complex emergent and connectionist models, which view consciousness as an emergent of hierarchically integrated networks (Wilber, 1997). From a neuroscience approach, consciousness is explained mainly as an emergent property of interactions and calculations in the

form of complex 'neuronal firings' depending on specific frequencies of oscillation in brain waves activated between the cortex, thalamus and hippocampus (Pinker, 2007). With the thalamus and hippocampus responsible for specific cognitive functions and associated with learning and memory (Nelson, 2021), a paradigm of consciousness within a learning architecture almost become incomparable.

6.3   African Aphorism

'Aphorisms' are relatable to 'axioms' as they similarly express truth as clarified in Section 1.3.1. However, the researcher will specifically use 'aphorism' within the context of expressing not just a 'truth' but elevating the statement to a 'wisdom truth'. 'Truth' is within the 'context of wisdom', where 'wisdom' is understood as the expression of lived experience, gained knowledge and good judgement (Oxford Languages Editors, 2021). What Africa has in abundance is wisdom (Laubscher, 2013:147).

"Other people's wisdom prevents the king from being called a fool." – Nigerian Proverb.

6.3.1   African aphorisms in the world of change

The view on Africa is not just from a statistical perspective or benchmark study for the Western world; it is indeed a wisdom contribution from the Southern world. According to Laubscher (2013:240), that contribution is in its people, human niches, and ancient wisdom. Laubscher (2013:241) postulates that a required shift from materialistic monism to a transcendental monism is imminent. The shift to a transcendental state of being would give rise to a meta-physical perspective of "mind giving rise to matter", a perspective foreign to the Western mind, yet part of the Southern mind. Lessem (2001:12), in his early work, described four metaphorical worlds; Western, the pragmatic; Northern, the rational; Eastern, the holistic; and Southern, the humanistic. According to Lessem (2001), Africa, as a Southern world, promotes human and social welfare, fostering self-fulfilment in the context of a collective and community relationship, and asserting people's dignity. Through this description, Lessem highlights African humanness, displaying behaviour becoming of a truly human being.

In his later work Lessem together with Schieffer, developed an integral topography of human development (Schieffer & Lessem, 2016:401). They describe human development in the Western world as inclinational through the topography, expressing visible attitudes and behaviours and outer practice. Combining West and North, the world becomes institutional, providing institutional frameworks that organise and direct attitudes and behaviours and providing scientific disciplines. Combining North and East brings ideologies, philosophies and worldviews that inform human thinking, defining what counts as valid knowledge and how new knowledge should be created. Finally, combining East and South provides images. Images of existence in deep-routed beliefs and archetypal structures inform human life and direct physical, psychological and spiritual existence. The deepest source of human development is archetypal images drawn from the ancient stories and aphorisms, the humanness, from the cultural depths in its original context that inform our imagination.

6.3.2   African purple

The researcher finds a correlation between the 'Southern World' of Lessem (2001) and the 'Purple Human Niche' of Laubscher (2013). According to Laubscher (2013:225), Africa's people relationships are complex and encapsulated within an integral collective experience. By nature, Africa can adapt easily through the interplay of all aspects that present the human domain. Africa's gift is its spirit, founded in its ability to live in the present, while the past and the present are simultaneously experienced, contributing to the sense of connection to a more significant force, a 'collective consciousness' (Viljoen & Laubscher, 2015a). The 'Purple Human Niche' carries apre-ego, unselfish approach (Blom & Viljoen, 2016a), where collective prosperity and survival (adaptation) becomes the only priority. This essence of what Laubscher (2013:228) refers to as 'African Purple' should be considered when interacting with the four worlds' thinking systems. 'African Purple' has a learning system that relies on coping and adapting, which corporate training should provide (Laubscher 2013:230) in its learning architecture. Such a learning architecture would benefit from practical (live or current events, present or past) learning experiences and group learning within a physical or virtual space through shared partnerships. These learning partnerships should shift the mindset from maximising profit (Laubscher 2013:231) to maximising human potential in finding unique solutions to engage untapped clients and markets for the benefit of the ecology, not just the organisation.

In considering Spiral Dynamics or Human Niche, all of the niches are prevalent in Africa. However, according to Laubscher (2013:147), 60% of Africa's population is seeded in the 'Purple Niche'. Laubscher provided relevant insights into this purple that most Africans carry deep in them, even if they have a niche orientation that is not purple. The three most essential insights she provided was about purple-time, purple-collectiveness, and purple-learning. Below is a summary of Laubscher's (2013) insights.

6.3.2.1 Purple-time:

Time and the approach to time is an important concept to understand within the context of corporate learning. Time relates to how decisions are made, how people orientate themselves towards engagement with the world. In *Purple*, time is relative to existence rather than productiveness in *Orange* or discipline in *Blue*. Laubscher (2013) refers to the African culture work of Watson (1982), noting that in certain parts of Africa, the same word is used to describe 'yesterday' and 'tomorrow'. In *Africa Purple*, the present moment is the 'centre of time'. Watson (1982:118) explains that "the distance from the present is more important than the direction". The past and the present are not seen as opposites but merely as more remote forms of the present. Therefore, Africa-time helps us to remember our roots when moving forward. In *Africa Purple*, the past and the future exist at the same time, in the present.

6.3.2.2 Purple-collectiveness

In Spiral Dynamics, *purple* is often described as 'tribal' (Graves, 1974; Viljoen, 2015; Dawlabani, 2020). Laubscher (2013) clarifies the 'tribal' description stating that *Purple* excels at family-orientated events, community relations and tribal rituals. She explains that *Purple* asks the existential question of, "how can I sacrifice for my tribe?". She further explains that the term 'tribe' is like a 'nation', a body of people of standard derivation and custom who are in possession and control of their extensive territory encapsulating the constellation of community and relations between communities (Viljoen & Laubscher, 2015a). In *Purple*, an effort is made to strive for inclusivity, and social structures are deliberate and visible (Nienaber & Martins, 2014). Community rituals through social structures are used to communicate the importance of events. For example, the funeral ritual is critical as it facilitates the awareness that something in the collective has changed (Laubscher, 2013). Thus, collective consciousness is developed through the sense of 'tribe', or social groups within a society (Cole, 2021).

6.3.2.3   Purple-learning

Purple has a learning system that relies on copying and duplicating. When observing the informal street vendors, it becomes apparent how the system is duplicated by copying the other area vendors (Viljoen & Drotskie, 2017). The system learns from each other in a way that reproduces the same result (Viljoen & Laubscher, 2015a). Coaching and mentoring the system is critical with practical experience where trial-and-error provide the learning. Learning takes as long as it takes to make fewer errors and produce a needed result. The learning system is situated within the context of 'purple-time'. Given Africa Purple's collectiveness orientation, learning yields more and faster results when learning is in a group context (Viljoen, 2015). Laubscher also mentions Africa Purple's deep wisdom and effective self-organising ability in learning systems that have not yet been spoiled by the *Blue* thinking system of asking what is right and wrong (Laubscher, 2013:230).

Some of the more general insights and aphorisms that Laubscher (2013:230-235) provided are listed below:

i. In *Africa Purple*, the elders are always respected. The old ways, the oral history, and the ways to live are shared through family and community relations.

ii. The gift of *Africa Purple* is collective humanness.

iii. By nature, Africans, *Africa Purple* adapt quickly to changes in Mother Nature. Change, however, takes place through interplay of humanness.

iv. *Africa Purple* teaches us that nature heals and helps us become grounded. It washes away negativity and doubt.

v. *Africa Purple* has spirit. Africa has spirit. However, spirit can become controlled in Blue and suppressed in Orange to the extent that the world may risk the loss of spirit.

vi. Finally, and likely most importantly, through understanding *Africa Purple*, partnerships between social structures and organisations need to shift the mindset from maximising profit to finding unique solutions to engaging our future world.

6.3.3   African humanness

Learning, organisational learning, and being a learning organisation are all part of organisational culture. The openness of the organisational culture and its learning system links directly to the organisation's potential to adapt. Wilson and Haslam (2013:373) postulate that 'humanness' describes the characteristics that mask human as opposed to non-human, specifically animal or machine. They argue that 'humanness' is conceptualised in two broad characteristics of human nature and human uniqueness. Human nature reflects the biologically-based human essence and includes characteristics such as emotional responsiveness, pro-social warmth, cognitive openness or cognitive flexibility and individuality. Human uniqueness refers to characteristics that distinguish humans from non-humans, such as moral stability, self-control and rationality. Willson and Haslam (2013), and Haslam Bain, Douge, Lee and Bastian (2005) posit that 'human uniqueness' is acquired through learning to express 'humanness maturity', whereas human nature is prevalent within and across cultures that reflect a positive and socially desirable behaviour.

According to Boyd and Richerson (2005), culture is an adaptation, allowing humans to acquire adaptive behaviour in variable environments mainly through social learning. In their earlier work on Dual Inheritance Theory (DIT), Boyd and Richerson (1976) explained how human behaviour, also referred to as 'humanness', is a product of two different and interacting evolutionary processes, genetics and cultural evolution. In this study, the researcher conceptualises humanness in the context of human adaptive behaviour related to the bio-psycho-social system. The researcher posits a working definition for humanness as *Humanness as the agency of the essence of human behaviour should always be the centre of any human development system.*

The above sections are contextualised within a Western worldview. From a Southern worldview and, specifically, from an African perspective, 'humanness' has a more philosophical stance. 'African humanness' is often transcendent to the African philosophy of 'Ubuntu'. 'Ubuntu' or 'botho', loosely translated as 'humanness', refers to a comprehensive philosophical, anthropological, sociological and cultural premise for African thinking about human identity and consciousness as argued by Mbigi (2005), and asserted by Vilakati, Shcurink and Viljoen (2013:10). According to Molose, Goldman, and Thomas (2018), 'African humanness' is seen as promoting actions that are welcoming, concerned with sharing and sustaining human relations and maintaining togetherness in a community or collective. With the focus on community and collective, 'African humanness' provides a shift from solitary, also seen as individualistic in Western culture, to solidarity, seen as collective in Western

culture, together with a shift from independence to interdependence (Buthelezi, 2017). Furthermore, 'African humanness' has the welfare of the human person concerning the welfare of human community as its vital attribute (Eleojo, 2014). Therein, the researcher contextualises the concept of 'African humanness' as *social structures as collectives, promoting adaptive behaviours that enrich human beings in the sustainment of (all) other human beings.*

6.4 Deeper learning

The researcher emphasises the distinction between 'deeper learning' as a concept of human learning and 'deep learning', a concept of 'machine learning', 'robotics', and 'artificial intelligence' (AI). 'Deep learning' as a concept of machine learning and AI is well described in current literature. 'Deeper learning', as a concept of human learning and human intelligence, is a concept not well described in current literature. There is especially a gap in the literature regarding the application of deeper learning in context of organisational learning. However, Huberman, Bitter, Anthony and O'Day (2014) and Noguera, Darling-Hammond and Friedlaender (2015) provide a description of 'deeper learning' highlighting students' collage, career and civic readiness as the outcome of 'deeper learning'. However, their perspective is that of primary and secondary education within a first-world, Western culture, milieu where there are fewer challenges such as limited educational opportunity and extremely high unemployment rates. Although, they do describe the concept deeper learning to include student's abilities to communicate effectively, to work well in teams, to solve complex problems, and to attend to their own learning. In the following section the researcher will review elements of what might be seen as 'deeper learning' from the context of organisational learning and in context of a Southern worldview.

6.4.1 Shortfall in pedagogy

'Pedagogy' refers to the 'teaching of children' as well as the science of education (Whiteside, 2017). As a teaching profession, the word 'pedagogy' has its roots in ancient Greek. The word 'pedagogy' refers to two concepts, that of 'paidos' meaning boy or child and 'agogos' meaning leader (Vocabulary.com Editors, 2021). Herbart, 1776-1841, is often credited with the concept of 'pedagogy' (Rutto, 2017), with Pestalozzi, 1746-1827, being described as the father of modern pedagogy (Downs, 1975). Freire, 1921-1997, is seen as the leading advocate of critical pedagogy (Macedo, 2000). 'Pedagogy', as a science, has grown and expanded over

many years, with specific branches to the science being added. Knowles, 1913-1997, described 'Andragogy' in 1962 as the science of adult education (Kurt, 2020). Strohschen and Elazier (2011) suggested 'Metagogy' as a process of collaborative learning (Peterson & Ray, 2013). 'Heutagogy' was introduced by Hase and Kenyon (2000) as self-determined learning provided a holistic approach to learning (Coghlan & Brydon-Miller, 2014).

In the past decade, many of these well-respected pedagogies have started to show shortfalls. Ali (2019) postulates a shortfall in the current pedagogies not being prepared for the new generations, iGen, and their need to be connected through text. Areli (2015) argues the shortfall in current Western pedagogies applied to many educational systems regarding the inclusion of indigenous epistemologies. Schulleri (2020) highlights the shortfall of pedagogy in the changing role of educators, taking more responsibility in the holistic development of students. According to Burns, Kelley and Spalding (2019), the shortfall in current pedagogy focuses on cultivating holistic, sustainable, transformative, and healing the earth and human communities. This literature review, however, is not about the shortfalls themselves, but it is important to note that current pedagogies might not be ideal, complete, or ready for a 'new normal' pedagogical practice.

6.4.2 Deeper learning for organisational learning

In the previous section, the researcher highlights the specific shortfalls in current pedagogies regarding the inclusion of diverse thinking, the changing holistic role of educators, the generation changes and the lack of focus on sustainability and regenerative thinking. From the above, the researcher focused the literature review on the pedagogical approach that might be more aligned and suited for a future integral and adaptive learning architecture.

6.4.2.1 Deeper learning and increased sustainability

As Burns *et al.* (2019) argue, sustainability has become a key focus predominately in higher education, although not as much in mainstream organisational learning. Developing a better understanding of how sustainability and regenerative epistemology can be cultivated is still needed. Hadders (2011) proposes that when the outcomes of organisational ecologies are unsustainable, deeper thinking and learning, intelligence, and deep knowledge in an ever-continuing process of innovation and adaptation are required to restore the dynamic balance of the whole. Hadders further refers to Firestone and McElroy (2004), who assert that

organisational architectures should pay more attention to emergent capabilities of greater knowledge creation for sustainable and regenerative behaviours. Given the importance of sustainability and generativity within the sustainability education literature, the role of the educators' values, assumptions and philosophies underpinning educational capability (Sandri, 2020) in the provision of deeper learning experiences become foundational for a new adaptive learning architecture. To Burns *et al.* (2019) the purpose of a sustainability pedagogy is to create meaningful, integral, transformative learning through intentional design that weaves together multiple dimensions of learning.

6.4.2.2   *Deeper learning and increased awareness*

Learning can only be inferred when an observable behaviour change (Levy, 2021) or conscious choices not to change behaviour (Brunette, 2017) is prevalent. Hadders (2011) refers to Senge, Smith, Kruschwitz, Laur and Schley (2008), putting forward the concept of 'learning presence', a concept borrowed from the natural world of system thinking in which the whole is entirely present in any of its parts. According to Senge *et al.* (2008), learning presence, which can be relayed to deeper learning, allows new ways of thinking about learning from experiences. They argue that all experiential learning integrates thinking [being] and doing. They further posit that most organisational learning efforts focus on routine (competencies) or are re-active whereby 'thinking' may be seen as being governed by established mental models and 'doing' is governed by established habits.

Increased awareness of the larger whole can be established by encouraging deeper learning, leading to actions that can help shape more viable evolution for a sustainable future (Hadders, 2011) and promoting sustainability consciousness (Kalsoom & Khanam, 2017). Scharmer (2016), referring to Theory U, propounds four awareness levels from which actions arise. Level 1 is habitual awareness which is an inherited automatic awareness state. Level 2 is subject-object awareness, which relates to the awareness of self and self-interest. Level 3 is empathetic-relational, an awareness of others and inter-dependency. Lastly, Level 4 is generative awareness, an awareness of the whole.

6.4.2.3   *Deeper learning and increased sensemaking*

Brunette (2017) describes 'sensemaking' as a key element of a modern learning architecture and a foundational part of personal significance. 'Sensemaking' is described by Kurtz and Snowden (2003) through the Cynefin framework as a multi-ontology process of discovery. Snowden (2003) promotes that 'learning' as a process

of 'sensemaking' resonates with a complexity ontology in discovering emergent properties of complex relations. In dialogue with Arts, Baldini, Goodman, Hayashi, Jandernoa and Scharmer (2021), the founding faculty of the Presencing Institute, Scharmer (2021) posits co-sensing as a collective, collaborative, and deeper experience through heightened or deeper awareness. According to Scharmer (2016), a deeper level of sensemaking is achieved via co-sensing on a horizontal and vertical dimension. At a horizontal dimension, different perspectives are evident in co-sensing, whilst on a vertical dimension, deeper embodied very organic experiences contribute to deeper levels of awareness of the individual and the collective.

6.4.3   Multi-truth agency

As reviewed in Section 5.2.1, a 'new normal' is laden with a new truth paradigm. This new paradigm of truth might be built on notions of a multi-truth where there is no ultimate truth but versions of interpretation of reality. Reality itself would become co-created, co-sensed, conceptualised as a collective experience through a multi-frame thinking system (Brunette, 2017). However, for learning design as for organisational design as argued by Reynolds (2019) designing for a world of wicked problems, the aim is not to find the truth but to design systems that enhance human betterment [humanness] and improve human quality. From the frame of autonomous systems theory, truth verification is based on comparing the autonomous agency (Bielecki, 2021) and the level of correlation and coherence, also referred to as the 'Coherence-Correlation dynamic' of such a system (Laszlo, 2007).

From an 'autonomous systems theory' perspective, contextualised in cybernetics, 'truth' is defined as the adequacy of the agent's paradigm of the real world in the context of the goal that is assumed to be reached as the effect of the performed action (Bielecki, 2021:808). Where the system is 'closed', the 'truth' is confined inside the system and does not refer to the physical world (Kouneiher & Da Costa, 2020). In the case of an 'open' system, the truth is empirically interpreted by fundamental processes and phenomena concerning the physical reality considered within specific frames of correspondence (Bielecki, 2021). With 'truth' seen as the adequacy of agency within an open system, 'agency' is described as the cognitive subject of agency. Bielecki then further argues that in an autonomous system the empirically interpreted truth refers to reality considerations in various frames of thinking.

Cybernetics is concerned with understanding complex human systems such as learning, cognition, adaptation, emergence, communication and efficiency (Jin, 2018).

Cybernetics is a way of thinking as opposed to a collection of facts (Von Glasersfeld, 2018). Von Glasersfeld posits cybernetics as multi-disciplinary in that it distils and clarifies notions and conceptual patterns within autonomous systems that open new pathways of understanding in a great many areas of experience. Cybernetics focuses on questions of "How systems regulate or control themselves?", "How systems adapt and evolve?", "How systems self-organise and, more specifically, what the structures and mechanisms are that mediate their operation, performance and conduct, highlighting the underlying structure of the system and the ultimate behaviour of the system?" (Ben-Eli, 2018).

According to Tosey (2006), and Bateson (1979), applying a cybernetics approach profoundly changes the epistemological implications within a learning and teaching architecture. According to Bateson (1979:242), the essence of epistemology within a pedagogical perspective is the agency of know, think, and decide within the learning system as an organism that self-regulates. Brunette (2017) added the element of act or acting on the decision to the above agency as a flow process within a learning architecture. The agency of know, think, decide, act carries a cognition ontology. As the collective of the autonomous learning system, the term 'cognitive subject' denotes the autonomous agent that creates self-regulation. In reference to the concept of 'truth', the cognition process is verified empirically by using senses and models of reality (Bielecki, 2021). With truth being empirically interpreted through subjective realities of the facts related to truth a 'multi-truth agency' is constructed. Therefore, contextualise in a 'multi-truth agency', *Truth* can only be expressed subjectively in a co-created reality of 'multi-frame thinking' (Goodman, 1975; Brunette, 2017; Bielecki, 2021).

6.4.4 Social axioms

'Social axioms' are the generalised beliefs about the physical and social surroundings of the people of a specific culture (Rasool & Batool, 2020). Leung and Bond (2004) argued that the general social beliefs of people represent people's cognitive maps of their social world. Therefore, social axioms can be seen as guiding people in meeting and working with difficulties and challenges of every day (Leung & Bond, 2009) within the culture they make their existence. The generalised beliefs are seen as social axioms because, like axioms in mathematics, these beliefs are basic premises that people endorse and use to guide their behaviour in different situations. Leung, Bond, Carrasquel, Muñoz and Hernandez (2002:288) stated that beliefs become axiomatic because they are assumed to be true due to personal and social experiences, not as

a result of scientific validation. Rastegar (2017) confirms the relationship between social axioms and the well-being of a society or culture, stressing the importance of accurate understanding of the human mind to cognitive biases. Iliescu, Dinca and Bond (2017) affirms that there is robust evidence that social axioms are valid variables in the description of groups, communities and societies, and also applicable in the description of individual behaviour inside such groups, communities and societies.

Leung and Bond (2004) identified a five-factor structure of social axioms as a generalisation of the characteristics of social axioms from data gathered from different notions. The five factors are i) *Social cynicism*, denoting a negative view of human nature, a lack of faith in social institutions, a bias against some social groups, and a lack of ethical means to accomplish a goal. ii) *Social complexity*, relating to the idea that there are no strict laws but rather several ways to achieve the given results, there are multiple ways to solve problems, and that variation in human actions are expected. iii) *Reward for application*, focusing on the idea that investment effort, knowledge and careful planning will lead to positive consequences. iv) *Fate control*, believing that there are predetermined life events and certain ways to affect these negative impacts of these outcomes and v) *Religiosity*, represents a belief in the existence of a Supreme Being but also several beliefs about the beneficial social function of religious institutions and practices (Rasool & Batool, 2020).

A social axioms survey conducted by Barnard, Rothmann and Meiring (2008) in South Africa Police Service (SAPS) in September 2004 confirmed reasonable replicability of the five-factor structure of social axioms. In the SAPS, four interpretable factors of social cynicism, fate control, reward for application and religiosity replicated, with social complexity not replicating. A repeat of the 2012 study by Barnard, Rothmann and Meiring (2017) in the SAPS confirmed reasonable replicability with an adapted research instrument indicated that all five indicators of social axioms replicate, indicating the existence and thereby the application of social axioms within a Southern world context.

Leung *et al*. (2002:288) distinguished four primary functions of social axioms that assists the existence of humans. i) Value-expression, expressing of own values. ii) Knowledge, assisting individuals to understand the world around them. iii) Instrumentality, promoting the achievement of significant objects. iv) Ego-defence, assisting individuals to defend their self-worth. According to Rasool and Batool (2020), due to these functions, social axioms have usefulness for human adaptation and survival. The usefulness of social axioms resides in its combination with the end and the various prescribed means to such an end. For example, 'reward

for application' described the contingency between 'expended efforts' and 'earned rewards'. However, 'social cynicism' describes the contingency between 'social power' and 'likely reward'. The reward for 'application' predicts the preference for 'collaboration and compromise' tactics to make a better decision. Social axioms illustrate the instrumentality of multiple means to achieve set goals. Further, social axioms can predict *how* people deal with existentialism (Rasool & Batool, 2020).

6.4.5   Coherence-Correlation dynamic

'Coherence' may be defined as a condition of logical consistency (Stark, 1986). Laszlo (2004) defined coherence from a systems perspective as the quality of being logical and consistent, forming a unified whole where all parts of a system are of such coherence that what happens to one part of the system also happens to the other parts of the system. Alsariera and Yunus (2021) views 'coherence' from a human behaviour perspective as the quality of understanding created by the configurational means and interrelated relationships established logically and consistently. Lee (2022) expands the behaviour view indicating 'coherence' as the levels of understanding or sense-making through the interpretation of new knowledge with existing knowledge.

'Correlation', in general, and in simple terms, means relationship or association (Budiyono, Pranawa, & Santoso, 2022). More precisely, it is the measure of the extent to which two variables are related or associated without stating cause and effect (McLeod, 2020). Diamant (2021) describes a positive 'correlation' when the increase in one variable is associated with an increase in the other variable and a negative 'correlation' if an increase in one variable comes with a decrease in the other variable. From a systems behaviour perspective, Kellman (1999) described 'correlation' as the tendency of two or more systems that independently exhibit simple behaviour to show complex and novel behaviour together because of their interaction.

'Dynamics' implies change as a consequence of the forces or powers inherent in things that change (Van Greet 2019). DeShon (2012) states that thinking about dynamics and the iterated application of transition rules means continually asking, "And then what happens?" In the context of dynamics as a transitioning, Olenick and Dishop (2022) posits that 'dynamics' emphasises how a variable, or set of variables, transitions from one time point to the next. Olenick and Dishop (2022) concludes that 'dynamics' is the study of the forces governing change. Instead of emphasising change per se, such a definition emphasises the evolution of the system and its targets that may or may not result in observable change. Leibniz (1695), as referred

to by Van Greet (2019), who introduced the term dynamics in a philosophical essay where he says that every "bodily thing" has a basic property, namely its force, which is its ability to do something, to act upon other things, or to withstand, to a certain degree, to be changed by other things. Van Greet (2019) then postulates that a dynamic system is a system whose current state generates its successive state by a rule or principle of change (the so-called evolution rule) and thus produces a trajectory in a stated space.

'Dynamics' can be expanded further to 'thermodynamics', relating to the energy flow and dynamics as the motion of the energy and the second law of thermodynamics. The second law of thermodynamics is especially of interest regarding organisations, organisational teams, and organisational learning. The second law of thermodynamics, also known as the law of 'increased entropy', was described for the first time by Clausius (1850). Purvis, Mao and Robinson (2019:7) refers to the application of the concept of 'entropy' to numerous complex environments urban systems, economic systems, and social systems by referring to the works of Nicolis and Prigogine (1977), Georgescu-Roegen (1971) and Wilson (1970). The application of 'entropy' within various fields generalises the concept of entropy as it relates to this study. It highlights the general concept of energy flowing from a specific higher quality/quantity energy to a lower and the ever-presence of 'entropy' within a system.

'Coherence-Correlation dynamic' is viewed within the context of systems theory, human systems and Adaptive-Intelligence. Human systems, like all systems, are states of energy, where 'energy' is defined as the 'capacity for doing work' (Britannica Editors, 2021). Liu (2018:30) describes the human body's energy system concerning its 'material system'. The 'material system' of the human body refers to the 'different levels of physical structures', including the material composition of genes, organs, and limbs. The energy system is described as a dynamic system that maintains and influences human life activities. Liu (2018) further contributes that human energy relates to matter, the material system, by referring to Einstein's matter-energy conversion formula, $e=mc^2$. Systems theories, in general, describe characteristics of systems and their integrating processes among the component parts of such a system, permitting the continuity of the larger whole (Sinnott & Rabin, 2012). From an organisational development and human growth perspective, systems theory is interested in problems related to relationships, structures and inter-dependency of organisational and human functions (Ludwig, 2015). Living entities are both parts and wholes, emerging as a complex living system (Newman & Newman, 2011). Therefore, the researcher contextualised 'Coherence-Correlation dynamic' (CCD) as a *collective*

entropy within the complexity of human-generated systems considering the relationships within the system that affect all parts of the system.

6.5 Conclusion

This chapter provided a literature review on a possible new normal perspective for a new learning architecture. The literature review was conducted to provide an African perspective to such a learning architecture and, specifically, the gifts or aphorisms that an African approach or African perspective can provide to strengthen the adaptability potential of global organisations. The focus of the literature review is that of organisational learning and the development of the human potential within organisations.

Both literature review chapters are not seen as an all-inclusive review but rather a focused review utilising grounded theory practice as indicated by Martins, Martins and Viljoen (2017). Of most interest is that, although recognising the transdisciplinary nature of the literature, the lack of integration into a coherent human development theory or human learning architecture is admittedly missing within the literature. Given this specific insight gained during the literature review, the following chapter will discuss the findings of the empirical research results in the context of the conducted literature review to tie the findings into a congruent argument for a new learning architecture based on African aphorism.

CHAPTER 7
Evaluation and Discussion

7.1 Introduction

Chapters 2, 5 and 6 presented a review of available literature as an academic voice for relevant concepts and emergent themes from the data collected and analysed as presented in Chapters 3 and 4. In this chapter, the researcher will consolidate, integrate, evaluate and discuss the analysed data and the literature reviewed. True to the ontological assumption of metamodernism as described in Section 1.9.1, the researcher recognises and allows for shifts in the themes identified in Chapter 4 as deeper insights and meta insights are applied to the data and the literature reviewed. Therefore, Chapter 7 presents an augmented view of the data and literature in highlighting the gaps between the data and literature or confirming the relevance of the literature to the phenomena of a new learning architecture that utilises an African aphorism to increase organisational quotient within a settling new normal. The discussion of the research findings is structured according to the five themes that emerged through selective coding. These are: Organisational adaptive quotient; nLA requirements; Organisational learning system; C-Dynamics; and Adaptive-Intelligence. In this chapter, the researcher will present and discuss the research findings as they relate to the aim of the study, describing requirements for a learning architecture that is focused on adaptive quotient and adaptive potential of an organisation within the context of a business society that is settling back into a new normal.

7.2 Organisational Adaptive Quotient

In this theme, several sub-categories and categories emerged during the data analysis. Although not identified in the data as organisational adaptive quotient (OAq), the sub-categories and core categories relate to what is described as OAq. Within the literature, strong evidence is presented for human or individual adaptability quotient (Aq) (Powell, 2018; Panozza, 2020; Hughson, 2020) as well as for organisational adaptation (OA) (Sarta *et al.*, 2021; McMahan and Evans, 2018). The literature, however, does not show evidence of the combination of these two concepts in addressing OAq. From the two core categories identified during axial coding, the concepts indicated in Figure 7.1 on the next page were identified relating to OAq.
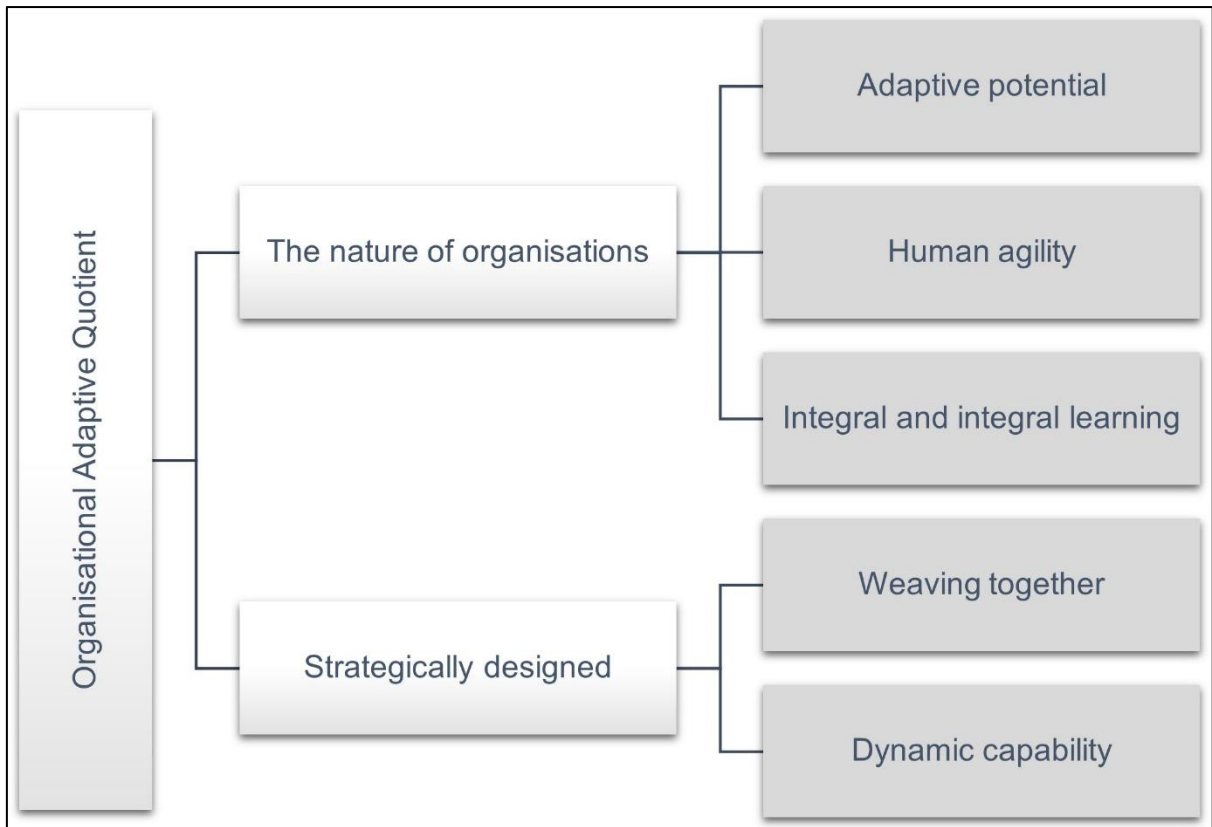
Figure 7.1 Organisational Adaptive Quotient. (Source: Own compilation.)

Figure 7.1 above indicates the construction of the theme organisational adaptive quotient (OAq). Figure 7.1. indicates the two concepts identified during axial coding, being 'adaptation is the nature of organisations', and 'adaptation should be strategically designed'. Each of the two concepts has respective constructs that emerged from the focus groups and were linked to concepts after selective coding. The constructs are discussed below, together with their concept.

7.2.1   The nature of organisations

The first concept is adaptation is the nature of organisations. The data indicated a natural evolution instinct in humans that is transferred into the workplace. However, that evolution instinct is connected to human emotion. The data indicated that although change is a natural human process, it still creates high levels of uncertainty and fear during the change process. Although, it is believed that people and organisations will adapt to the extreme event they are currently facing. The data also suggests that the realisation of the disruptive impact of the 4IR and 5IR will persist

even after the COVID-19 pandemic. The persistence of change is confirmed in the current literature. The continuation of the 4IR and 5IR impact is supported by Leonhard (2020), although he argues further that the impact will accelerate. Leonhard (2016:17) also argues the development of "human-only skills" in what he refers to as androrithms as a requirement created by the persistence of the 4IR and 5IR disruption. From this perspective of human development, and within the context of an nLA, the three constructs linked to the nature of organisations are adaptive potential, human agility and integral learning.

'Adaptive potential' (AP) showed up in the data during open coding as the optimisation of human potential. In the context of the learning system, the data indicated that technology is applied to enable the learning system. However, it is the people, through their intelligence, who allow the system to function. Human potential is adaptiveness. When humans cannot adapt, they have limited potential within a 'new normal' organisation. In the current literature, no evidence was found of the explicit intentionality to focus a learning architecture on the development of AP. However, the literature does support AP from various views as an essential focus in people development and organisational development. Laubscher (2013) indicates that AP is required to move from one human niche to the next. The speed at which collective efficacy and diversity can be developed within an organisation is dependent on the AP of the individuals within such an organisation (Colby, 2003). AP within the deep transformation of the individual and the organisation requires social-emotional, cognitive and behavioural promotion (Laske & De Vish., 2018). Organisations that harness the collective AP from their people learn more quickly, both in their ability to collaborate and absorb and create new knowledge (Leimeister, 2010; Aggarwal, 2017).

'Human agility', as a construct of the nature of organisations, was extracted mainly from the focus groups. In the data, human agility was related to focus on human skill. The data highlighted that human skill, and maybe human-specific or human-only skill (Leonhard, 2016), relates to human potential development where learning content becomes less important. The data suggest that people feel more resilient when human-only skills are being developed. Nevertheless, the data also suggests that there is a still stronger focus on developing the 'human-doing' skills rather than the 'human-being' skills in attempting to develop human-only skills. This imbalanced focus might indicate a failure of the applied learning architecture. The literature confirms the importance of developing 'human-being' skills, referred to as 21st-century skills such as empathy, systems thinking, creativity and abstraction skills (Smith & Hu, 2013). The literature also suggests that human adaptiveness potential

further strengthens human agility through skill development in problem-solving (Panozza, 2020). However, the gap that does show within the literature is how human agility, or human-being skills development, is incorporated within a learning architecture that focuses on OAq.

'Integral learning' as a construct of the nature of organisations emerged mainly from the focus groups, oscillating with more than one sub-category or category developed through axial coding. The data indicated that the nature of organisations in a settling new normal should be more integral and that organisational learning should follow a more integrated learning approach. The data suggested a weaving together of adaptive-intelligence, collective intelligence and collective experience together with the focus on developing higher levels of focused consciousness to increase integral learning. Having a stronger integral learning approach should also create a more balanced development of the 'human-being' and 'human-doing'. The importance of integral thinking and, indeed, integral learning is confirmed by current literature. A new paradigm for organisational learning should be formed that extends beyond the traditional or modernist view of formal operational human development (Reynolds, 2019).

The new paradigm should focus on integrating post-conventional (Cook-Greuter, 2013), post-formal (Commons & Richards, 2003), and consciousness development (Wilber, 2001), seen as 'integral learning'. Schieffer and Lessem (2016) further suggests an integral learning model from the perspective of a combined or integral worldview of the Western world combined with the Norther world, integrating with the worldview of Eastern and Southern worlds. Essential to this study is that the Southern worldview adds images of existence in deep-rooted beliefs and archetypal structure of physical, psychological and spiritual learning to the construct of integral learning.

7.2.2   *Strategically designed*

The second concept within the development of OAq is that adaptation, individual or organisational, should be strategically designed. A few key focuses that emerged from the data were that organisations, including their organisational learning system, should design their efforts to align strategically with the business to enable future skills, human-only skills to become fit-for-purpose. Also, organisations should recognise that traditionalist, as it relates to 'modernism', will persist, and will not dissipate unless strategically designed out of the system. One of the strongest

emergences was the lack of enough strategic effort to integrate learning and work. Finally, the data suggested that organisational design could dictate OAq. Organisations with a design that allows agility and reaction speed through innovation should have a higher OAq than an organisation with a more static and less flexible architecture. The data indicated that only a few organisations had transitioned to more flexible and agile architectures. The researcher found the literature reviewed lacking in expressing the option of strategically designing for OAq. The gap in the literature is pronounced in the area of an OLS that is strategically designed to improve OAq.

'Weaving together' was inferred from the data as an element of strategically designing adaptation into the OLS. 'Weaving together' could assist in the paradigmatic shift from a traditional learning system based on a competence paradigm to a metamodernist approach based on an adaptive intelligence paradigm, as discussed in Section 6.2.1. The data infers that strategical designing for adaptation will require a focus on integrating work and learning, transitioning of duality within a learning system, and the ability to become fit for purpose as a system. The weaving together of strategically focused constructs within an nLA will be imperative to a meta-modern organisation.

The concept of weaving indicates flexibility and learning plasticity, as suggested in the literature of Davies, Krebs and West (2012) and Sng *et al.* (2018). The data suggests various aspects of organisational learning that should be woven into strategically designing an OLS. The more prominent aspects are the concepts of 'collectiveness', and 'Adaptive-Intelligence' (Ai) are woven into 'collective human intelligence'. 'Ai' as an academic construct is well represented in the literature as described in Section 5.5.2. However, the academic construct of 'Collective Human Intelligence' as a term is not reflected in the literature. Another aspect suggested from the data to be woven into strategically designing an OLS is 'multi-truth'.

The data suggested that the construct of 'multi-truth' is less about 'the truth' and more about thinking and evaluating the relevance of the 'presented truth'. Teaching the truth in a learning system means that someone has chosen that truth, which may not consider its relevance to the people within the system. Therefore, it would be more appropriate to design for flexibility in weaving together the reality of the people with the truth presented. The weaving of 'multi-truths' into the realities of the people faced with such truths brings to the fore the action and role that the subjective truth contributes to such realities. As the action and role of the subjective truth it reveals the agency of the 'multi-truth'. 'Multi-truth agency' is constructed from current literature and described in Section 6.4.3, reflecting on the works of Von Glaserfeld (2018), Jin (2018), Reynolds (2019), Kouneiher and Da Costa (2020) and Bielecki (2021).

'Multi-truth', weaved together with the subjective truth of the learners within the OLS through a multi-frame reality, can be expressed as a 'multi-truth agency'.

'Dynamic capability' as a construct of strategic design did not fully emerge from the data. However, during the focus groups, the discussion was whether Ai might require a different collective label. Dynamics capability was suggested as the collective reference to Ai within an organisational strategy to refer to the collective human intelligence required for a specific task, or production shift. The current literature on dynamic capability strengthens the notion of focusing on dynamic capabilities within collective human development. Dynamic capability could increase an organisation's ability to integrate and reconfigure internal competencies to address rapidly changing environments (Govender, 2020). With dynamic capability being seen as a learned, stable platform of collective agency through which an organisation systematically modifies its operations (Zollo & Winter, 2002), dynamic capability relies on collaboration, cognitive behavioural and social-emotional dimensions to activate deep transformational thinking (Laske & De Vish, 2018).

7.3   Adaptive-Intelligence

In this theme, some concepts were developed from the data. However, the data revealed less-than-expected evidence on the use of the concept of Adaptive-Intelligence (Ai). The low congruence between emergent categories and sub-categories might indicate that Ai as a concept within the current organisational learning environment is not an explicit focus. The data leaned more towards participants' experiences of agility, individual and organisation, and a need for more cognitive flexibility within the people system of some organisations. There was an indication in the data of the need to focus more on problem spaces in a flexible customer environment and harness more of the collective Ai of the problem-solvers. Some focus groups focused on the resistance organisational systems, including the OLS, with the label of Ai, specifically the intelligence part of it. The main concern was measuring learning output if it is an intelligence rather than a competency.

Although not explicitly incorporating Ai into organisational learning efforts, current literature is more pronounced on Ai. Seminal authors in the field of Ai are Graves (1970), Beck and Cowan (2005), Beck *et al.* (2018) and Sternberg (2020), who provides insights on Ai as a human development triad. Human intelligence itself is adaptive and can shift as societies, communities, organisations, and individuals cope with shifting life conditions (Beck 2011). From the working definition for Ai posited by

the researcher in Section 5.3.5, the focus of Ai is learnt ability to respond through adaptive thought and accurate knowledge to become future-fit. Focusing on the possible incorporation of Ai into an nLA, the concept of Ai is depicted in Figure 7.2. below.
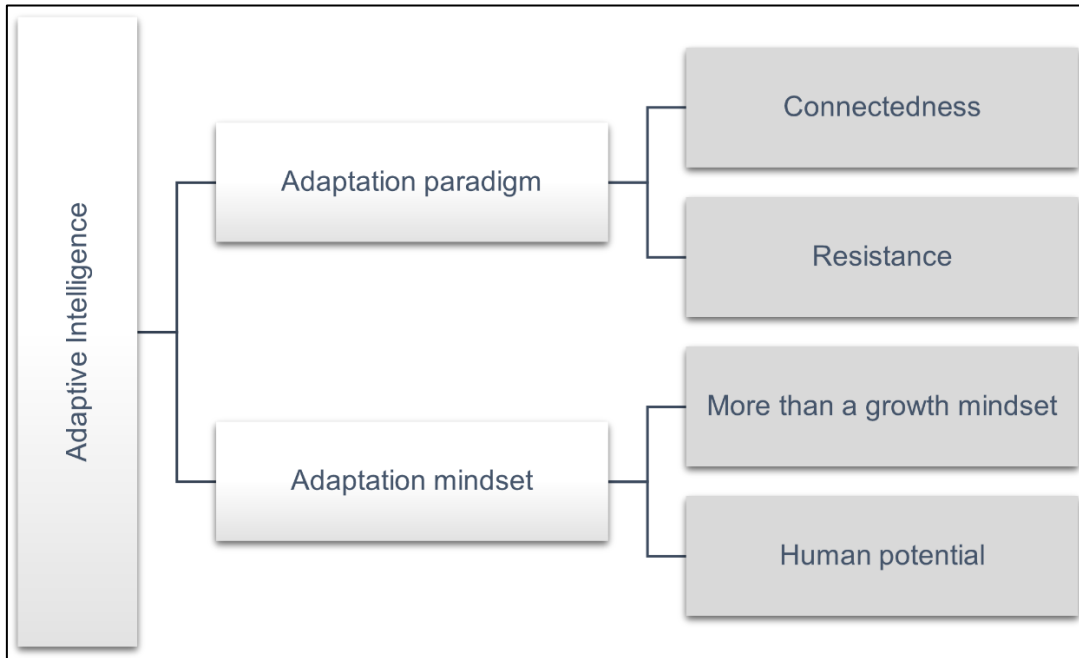
Figure 7.2 Adaptive-Intelligence. (Source: Own compilation.)

Figure 7.2 above indicates the structure of the Ai concept, specifically as it relates to organisational learning and an nLA. The two concepts within the structure, adaptation parading and an adaptation mindset, were developed during axial coding. The constructs linked to the adaptation paradigm and adaptation mindset emerged within the focus groups. As illustrated in Figure 7.2, a paradigm of adaptation will be required to unlock the potential of Ai within an nLA. However, the researcher recognised that it might require a paradigm shift within most modernist organisations and is, therefore, aware of the resistance to such a paradigm of adaptation. The constructs required to formulate the adaptation paradigm would be connectedness and acknowledgement of the resistance to the shift. The adaptation paradigm leads directly to a mindset of adaptation. The individual construct moves beyond a growth mindset and human potential in constructing an adaptation mindset.

7.3.1   Adaptation paradigm

The data indicated that organisational adaptability as a capability within a meta-modern organisation requires Ai. The Ai required would be on an individual level and

a collective level of the organisation. The value of collective learning should optimise human potential. The optimisation of human potential and the adaptiveness of human intelligence were observed during the participant observation phase of data gathering when teams were confronted with the existential questions of the team. A paradigm of adaptation was developed within these participants. There is a correlation with the literature that describes the use of Ai in creating future possibilities, different kinds of problems to be solved and for what constitutes a good solution (Sternberg, 2020). A paradigm of Ai relates to managing struggles and communicating with other people, displaying robustness to educate oneself and others on the surroundings of the collective (Sam, 2013).

'Connectedness' as a construct of an adaptation paradigm focuses on the collective behaviour and the collective learning of natural working teams within an organisation. The data also refers to collective learning as 'collective human intelligence' (CHI). The data describes CHI as a team's ability, or its thinking pattern, to quickly identify what must be learnt and then go and learn it, then integrate the learning with the work, adapting the status quo. With CHI, the data suggested that the relevance of the OLS could be redefined entirely, where Ai becomes the critical output of the learning system. Such a redefinition can lead to a higher speed of learning and a greater impact of learning. There seems to be a gap in the literature regarding the concept of CHI as described through the data. The literature does refer to the collectiveness of Ai. The literature does recognise the interactive nature of the OLS. The ontological dimension of the learning system is repeatedly presented in two levels, that of the individual and that of the collective (Curado, 2006). From a Spiral Dynamics perspective, the levels of the 'spiral', for instance, become more resilient through its life conditions and embeds its paradigms in the collective knowledge of the specific level and the levels that came before them (Cowan & Tadorovic, 2000). Without a structural pre-set competency framework within a learning system, the collective behaviour [intelligence] of teams within organisations emerges through the collaboration of its members in collective-learning activities (Laske & De Vish, 2018).

Resistance to Ai as a label to be used within the current OLS seems high. The data indicated that most participants from the sample groups resisted the label of 'Ai' as this was an unknown term to them. In most of the current OLS, the focus is still high on competency development, outcome-based competencies, and measuring learning according to competencies. Introducing Ai as an output of an OLS would cause resistance due to the system not knowing the exact relation of Ai to the OLS, the work, learning, and the measurement of learning. The data indicated that the OLS would not know how to measure Ai, leaving the system feeling constrained. As far as the

researcher could establish, there is currently no academic study that indicates the impact of measuring Ai within an OLS. However, the literature indicates the importance of approaching organisational learning as a holistic or integral human development endeavour. An nLA should consider that organisational learning should stretch beyond the traditional, operational and conventional human development efforts (Reynolds, 2019). There is a new paradigm required for what a learning architecture within an OLS should accomplish, including multi-levelled inter-dependence (Laszlo, 2017), cognitive flexibility (Kegan, 1982), cognitive complexity (Stamp, 1981); (Du Toit, 2006), and Adaptive-Intelligence (Cherry, 2021).

7.3.2   Adaptation mindset

'Adaptation mindset' emerged during axial coding as a core category and was linked to the theme of Ai during selective coding. The three constructs linked to an adaptation mindset, more than a growth mindset, human potential and harnessing of a problem space, were extracted from the focus groups. Some of the data indicated that due to the extreme disruption of the COVID-19 pandemic, combined with all the technological advancements within the 4IR and 5IR, many employees in organisations build up a mindset of becoming irrelevant.

This mindset of irrelevance drives an inability to grow and adapt. According to the data, a requirement for adaptation is a mindset of relevance to a future that will more than profit growth. The current literature corroborates the evidence of a mindset shift required to move towards a 4IR and 5IR work environment. However, the literature is not compelling regarding incorporating the intentional focus on mindset development through the OLS, with a specific focus on developing a mindset of regeneration. The literature does refer to a need to shift the collective mindset of organisations away from maximising profit, which can still be a robust application within the 4IR argument, to finding unique solutions to engage a future world (Laubscher, 2013). The shift towards an adaptation or regenerative mindset within formal and informal learning efforts would require a shift away from an industrial mindset (Hu-Au & Lee, 2017), where learning is seen as a 'conveyer belt' producing the same 'one-size-fits-all product', providing access to 'in-the-moment relevance' in the regeneration of knowledge. Included in the mindset of relevance is the ability of relevance. The ability of relevance is activated through an agile mindset, agile thinking and agile leadership. The data suggested that if there is an ability of relevance created through the organisation's architecture, where the human is allowed to constantly re-invent itself,

a strong mindset beyond a growth mindset could be established. This new mindset could be referred to as a 'regenerative mindset'.

The data also indicated the construct of human potential as an intentionality of adaptation. The data indicated that human potential is adaptiveness. The ability of the human to be able to adapt and grow within a changing environment, the human ability to evolve through time is the potential of the human. This adaptive potential was experienced every day during the COVID-19 pandemic, especially at the beginning of the pandemic with the global lockdown. The data suggested that organisational learning should focus more on developing this human potential to activate higher adaptability during the 4IR disruption and indeed an extreme disruption like the COVID-19 pandemic. Shifting the mindset of an OLS could develop the whole human to think more about who they are, their context to the world, their relevance to their organisation, their own potential as an intelligence, and their own personal significance (Brunette, 2017). The researcher found quite a gap in the literature regarding human potential as a context to adaptiveness or as an adaptation mindset within a learning system. Only Laubscher (2013) referred to the maximisation of human potential by focusing on organisations' or learning systems' mindsets or intentionality.

7.4   C-Dynamics

In this theme, the concept of integration, interrelationships and interplay emerged from the data. The primary concepts highlighted were that of coherence and correlation. 'Coherence and Correlation' were not necessarily always referred to in combination or as a dynamic duo. However, there was enough similarity to consider them as a compelling combination. Further, as a combination, it would appear that there is a synergetic strength, a dynamic that exists when these two concepts are an integration parameter. It emerged from the data that this 'Coherence-Correlation dynamics' (CCD), or 'C-Dynamics', also becomes a construct for OAq. However, there appears to be a gap in the literature related to the 'C-Dynamics' of a learning architecture. Due to the lack of literature support, the researcher postulates the concept of 'C-Dynamics' according to Figure 7.3. on the next page.
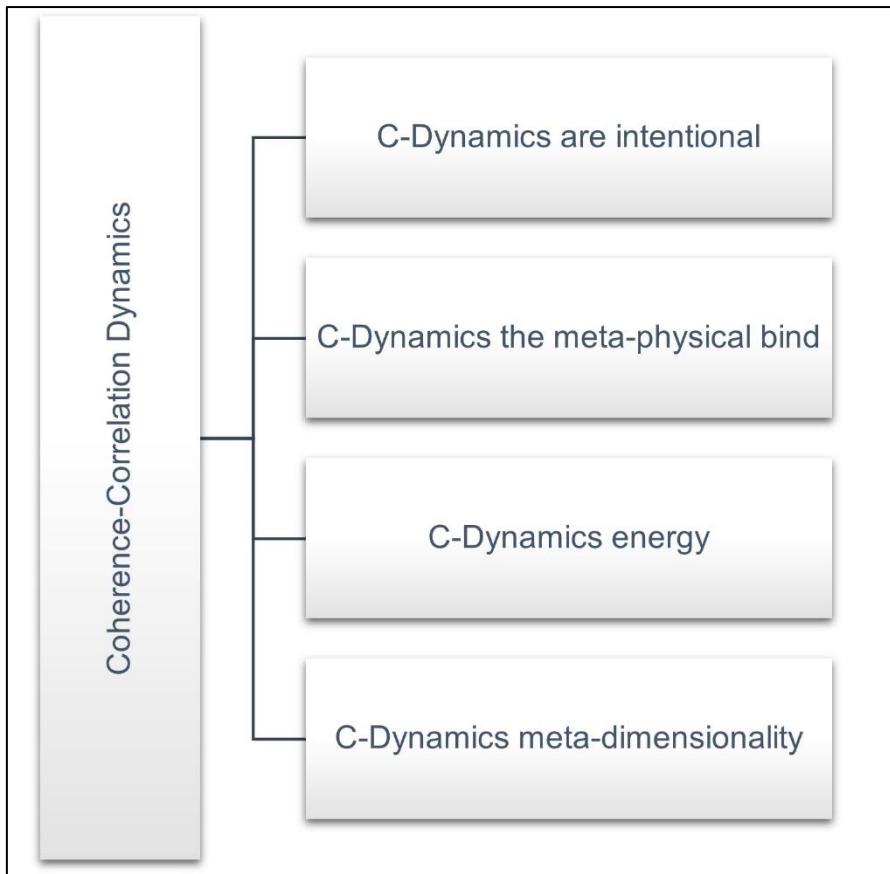
Figure 7.3 C-Dynamics. (Source: Own compilation.)

Figure 7.3 above shows the construction of C-Dynamics or CCD. The constructs of C-Dynamics are intentionality, C-Dynamics as the meta-physical bind, C-Dynamics energy, and C-Dynamics are meta-dimensional. These constructs all emerged during axial coding. The concept of C-Dynamics from the grounded theory processes is a combination of various contributions related to the role that coherence or correlation plays within an OLS. In the literature, similar to the data, the constructs of coherence and correlation are defined separately and are argued separately in various fields and theories. Through this discussion, the researcher will attempt to combine the two constructs into one concept called CCD or C-Dynamics.

7.4.1   C-Dynamics are intentional

The data suggested low intentionality in creating both coherence and correlation within current learning architectures. However, the data do suggest that an OLS should be intentional to establish coherence and correlation within its learning efforts.

These coherences and correlations should be between the expected output of the learning effort, the OLS, and the organisation's strategic efforts. Indeed, it is suggested that strategic correlation creates coherence within the OLS. When the output of the OLS is the optimisation of human potential, the dynamic created between an intentional focus to establish coherence and correlation becomes synergetic energy. When this C-Dynamic is linked with a broader problem space or problem ecology, the focus of the OLS seems to rise. The literature does suggest that when a solution to problems appears in consciousness, it is often accompanied by feelings of coherence, positive emotion and subjective certainty (Danek & Wiley, 2017).

7.4.2   C-Dynamics, the metaphysical bind

The data suggested that the high levels of separation between learning efforts and work problems decrease the focus on creating high coherence and correlation within the OLS. In short, low C-Dynamics exist when there is a high separation between work problems and learning efforts. However, the data also suggested that if more freedom is allowed within the OLS, C-Dynamics might become a natural occurrence connected to consciousness. There seems to be a natural meta-physical bind to find coherence and correlation within the problems that must be solved and what the people solving the problems must learn. This meta-physical bind seemingly exists between the 'Being' and the 'Doing' of individuals, teams and organisations as collectives. The data also suggested that this meta-physical bind may exist between cohorts during a learning effort.

There was evidence of a meta-physical connectedness observed during participant observations where team cohesion strengthened when conversations became coherent and correlated with problems or solutions in the workplace. It is posited that C-Dynamics create connectedness within collectives and are strengthened with higher integration of work problems and learning efforts. The metaphysical nature of C-Dynamics is supported in the literature. However, there is no direct reference to intentionally creating or relying on a metaphysical bind within organisational learning theory. Through the literature of Herbert (1985), Prinsloo (2012), Laszlo (2017) and Prinsloo (2018), there is evidence of the importance of collective consciousness in the learning of, and adapting to, new environments. Learning within the context of a non-locality, meta-physical space, holds a kind of instant correlation and coherence dynamic (Laszlo, 2004) as a sense of collective consciousness.

7.4.3   C-Dynamics energy

Unfortunately, there is a gap in the literature regarding using C-Dynamics as a deliberate attempt to generate flow within a learning architecture. According to the data, the intentionality of C-Dynamics is the fusion of the Human-Being (memetics) and the Human-Doing (organic work). This fusion, created by C-Dynamics, provides energy within the learning efforts, especially when the learning efforts are presented as collective learning opportunities. The data suggested that the energy created by C-Dynamics within a learning effort is the key to high-speed, high-impact learning. The stronger the C-Dynamics, and the stronger the metaphysical bind, together with the rise in collective consciousness, the deeper the integration of 'Being' and 'Doing', resulting in faster and deeper learning. This C-Dynamics energy within learning could increase the sense of flow within learning efforts. The data suggested that an nLA should include the intentionality to orchestrate flow through the application of C-Dynamics.

7.4.4   C-Dynamics meta-dimensionality

The data suggested that an OLS creates a collective human consciousness within an organisation. However, according to the data, the human consciousness extends beyond the organisation's boundaries. Applying C-Dynamics to a broader problem ecology opens the opportunity for contextual meta-skill transferability. The OLS develops the characteristics of a trans-disciplinary system in becoming more meta-dimensional (Laszlo & Laszlo, 2002; Budwig & Alexander, 2020). C-Dynamics within the context of trans-disciplinary system could allow the focus on both task and purpose of task during a learning effort. Within an nLA, an OLS as a trans-disciplinary system could represent a way of networking disciplinary knowledge, areas of localised expertise and evolutionary advancements in ways that honour the collaborative and emergent nature of new knowledge (Reynolds, 2019).

7.5   Organisational Learning System

Several sub-categories and categories were developed during the coding process in this theme. However, the researcher still found that the various categories felt isolated and contrary to the intentionality of a system, especially that of an OLS. When the categories were reviewed with the data from the focus groups and participant observations, a picture was formed of an OLS as a containing system, encapsulating

the essence of the strategic problems that organisational learning should solve. From the data related to such a containing system, several observations indicated the questionable effectiveness of current systems. Some of these observations included views of: Limited accessibility to the learning systems due to the measurement of success as a Return On Investment (ROI) measurement; Lack of integration due to the separation of learning from work; Lack of agility in the system could navigate the limitation of the system; Lack of freedom to learn as a collective, thereby increasing the dynamic capability of the organisation; Most of the corporate learning systems are slow and fragile and are in need of a flexible and quick responding system; Limitations of the system created by modernist mindsets seeded in a Blue human niche worldview.

The literature review provided valuable insight into understanding a containing OLS and insight into general system thinking. However, the literature lacked clarity on applying systems thinking as a containing space for a learning architecture geared towards a settling new normal. The literature revealed the dichotomy of the current thinking of organisational learning and the required containing system to be applied in a new learning architecture structure. In comparing the insights from the data with the insights of the current literature, the researcher is of the opinion that the literature provided foundational knowledge to construct a new type of learning architecture that would translate into the improvement of OAq. However, as suggested by the data, the modernist view of the current system must be reframed to unlock the value of an OLS that would enable the adaptive potential of individuals, teams and organisations.

With the view on reframing the current modernist view of an OLS and utilising the coding process, the focus groups and participant observations, six relating constructs of an OLS were extracted. As indicated in Figure 7.4 on the next page, the six constructs are clustered into two concepts: the OLS's collectiveness and the OLS's re-activeness.
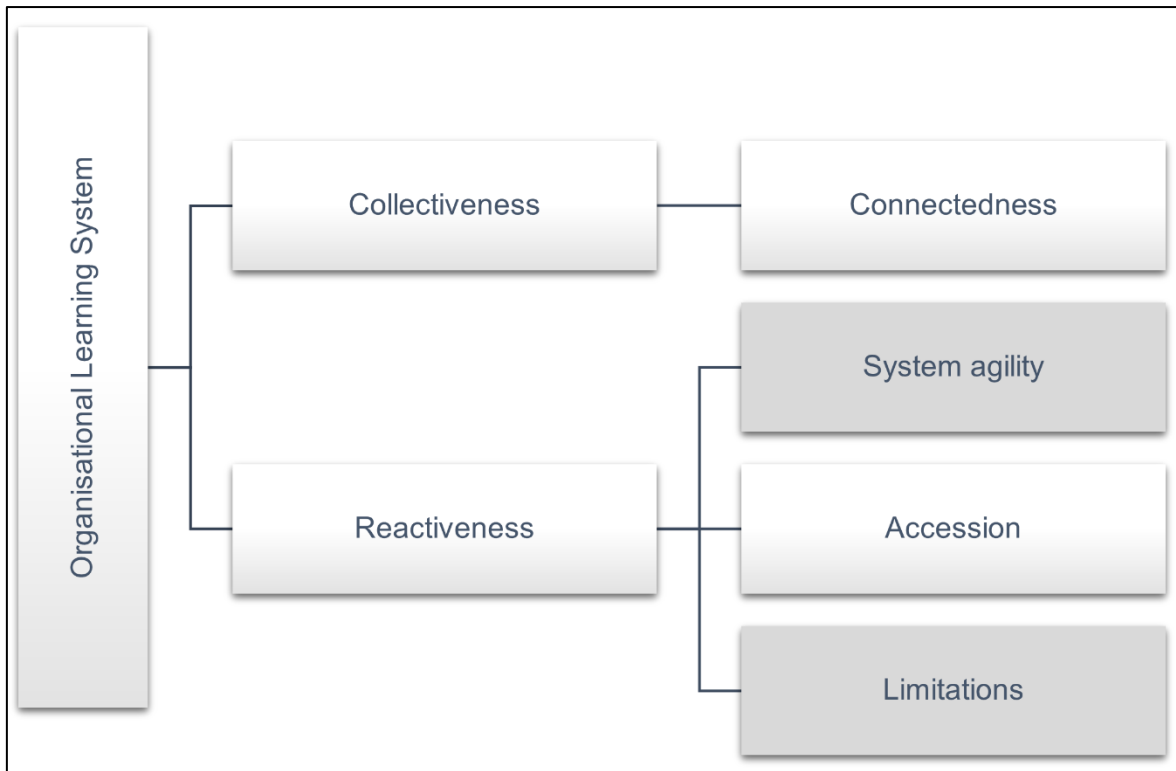
Figure 7.4 Organisational Learning System. (Source: Own compilation.)

As indicated in Figure 7.4 above, the concept of 'collectiveness' includes the construct of collectiveness and connectedness. Similarly, the concept of 're-activeness' includes three more constructs: system agility, accession and limitations. The constructs of collectiveness, connectedness, re-activeness and accession emerged as core categories during axial coding. In addition, the constructs' 'system agility' and 'limitations' emerged during the focus group analysis.

7.5.1   The collectiveness of an Organisational Learning System

The speed and impact of organisational learning was the most substantial focus during axial coding in both the constructs of collectiveness and connectedness. Specific to connectedness, the connection with the suitable problem space is highlighted together with the connectedness of the problem ecology. The stronger the connection within the problem ecology, the faster the learning, leading to quicker adaptation. The more connected, the less control is present and the more open access to what should be learnt in that moment. A more connected system should enable the integration of work and learning due to the connectedness to the problem space. However, learning and work still seem to be disconnected and unintegrated.

The collectiveness of the system is linked to how the system thinks and, therefore, learn together. 'Collectiveness' seems to dissipate ambiguity which would otherwise slow down the system. With collective thinking, the response in learning speeds up. Closed systems appear to be slow and fragile. A collective system seems to create more agility, bringing both speed and impact to the learning system.

Although the literature on organisational learning systems does not describe the collectiveness and connectedness of the system per se, it does refer to the importance of a systemic or even symbiotic nature of a learning system. Burton and Obel (2004) refers to the importance of alignment and the fit of learning efforts to organisational strategies and environments. Reynolds (2019) refers to the holistic understanding of the interdependence of people systems such as an OLS. Reynolds (2019), together with Budwig and Alexander (2020), confirms the need for people systems, including an OLS, to become trans-disciplinary systems, highlighting networking and collaboration accords disciplinary knowledge. Prinsloo (2018) refers to the collective consciousness and the inter-connectedness through which the acquiring of knowledge can be expedited. In the context of the emergence of the experience age, Hu-Au and Lee (2017) also refer to the inter-connectedness of the learning system through the ubiquity of mobility and connectivity provided by technology-mediated experiences. What is still lacking in current literature is the utilisation of the intentionality to create collectiveness within human systems and the connectedness of the human system to the problem system, specifically within an OLS.

7.5.2   The re-activeness of an OLS

Similarly, as collectiveness of an OLS, the re-activeness of an OLS emerged around the concepts of speed and impact of learning facilitated by the re-activeness of the OLS. During axial coding, re-activeness of an OLS was highlighted by the two categories of 'accession to the system' and 're-activeness of the system'. The understanding of accession is related to the organisational readiness to respond to a changing environment or strategy or a disruption in the status quo. The response time to reacting was seen as dependent on the speed of access to relevant or related learning opportunities that might not exist at the time it is required. The data suggested that re-activeness to change or disruption through the accession to learning might carry more strategic value than pro-activeness in organisational planning. Accession to the OLS, however, requires a mindset of 'speed of access' and not 'control of access'. Accession is, therefore, enabled through the re-activeness

of the system via agility, fast-moving and focused learning experiences, technology infrastructure and innovation. The re-activeness of an OLS can further be slowed down as suggested by the data due to various limitations within an OLS.

As indicated through the focus group conversations, the limitation could include myopia caused by a prescriptive system that does not allow for Ai. The focus groups also extracted that most learners within current OLS are not mature enough to operate in a self-directed and agile learning system. The data suggested an increase in agility of learning systems, including more freedom of access during COVID-19 lockdown periods. During these periods of higher agility, the responsibility of learning shifted to the learner and was less controlling by the system allowing for higher speeds of learning and higher re-activeness of the OLS. However, there was no evidence in the data to suggest that a deliberate learning architecture was applied to increase the re-activeness of the OLS.

The literature suggested, via the views of Wilber and DiPerna (2018), that the organisation's evolution should move towards being more deliberate in its developmental efforts. However, similar to the data, the researcher was unable to find any evidence in the literature that could provide direction towards a deliberate or an intentional learning architecture to enhance the re-activeness of an OLS. The literature reviewed still provided a paradigm of separated routines and competencies rather than experiences of integration and adaptiveness. Such is the view of Scholten *et al.* (2019), defining organisational learning as embedding knowledge into routines. The literature provides no insights regarding the three constructs of system re-activeness related to an OLS.

7.6   New Learning Architecture requirements

This theme is at the heart of this study. The focus of the study has been to explore a new learning architecture (nLA) as a means to ensure future-ready organisations that are resistant to extreme disruption, such as the COVID-19 pandemic. Again, a gap exists between the data and the literature pertaining to the culmination of the various concepts as a unit. There are no publications that describe a learning architecture stating the requirements as discovered within the data in the literature. In this theme the data provided, several concepts emerged, including deeper learning, oscillating between pedagogical concepts of axiomatic and multi-truth agency, and raising consciousness. The literature does describe or define some of the concepts that emerged from the data, but all of them were outside the field of organisational learning

or learning architecture. Deeper learning is described by Huberman *et al.* (2014) and Noguera *et al.* (2015) in the field of college students' careers and civic readiness. A shortfall in current pedagogical approaches is postulated by Ali (2019). The concept of raising consciousness is grounded in theories of consciousness by authors such as Prinsloo (2018), Wilber (2001) and Graves (1959). In the following sections, the researcher will discuss these concepts as requirements of an nLA as a structured concept, as indicated in Figure 7.5. below.
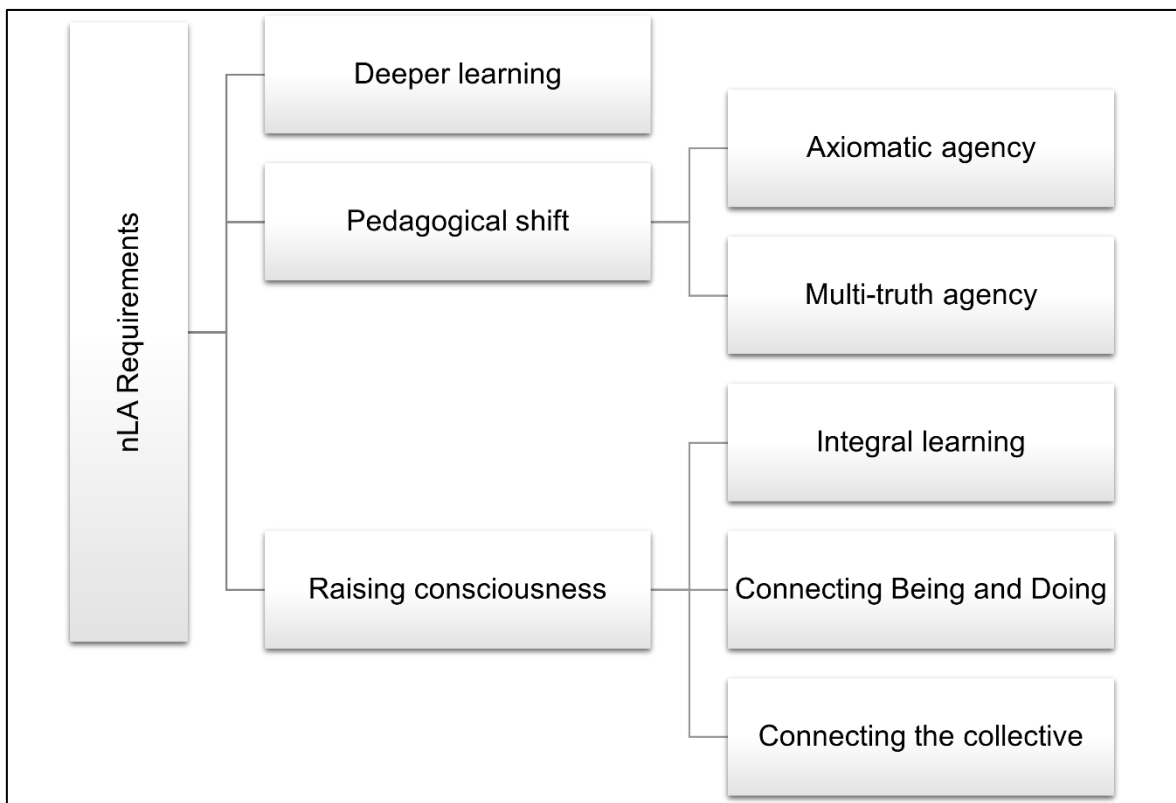

Figure 7.5 nLA Requirements. (Source: Own compilation.)

Figure 7.5 above indicates the structured concept of the requirements for an nLA. All the constructs emerged during axial coding and were highlighted during the focus group conversations. During participant observations, deeper learning, raising consciousness, and axiomatic pedagogy was also noted.

7.6.1 Deeper learning

'Deeper learning' emerged early during the coding process and was conceptualised during axial coding. The concept of deeper learning was further developed within the data during the focus group discussions and participant observations. Initially, it was only one datum referring to the idea of deeper learning within human development and the unlocking of human potential. The early indication in the data was a lack of deeper learning, showing the disconnect between the human Being and the human Doing. However, as the concept developed, the data revealed more of the essence of deeper learning.

As the concept was developed during the data analysis, the data showed a more holistic ideal in learning where the focus of learning is not only the accumulation of knowledge through the gathering and sense-making of information. Deeper learning became more a process of developing the full human potential through physical and meta-physical experiences provided through the sense-making of information and knowledge generation. The data suggest that deeper learning occurs during moments of sense-making within the problem space. Clarity of the problem ecology starts to develop during these moments of deeper learning where the learner senses a more personal significance within the problem ecology. The learner is not merely a vessel for knowledge but becomes a co-creator of the solution within the problem ecology through the learning process. The data suggested that deeper learning could lead to the transcendence of personal significance.

The literature describes 'deeper learning' mainly from the educational field of study that provides only a limited view of what can be a much broader and more transdisciplinary field. As suggested through the data, the concept of deeper learning shows a possible shortfall in current pedagogical approaches, especially since approximately 2010. These shortfalls include the unpreparedness of learning systems for the younger generation (Ali, 2019); the exclusion of indigenous epistemologies (Areli, 2015); and the lack of focus on cultivating holistic, sustainable and transformative thinking (Burns *et al.*, 2019). Deeper learning can further lead to increased awareness through the concept of learning presence (Senge *et al.*, 2008), allowing for more than knowledge transfer but the generation of a learning experience. A regenerative learning approach (Scharmer, 2019) promoting sustainability consciousness (Kalsoom & Khanam, 2017) would encourage deeper learning.

7.6.2   *Pedagogical shift*

This concept of a 'pedagogical shift' emerged mainly from the focus groups, although there was some evidence of the two constructs, 'axiomatic agency' and 'multi-truth agency' that emerged during axial coding. However, the constructs of 'axiomatic agency' and 'multi-truth agency' emerged as pedagogies rather than the anancy of the two constructs. The constructs as agencies of a pedagogical shift only developed when the possibilities of overcoming the current pedagogical shortfalls were analysed within the concept of deeper learning as discussed in Section 7.6.1. Since the original conceptualisation of pedagogy in 1841 by Herbert, many versions of pedagogy have been developed by authors such as Knowles (1970), Downs (1975), Hase and Kenyon (2000) and Strohschen and Elazier (2011). However, since 2012, specifically within the context of the 4IR and 5IR, these well-respected pedagogies have shown some shortfalls (Ali, 2019).

The most significant gaps within the modernist and post-modernist pedagogies are the lack of focus on cultivating a holistic understanding of the world through cognitive flexibility, transformative, regenerative and sustainable human agency. Although there is a strong cry for integration and a holistic approach to learning in the data, learning should not be seen as a separate task to "fix" the under-performance of employees, as it is currently the case in many OLSs. Focusing on the integration of learning and work might become obtainable through a pedagogical shift, not necessarily a new pedagogical definition or approach, but only a shift in the application, the purpose, role and action (agency), of either Andragogy (Knowles, 1970), Metagogy (Strohsche and Elazier, 2011) or Heutagogy (Hase and Kenyon, 2000). Such a shift might require the entanglement of social axioms and multi-truth thinking.

With axiomatic agency, the focus is on weaving social axioms into the applied pedagogy, thereby creating axiomatic anchors for knowledge to accumulate around an axiom, a socially unchallenged truth point. The social environment within this context could be defined and confined to the problem ecology centred on the learning effort or the OLS. The data suggested that applying axiomatic agency generated from the problem ecology could contextualise the reality of the learning, allowing the learner to co-create such a reality. However, in the current system, learning effort is often experienced as 'foreign' due to the lack of a reality or relevance connection with the learner's world. The data further suggested that current OLSs promote low curiosity due to the intense focus on unit standards of learning and knowledge accumulation that might not be as relevant to the problem ecology as required. Adding

an axiomatic ingredient within the learning effort could lead to knowledge augmentation to Ai.

Currently, there is scant evidence in the literature linking the use of axiomatic agency to the strengthening of an OLS or a learning effort. The literature does confirm the strength of axioms within a social structure or social culture. For example, in the context of memetics, the powerful axiom-like reality of messages transmitted within a culture contributes to the memetic fitness of such a social grouping (Chvaja, 2020). The literature also provides an example of using or understanding axioms within a social context. Within the context of 'African Purple' (Laubscher, 2013), the strength of the past exists within the present, and the future is axiomatic to purple in Africa (Viljoen 2015). With generalised beliefs seen as social axioms (Rasool & Batool, 2020), the use of the agency of axioms can, therefore, provide people with cognitive maps of their current or future realities (Leung & Bond, 2009). With axioms being assumed to be true due to personal and social experience and not because of validation or knowledge, it allows for cognitive biases (Rastegar, 2017), which relate to specific application, descriptions and communication within individual and social behaviour.

With multi-truth agency, the focus is on coping with an experience age where truth is within the experience and not necessarily in knowledge facts. The literature provides ample evidence of a metamodernist truth world where it has become necessary to oscillate between multiple truth-points of facts. In a post-truth culture, emotion and belief trump evidence-based arguments, the sense of truth as only a fact has almost disappeared (Casentino, 2020). More and more, there seems to be a decline in the value of truth in which narrative reclaims primacy in conversation at the expense of factual or verifiable arguments (D'Ancona, 2017). The decline in the value of factual truth is the declining trust in mediating authorities as to the causal factor behind the deterioration of truth (McIntyre, 2018; Cosentino, 2020).

The researcher posits that truth, within the context of sensemaking, has shifted its domain from known and knowable to complex (Snowden & Boone, 2007), an emergent property of the narrative of truth. The segue on multi-truth agency is mainly led by increased access to information via technology development (Fourie, 2020). As a result, truth is presented with much more complexity and more opportunity for emergent properties of various versions of the world through people's experiences. However, with this view that literature provides on truth, the nature of truth and a growing requirement to find emergent truth through the narratives of experiences, there is little connecting multi-truth agency to the OLS or an nLA.

The data also provide a sense of uncertainty in the role that truth, as an ultimate truth or a fact, plays within the learning system. The data suggested that this role of truth, as a truth, is questioned, and the ability to develop emergence within multi-truths is a future skill. However, the data analysis during axial coding of the idea of a multi-truth pedagogical application indicated uncertainty and discomfort within the participants. Low levels of curiosity and low levels of cognitive flexibility were argued to resist the idea of multi-truths as a pedagogy. During the focus groups, more clarity was gained on the possible use of multi-truths as an agency within pedagogical application. One of the conversational topics that emerged from the focus groups was a sense of truth as a reality that should be used as a means to sensemaking and narrating a personal experience. Another emergence was the navigation of multiple truths, false truths, and misinformation shared via open-access technologies such as social media and the internet. The development of skills in navigating various truths and various angles of the same truth were highlighted as a shortcoming in current learning architectures. The data suggested that truth is always contextual, and that context has become more complex within a technological advancing world. The function of an nLA might be to help the contextualisation of multi-truths agency within various problem spaces or a broader problem ecology rather than a truth itself.

7.6.3   Raising consciousness

The concept of 'consciousness', contextualised as being conscious or being aware of, emerged during axial coding but more so during focus group conversations. The concept of consciousness emerged as a requirement for a new learning architecture as an indication of a shortfall in current learning architectures. Raising consciousness in the context of this research means to increase the level of an individual or a team's awareness of what they should be focused on, including the changes in their environment and the adaptation required through a learning effort. The contextualisation of raising consciousness is derived from the literature on leadership consciousness being defined as the level of being aware throughout the day of one's leadership duties, being present or absent in experiences (Chauhan, Sharma & Satsangee, 2013) From the participant observations in a modified learning effort, clear incidents of raising consciousness were observed.

The data indicated that most current learning architectures focus more on the classical modernist approach to learning effort, such as raising knowledge, skill, and behavioural attributes. In essence, the output of the learning architecture is raising competency, not consciousness. Data gathered during the focus group discussions

suggest that three constructs might influence raising consciousness within a learning architecture. These constructs are 'integral learning', 'connecting the Being and Doing', and 'connecting the collective'.

'Integral learning' as a construct for raising consciousness refers to learning within a problem space created through moments of sensemaking where consciousness fires the synapses of agency and substance. The problem space becomes a meta-physical ecology connected through the consciousness of agencies leading to the existence of collective human intelligence. The data indicated that in most of the current OLS, there is low consciousness with the link between learning efforts in the system and the business output of the organisation. Learning effort within the OLS has become a compliance exercise in optioning present competencies and, in that, the integral focus of learning as a means to a problems-solving strategy of business outcomes has diminished. The data suggest that learning efforts should become more integral by focusing on the connection between the human being and human doing. Generating more collaborative learning rather than isolated learning may require more reliance on collective consciousness and collective sense-making of the problem space.

The literature on 'Spiral Dynamics' refers to the first level of 'Being', the 'Yellow Human Niche', as authentic integral (Wood, 2020). *Yellow* is also described as the value meme that creates functionality, flow, and flexibility (Beck *et al.*, 2018), all characteristics of advancing worldview. The second 'Being' level, *Turquoise*, is described as experientialist existence (Graves, 1974), integral-holistic (Blom & Viljoen, 2016a) and transcendent unity (Wood, 2020). Characteristic to Turquoise is the drive for broader humanness rather than vacillating in the animalist needs. The problem ecology is revealed in Turquoise as inclusive of the human having to learn to live so that the balance of nature is not again upset (Wood, 2020). Therefore, the researcher posits that an nLA could be grounded in principles of the Tier 2 value memes to develop more integral learning focused on a disruptive and advancing OLS. Related to Tier 2 value memes and integral learning are integral Adaptive-Intelligence (Sternberg, 2020), cognitive flexibility leading from cognitive complexity (Jaques & Stamp, 1995; Lee & Ostwald, 2019), and integral human development (Wilber, 2001; Reynolds, 2019).

To reinforce integral learning, the following two constructs, connecting the Being and Doing and connecting to the collective, form conjunction within the context of raising consciousness. The data from the focus groups and the participant observations suggest that when there is a sense of the connection between the Being and the

Doing, a raised awareness of purpose and contribution develops. This awareness is further raised when it appears within a collective due to a collective learning effort. The awareness of purpose, contribution, and collaboration become that of the team and the organisation, leading to higher business impact due to the inherent coherence. The data suggest that more reflective work is required during learning effort, where time is allowed for individuals and teams as a collective should reflect on the meaning of a learning effort. Reflections on learning are so critical because it helps with the connection of the Being and the Doing. To raise the consciousness of a collective, connecting the Being and Doing through reflection on similarities rather than disconnecting due to differences would strengthen team cohesion and increase the sense of purpose, leading to higher contributions and collaborations.

The literature recognises the importance of understanding the whole human, the combination of the Being and the Doing. However, the literature does not necessarily focus on strengthening the connection between the Being and the Doing (Blom & Viljoen, 2016a). The literature does provide a view on the importance of strengthening the Being in truly becoming a human being as the essence of humanness (Graves, 1974). Africa as a Southern world promotes humans as the whole human in the context of a collective community that must develop, grow and learn together about what they do and whom they are, highlighting African humanness as a behaviour of becoming truly the human being (Schieffer & Lessem, 2016).

7.7   Conclusion

In this chapter, the research findings were discussed. The findings were also triangulated using the current literature's voice and the empirical data collected and analysed during this study. Any gaps in the literature or data were indicated, and areas of corroboration were highlighted. Finally, the researcher discussed and contextualised the themes and concepts identified during coding within the field of study, namely the holistic and sustainable personal leadership development phenomenon. The overall findings revealed that, although many of the emergent concepts from the empirical data are covered within the current literature, there is a limited linkage of the literature to the data in a new learning architecture context. The gaps in the literature are within the application of certain concepts as foundational requirements or paradigmatic shifts within a new learning architecture that would address organisational learning system needs for a new normal learning system.

Strong overlaps between the literature and the themes from the empirical data were in the areas of Adaptive-Intelligence (Ai), the paradigmatic shift to a stronger focus on Ai, a higher focus on the raising of consciousness, and a focus on the leap to spiral dynamics Tier 2. However, what has not been shown in the literature is the anchoring role of humanness within current learning architectures. Although the literature recognises the importance of humanness within organisational development, humanness as a learning design requirement is not integrated into organisational learning systems. Therefore, it might be that the key gift from an African perspective, African humanness, is under-utilised in current learning architectures.

Therefore, from the discussion of the research findings, it became clear that a new learning architecture is probably required for a new normal. A new normal that is more resilient to not just disruptive technologies but also to extreme disruptions. Such a new learning architecture could be an Adaptive Learning Architecture (ALA) as hypothesised during the focus group conversations and articulated in Section 3.4.3. The aphorism constructed within an ALA could be that of African Humanness as a means to unlock applied Ai at the Tier 2 spiral dynamics worldview.

The next chapter will consolidate the gaps and overlaps between the empirical data of this study and the literature into recommendations and a framework for an Adaptive Learning Architecture. Chapter 8 will also reveal the researcher's meta insights and answer the research questions.

CHAPTER 8:
Results and Conclusion:

8.1   Introduction

Chapter 7 reported the findings that culminated from the triangulation of the literature, the empirical data and the correlation and discussion between the two that provided the researcher's view. In this final chapter, Chapter 8, the researcher will consolidate the gaps and overlaps between the empirical data and the literature using the researcher's view, presenting the study's interpretation and results in the form of meta-insights. The researcher will also undertake the construction of a theory from the study's empirical findings and present a framework for an Adaptive Learning Architecture (ALA). The framework was conceived using "abductive logic involving imaginative interpretation and reasoning about the experience (Charmaz, 2008:167b). Abductive logic was applied because neither the data nor the theory was discovered. Constructing grounded theory through our past and present involves interacting with people, perspectives and research practice (Charmaz, 2006:10). In the chapter, the researcher will also answer the research question and sub-questions, together with reviewing the aim of the study. In concluding the study, the researcher will discuss the quality criteria in terms of how it was applied. Finally, the chapter will make recommendations for further studies and explicates the study's unique contribution.

8.2   Meta insights

The meta insights are presented according to the significance of emergent insights gained during the synthesis of the empirical data, current literature, personal memos and field notes. The relationships between the emergent themes within the data contributed to the meta insights and will be highlighted in this presentation. The meta insights presented are: An Adaptive-Intelligence Learning Architecture (AiLA); An AiLA that inspires Being rather than subsistence; An AiLA with an energy core of African Humanness; An AiLA that promotes deeper learning; and an AiLA that unlocks collective efficacy.

8.2.1 Meta insight 1: Adaptive-intelligence Learning Architecture

The research aimed to find or develop a new learning architecture (nLA) from the onset. As stated in Section 1.6.1, the aim of the research is to describe such an nLA that utilises an African aphorism that could increase an organisation's adaptive quotient (OAq). Section 3.4.3 makes an early hypothesis about an ALA. That was the only reference to an idea of a new learning architecture that might be geared towards a future organisational learning system (OLS). This hypothesis of an ALA was presented to inform the grounded theory data analysis process (Charmaz, 2013:14). However, through the synthesis of the data, including this hypothesis, and the transdisciplinary literature, the researcher came to the meta insight that a learning architecture geared towards increasing OAq should indeed be an Adaptive-intelligence Learning Architecture (AiLA).

Set within a metamodernist ontology, an AiLA should allow for an oscillation between the current realities of a corporate OLS and a future OLS, which would be required to create new knowledge for a future skill that could come into existence as fast as a matter and anti-matter particles in a vacuum. An AiLA should focus on grounding learning efforts to enable factors to increase the OAq by applying multi-frame thinking (Brunette, 2017) as lenses to a new reality within an OLS. At a meta-insight level, the researcher formed an image of the current OLS lined with current learning architectures as a 'moulded plastic container'. This container's form is smooth, well designed, purposeful, yet rigid and with a 'single use'. Similar to the 'plastic container', the current OLS is effective in doing one thing, transferring information that is translated into a single-story knowledge (Adichie, 2009). An effective AiLA will overcome the rigid 'single use' paradigm of the current OLS where learning is the 'factory and the mechanical workshop' where people with broken competencies are sent to be 'fixed'.

The researcher visualise an AiLA as 'fabric', which is flexible, pliable, woven around current and future competency requirements, to be applied to and wrapped around, the real-time, in-the-moment-reality problem space. In an old, modernist paradigm, the casting of a 'moulded plastic' skill to replicate a standard competency is acceptable. However, skills replication is a slow, rigid, with limited use, and a low complexity capability. However, within a metamodernist paradigm, there is no time for unlearning and relearning, breaking the mould and casting a new mould. There is only time to augment, to weave a fabric around and onto the current skills, turning them into a multi-use, fast, agile, complex learning capabilities. A dynamic learning capability rather than a rigid competency set. Therefore, the researcher will define an AiLA as *an intentional structuring of thinking within a metamodernist OLS, enabling*

fast impactful learning efforts through an Adaptive-Intelligence (Ai) to react through innovation to fast-changing (organisational) life conditions.

An AiLA should be the practice of weaving Ai into every organisational competency through an interactive, real-time non-locality learning effort focused on higher adaptability potential of the individual, a team and the organisation. An AiLA should focus on generating a workplace where problems are solved, and people are 'grown', not 'fixed'. An AiLA should become the bedrock of developing the human- 'being', where the human is seen as an intelligence and not a machine nor an asset that must sweat or be turned into making a profit. An AiLA should build learning solutions that move through the momentous leap from Subsistence to Being (Graves, 1974) by oscillating between worldviews, constantly pulling from Tier 1 thinking to Tier 2 thinking.

8.2.2   Meta insight 2: Inspires Being

One of the most significant insights the researcher gained through this journey is the requirement of a new normal to solve existential problems at a higher level of complexity. According to Leonhard (2016), the exponential rate of technological advancement will require humans and organisations alike to expand their parameters of thinking and their capacity for rapid learning. The researcher came to understand that there is no procedural manual available to guide the solving of existential problems within a new normal. The researcher also developed a deep understanding of the realities of people and societies being captured within a human niche through their living conditions. Graves (1959) introduced the concept of Biological, sociological, economical and psychological human development through his ECLET theory, captured within the double helix of the spiral dynamics model. Beck and Cowan (1996) and later Beck *et al*. (2018) iterated the double helix impact in indicating the existential crises, also referred to as the 'life conditions' as the leading strain and Ai as the 'coping mechanism' second strain of the double helix. An example of societies and communities being captured in their life condition is evident across rural Africa, where the sociological, economical, and psychological constraints keep people from coping with or breaking through *Purple* and *Red* human niches. The researcher also recognises the tremendous effort it would require breaking through a worldview of Subsistence into Being, the momentous leap required for such a change (Graves, 1971).

For the researcher, the purpose of organisational learning is not captured in the transfer of knowledge, the translation of knowledge into work competency or the development of individual excellence. For the researcher, outcome-based learning might have been very relevant within an industrial mindset of the mid-to-late 20th century. However, in a metamodern world where oscillation between known and unknown, order and complexity (Snowden, 2003) is the reality, learning should solve for the existential problem gap between the subsistence and the being levels indicated in Spiral Dynamics (Graves, 1971). The purpose of organisational learning, and maybe even of all learning, is to inspire Being. Recognising that organisational learning is not the tool to change people's life conditions, especially those trapped within them, organisational learning should be the instrument to inspire the Ai of the human not to lose hope, not to become a 'machine'. Therefore, the purpose of an AiLA is to focus learning experiences on inspiring the shift from the Subsistence levels to the Being levels. An AiAL should utilise Ai so that organisational learning can inspire a new generation of employees to 'Be' within any new normal.

8.2.3   Meta insight 3: Energy of African Humanness

The researcher's third meta insight relates to the organisational learning system (OLS). Specifically, the learning architecture applied within the OLS as the guide to the design and delivery of learning efforts. As part of the research's objectives and sub-questions, the focus was on the speed and impact of an organisation's learning system. Given that the OLS is one of the strategies an organisation would use for the onslaught of disruption, understanding how an OLS can increase the speed of learning and the impact on OAq was imperative. Through the data, the researcher became aware of the almost dysfunctionality of the many OLS efforts due to the lack of integration between the learning system and the organisational production or operational systems. The researcher also became aware of the seemingly industrialised, profit-driven mindset within the OLS, leading to difficulty in coping with the demand on adaptiveness required by disruption. Seemingly, if the applied learning architectures within these OLSs lack the right energy at the system's core, the systems could fall prey to entropy. Integration and a profit-driven mindset seem to be the wrong energy source.

There were a few realisations and insights in exploring the OLS energy for the researcher. First of all, the energy of the OLS should be provided by the learning architecture of the OLS. Most of the current learning architectures are driven through a functional discipline or field discipline leading to the isolation of the system, which

leads to entropy. In a functional discipline, the learning efforts are focused on a field of learning, such as leadership or economics, for example. The isolation of the system is exacerbated by linking the field to specific competencies and outcomes. The above led to the insight that a meta-modern learning architecture should be transdisciplinary (Reynolds, 2019). A transdisciplinary learning system would allow for team-based problem-solving, collective and social learning (Orozco-Messana *et al.*, 2020), acknowledging the complexity of the metamodern world leading to the co-creation of relevant applied knowledge. Such a transdisciplinary learning system becomes both the source of evolutionary learning and a vehicle of evolutionary praxis (Laszlo & Laszlo, 2002).

Further, the researcher became aware of the utmost importance that the energy of a learning architecture should be humanness. As the agency of the essence of human behaviour, humanness should always be the centre of any human development system. The essence of humanness is seemingly still seeded within the generalised behaviour of the African people as a bio-social-psycho cultural system. African humanness promotes behaviours that are welcoming, concerned with sharing and sustaining human relations and maintaining togetherness in a community or collective (Molose *et al.*, 2018). African humanness inherently provides a shift from independence to interdependence (Buthelezi, 2017). Furthermore, African humanness has the welfare of the person concerns the welfare of the community as a vital attribute at its core (Eleojo, 2014). With African humanness as the core energy of an AiLA, the energy feeding the system is that of 'human', not as an economic asset, not as a part of a machine, but as an intelligence, a 'human intelligence'. The energy of 'human intelligence' as a self-replenishing energy, will feed the OLS to prevent entropy.

8.2.4   *Meta insight 4: Deeper learning*

Deeper learning started as an initial code that emerged in the first interview. The participant referred to a situational problem space that was developing with the onset of the first COVID-19 notional lockdown. With the first lockdown, the organisation implemented a strategy that during the downtime of the employees, the employees should use their time at home to learn. An intensive, open learning initiative was initiated where on-line learning access was made available to employees. There was a lot of learning activity. However, according to the participant, there was not much organisational value or individual value gained. There was much interest gained and information accumulated, however little application in the sense of improving

organisational processes. As the concept of deeper learning was developed through the data-gathering and analysis-process progression, the insight of deeper learning as a foundational paradigm within a new learning architecture became essential.

The meta insight of deeper learning is the researcher's fourth insight. As much as deeper learning was developed as a paradigmatic concept within an AiLA, it was also an insight into the organisational learning system required for a settling a new normal. The insight of deeper learning within an AiLA, similar to deep learning within machine learning and artificial intelligence, is about the freedom to follow a deep sense-making path and bring into consciousness new possibilities, which increase the adaptive potential of the individual and the organisation. At the core of deeper learning is the notion of raising consciousness as an integral practice of Being. 'Being', here refers to both the human 'development' Being level (Graves, 1974) and the Human-being, the 'existential' level of being human in the context of integral human development (Wilber, 2001). Therefore, for the researcher, consciousness development takes a prominent role within the intentionality of an AiLA, linked to the concept of deeper learning as a paradigm of an AiLA. Deeper learning within an AiLA is about deepening awareness, deepening sense-making, and deepening focus on the impact of what we learn and what we change in regenerating the humanness within the OLS and the broader organisation as a social system. Deeper learning is about connecting the integral human to the integral problem space.

8.2.5   Meta insight 5: Collective efficacy

During the COVID-19 disruption, it appeared that organisations that were able to survive and transition were more flexible and agile in their structure, strategy, and architecture. The researcher sees these organisations as metamodern organisations, allowing for the oscillation between the known and the new unknown. Network organisations, Holacracy organisations, Agile organisations, with agile ways of work and agile leadership are seen as metamodern organisations. The researcher refers to these types of organisations as Flow organisations, which allow the energy and focus to flow through the organisation without being inhibited by structure. Looking at Flow organisations, what they have in common is collaboration, shared problem ecologies, and purposive teams of people dedicated to problem spaces. The collective meme becomes more pronounced in a flow organisation than in a traditional hierarchical organisation where individual performance is pronounced. Within an AiLA, the focus aligns to more of a Flow organisation and a collective paradigm.

The future organisation will depend more on dynamic capability than static competencies. Therefore, the need for organisations to integrate, reconfigure and rapidly change internal and external competencies (Govender, 2020) will increase within a dynamic capability. These characteristics of a dynamic capability, combined with a flexibility requirement of a Flow organisation complexity profile, will require learning architectures and organisational learning systems to show similar characteristics. Rather than being pro-active, the OLS of a Flow organisation will have to be able to respond quickly with innovation, scale solutions and solve problems holistically across problem ecologies. Therefore, an AiLA should enable the collective efficacy within organisational culture innovation. An AiLA should increase collective task complexity as the collective efficacy is passed on from one person to the next within and throughout the collective (Bandura *et al.*, 1988). Further, an AiLA should be more inclined towards team-based learning, collaborative learning, and social learning, harnessing the social axiom developed through the team learning process as observed in the empirical data. Applying a collective efficacy paradigm as a Being value-meme within an AiLA should address the OLS shortcomings of the speed of learning, the impact of learning, and the integration of learning and work.

8.3   AiLA Framework

During this study, hermeneutic phenomenology and grounded theory were used to explore the study's objectives. However, the strength of the blended methodology will be in achieving the goal of the grounded theory aspect of this study, which is generating a substantive theory grounded in the data (Compton & Barrett, 2016). The study aimed to describe a new learning architecture that could increase the adaptability quotient of an organisation. As a result of this study, the researcher could visualise an Adaptive-Intelligence Learning Architecture (AiLA) framework that describes such a new learning architecture as an emergent theory. Timmermans and Tavory (2012) argued the use of an abductive visualised framework to explain the understanding, puzzling out and problem-solving of a new theory. Developing the framework for the AiLA drew on the researchers' meta-insights described in sections 8.2.1 to 8.2.5, presented as the results of this study. Through the AiLA framework, the researcher describes the dynamism within and among the framework's components as an emergent theory.

The purpose of the framework of an AiLA is to enable organisational learning practitioners and organisational leaders to contextualise organisational learning geared toward a future organisation that is resilient extreme disruption. The

framework should provide an integral view for consideration when designing and delivering learning efforts aimed at higher speed and higher impact of the learning effort as it relates to the adaptive potential of individuals and the organisation. In Figure 8.1 below, the holistic and integral framework is presented in more detail.
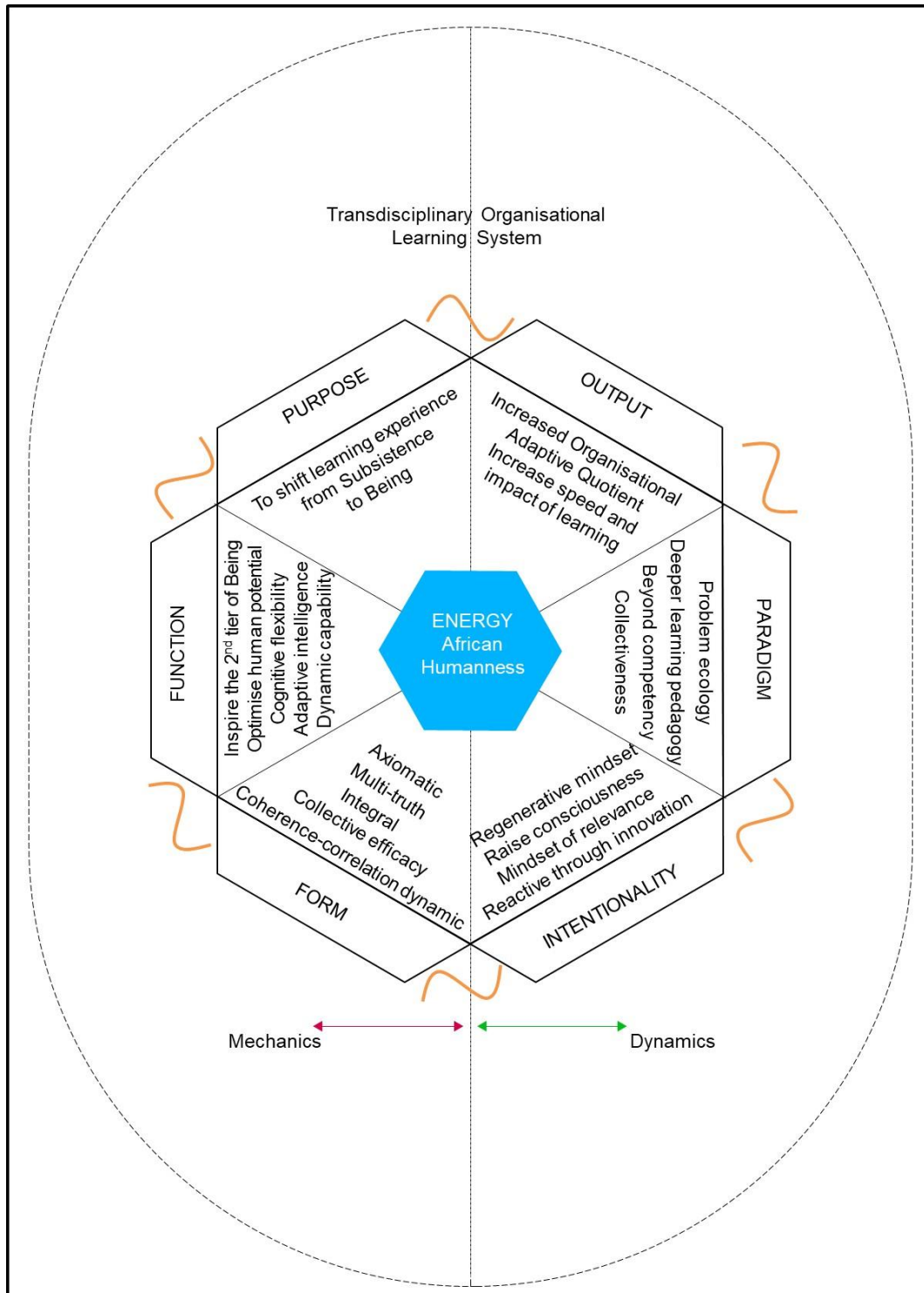

Figure 8.1 AiLA Framework. (Source: Own compilation.)

Figure 8.1 above provide a visual representation of the organisational learning system (OLS) containing the Adaptive-intelligence Learning Architecture (AiLA). An essential contextual note is that the AiLA exists only within an OLS to serve the OLS. The AiLA is not the OLS but should form an integrated part of the OLS. As an integrated part of the OLS, the AiLA behaves as part of the OLS and, in return, influences the behaviour of the OLS.

8.3.1   The outer system

The OLS should be viewed and operated as a transdisciplinary system for the AiLA to influence the OLS and draw from the OLS optimally. As a transdisciplinary system, an OLS would enable the AiLA to dissolve the boundaries between the conventional disciplines or traditional fields of learning, enabling the organisation of learning and teaching around the construction of meaning and raising consciousness of real-world problems (International Bureau of Education Editors, 2020). The transdisciplinary nature of the OLS would allow learning efforts created within an AiLA to focus on team-based problem solving, acknowledging the complexities and social accountabilities of a settling new normal. Without a concerted effort to ensure that the OLS follows a transdisciplinary approach, the OLS and thereby it's learning architecture could be caught in a Newtonian view of simple cause-and-effect thinking which could not cope with the changing complexities (Reynolds, 2019) of a metamodern organisation.

The outer system also indicates the orientation of the AiLA. The AiLA is organised within a distinct pattern relating to the mechanics and the dynamics of the AiLA as a system of its own within the OLS. The system's mechanics focus on the physics of the architecture whereas the dynamics focus on the architecture's chemistry. The mechanics of the architecture relate to the inter-relation of movement within the AiLA. The mechanics describe the "What", that gives momentum and directs its motion. The AiLA mechanics can be organised as the architecture's purpose, function and form. Each of the three elements of the mechanics can be described through the question it answers for the architecture. The purpose of the architecture answers the question, "Why does the architecture exist?" The functions answer the question, "What should the architecture do?" Finally, the form of the architecture answers the question, "What does the architecture look like when it is applied?" The dynamics of the architecture relate to the connections and reactions created through and within the architecture. The AiLA dynamics are organised as the output of the AiLA, the paradigms within the

AiLA, and the intentionality of the AiLA. Each of the elements of the mechanics and dynamics of the AiLA will be discussed in the following sections.

As part of the outer system, although not isolated to the outer system, is an indication of the oscillation, between the various parts of the architecture. The oscillations, indicating the metamodernist ontology of the architecture, are indicated in Figure 8.1 with this ∿ symbol. The metamodernist architecture suggests that parts of the system oscillate forwards and backwards between other parts and its current states and future states. The oscillation enables the architecture to respond to disruptions within the learning or business environment with greater ease and speed.

8.3.2   The inner core

At the inner core of the architecture as indicated in Figure 8.1, is the energy of the architecture. A 'learning architecture' is only a system operating within a more extensive system, the 'organisational learning system'. Like any system, if it becomes an isolated system, through natural evolution or through design, it succumbs to entropy as described by the 'second law of thermodynamics' (Clausius, 1850) as it applies to social systems (Mao & Robinson, 2019). To ensure that the AiLA as a system does not become an isolated system, a 'core energy' is designed into the architecture. The core energy of the AiLA acts as an oscillator, allowing and directing the flow within and through the architecture. It is important to note that the core energy is not isolated within the architecture but rather external energy generated by the people interacting through the C-Dynamics, as described in Section 6.4.5. The core energy is designed into the architecture to encourage the maintenance of flow within the architecture. The core energy connects with the parts of the architecture, allows for and even 'encourages' the oscillation between the parts, in such a manner that flow is promoted. A 'dynamic core energy' would act like a nebula, rebirthing energy within the architecture that is not process-like, a start to end, but dynamic, filling the system with a 'circular energy', or regenerative energy.

In the aim of the study, it was suggested that the researcher explore the possibility of finding or describing a new learning architecture grounded in an African aphorism. An aphorism is a related truth that is not questioned because of its relevance to the context and the environment it serves. Such an aphorism was found in 'African humanness'. The researcher posits that humanness as the agency of the essence of human behaviour should always be at the centre of any human development system, if not at the centre of all human systems. However, humanness is often replaced at

the centre with a business essence such as profit and efficiency. Humanness as the agency of human essence is expressed through culture (Boyd & Richerson, 2005), with many world cultures expressing many variations of humanness. One such cultural expression of humanness is African humanness. The characteristics of Ubuntu, promoting a welcoming, concerning, sharing, togetherness, community and promoting interdependence rather than independence (Buthelezi, 2017) would be the ideal energy for a human development system. Furthermore, African humanness has the welfare of the human and human community at heart (Eleojo, 2014). Therefore, the researcher promotes African humanness as a social collectiveness focusing on adaptive behaviours that enrich the human adaptive potential as the core energy of the AiLA. With the core energy of the AiLA in place, anchoring and feeding the architecture, the rest of the architecture structure can be discussed as per Figure 8.1.

8.3.3   The purpose of the AiLA

In Figure 8.1, the purpose of the AiLA is presented as the first segment of the AiLA. The purpose of the AiLA is to shift learning experiences from 'subsistence' to 'being'. The context for this purpose statement is unlocked within the spiral dynamics as a human development framework (Freeman, 2018). The focus is on the momentous leap required to progress from the first to the second tier within the spiral (Graves, 1974). The researcher acknowledges Graves's reasons, stating that it would take a momentous leap for societies to shift from subsistence to being as a human development framework spiral dynamic describe, where people are reflected based on the double helix strands. People find themselves within a specific vMeme based on their prevailing life conditions (LC) and to the extent their Adaptive-Intelligence lets them cope with their LC (Beck *et al.*, 2018). Although the researcher believes that if people's Adaptive-Intelligence can be developed and their adaptive potential can be raised, they would have a better coping mechanism to emerge to the next level on the spiral, he does not suggest that the LC of people can be changed. The intent of the AiLA is not to change the LC or even the Ai as it is described within spiral dynamics. The purpose of the AiLA is focused on the learning experiences that are created from the learning efforts generated through the AiLA. The purpose of the AiLA is to provide learning experiences that emulate a *Yellow* or *Turquoise* human niche, providing the opportunity to be within the thinking patterns of the Tier 2 of the spiral. With the purpose at the heart of the learning effort design and delivery, the function of the AiLA can be activated.

8.3.4   The function of the AiLA

With the purpose of the AiLA in place, the function of the AiLA is the second segment presented in Figure 8.1. The function of the AiLA consists of: Inspiring the Tier 2 thinking of Being rather than subsistence; Optimising human potential as it relates to human adaptive potential; Promoting and developing cognitive flexibility; and Promoting dynamics capabilities.

The *first* function of the AiLA is to inspire Tier 2 thinking from a spiral dynamics perspective. As described by Beck *et al.* (2018) and originally by Graves (1974), humanness and the development path of the human is not a static state of existence. Humanness is a constantly evolving system growing through quantum steps from one steady-state to the next, except for the transcendence from the subsistence levels of existence, Tier 1, to the being levels of existence, Tier 2. This transcendence Graves (1974) refers to as a 'momentous leap'. In analysing the data and the current literature, the researcher became aware that many of the challenges in life conditions that people face today are 'subsistence challenges'. There is no indication that these subsistence challenges will dissipate any time in the near future. However, the researcher also noted that many of the adaptation challenges, disruptions and technological advancements today are 'younger challenges'.

These 'younger adaptation challenges' are more related to the Being of human, reframing the Being world, how the human will exist within a newly defined boundary of humanness. Therein the researcher identified a dichotomy of a persisting subsistence level or Tier 1, together with the persistence of traditionalist and modernist thinking and being challenged with an advanced world of technological possibilities. Therefore, the AiLA function sets out to inspire Tier 2 thinking rather than solving the dichotomy or attempting to push people forward out of their human niche. If learning efforts are designed and delivered from the AiLA that inspires Tier 2, the humanness development might open towards more possibilities of a different future, increasing the adaptability potential of the individual and, collectively, the OAq.

The *second* and *third* functions of the AiLA, optimising human potential and developing cognitive flexibility, stand in support of the first function. To inspire Tier 2 thinking, a concerted effort should be made to break the single-frame thinking that many modernist and post-modernist learning architectures are promoting. Examples of single-frame thinking would be unit standards of learning and isolated competency

development. Finding speed and impact within the learning efforts required to cope with the new advancing world of work, replacing a knowledge packet with a new knowledge packet containing the keys to a competency is too onerous and takes too long. Optimising human potential and cognitive flexibility suggests that more focus is placed on the existing complexity of a new advanced world to provide learning efforts that integrate cognitive flexibility as the ability to be more open-minded, develop more neuro-plasticity, and allow the human potential through its Adaptive-Intelligence to take control, make decisions and adapt more quickly and with more impact within the changing world.

The *fourth* function of the AiLA, 'dynamic capability', also relates to faster adaptation of the organisational system or raising the OAq. As indicated through the empirical data, individual learning is slow and cumbersome. Therefore, the metamodern OLS should promote fast learning and faster adaptation of the organisational system. To enable faster adaptation within the system, the OLS should focus more on collective learning and collective system behaviour rather than the individual. The function of the AiLA then becomes that of positioning learning effort as a dynamic capability. Within the AiLA function, a dynamic capability is described as a learned and stable pattern of collective activity through which the OLS systematically generates and modifies its operating routines to improve its adaptation to a new or changed circumstance (Zollo & Winter, 2002). Applying dynamic capability within the OLS would require the AiLA to integrate, build and reconfigure internal and external competencies to address rapidly changing environments by combining single competencies into collective capabilities. As a result, organisational teams should learn faster than individual and collective competencies should raise OAq quicker than single units of learning.

8.3.5   The form of the AiLA

The form of the AiLA, as the last segment of the AiLA mechanics, is entirely reliant and fully enables the oscillation between the form and the function as well as the form and the purpose and the function and the purpose of the AiLA. The *form* of the AiLA also oscillates vigorously with the intentionality of the AiLA. As the third segment of the AiLA, the form of the AiLA relates to how the architecture looks and what it feels like and provides ambience to the architecture. As indicated in Figure 8.1, the ambience is axiomatic and multi-truth agency filled as a pedagogical disruptor. The ambience is integral in its humanness as collective efficacy and provides a hue of C-dynamic energy.

The form of the AiLA is intended to be woven into learning efforts designed and delivered from the AiLA, starting with the pedagogical disruptor of axiomatic agency and multi-truth agency. As discussed in Section 7.6.2, the two elements of axiomatic agency and multi-truth agency are not intended to replace any current pedagogical approach but augment the used pedagogy with a metamodernist view. Weaving axioms into the learning effort aims to create mindful anchors to strengthen neuroplasticity within a specific social structure such as an organisation. Using axiomatic agency is intended to provide the learner with a return point, a moment of undisputed truth that he/she can return to when faced with an unchallenged new reality caused by a disruption within the norm. Weaving multi-truth agency into the learning efforts also develops neuroplasticity by allowing the learning during the learning process to view possibilities from diverse perspectives. Allowing the learner to consider alternative truths allows for more adaptive understanding and variation of decisions, allowing for more appropriateness and relevance within the co-creation of problem-solutions.

The form of the AiLA indicates that the AiLA is applied as an integral architecture. The AiLA becomes integral within its humanness focus and its humanness energy. All learner efforts produced from the AiLA should focus on human potential first. The integral humanness of the AiLA intends to counter an overbearing focus on Newtonian economics, where profit is the measurement for decisions. Decisions for learning efforts should be integral in humanness development, including human potential development, planet protection, Adaptive-Intelligence and the advancement of innovation thinking. Being an integral architecture, collectiveness of social construction, collective efficacy, and reactiveness with innovation should be woven into the OLS as discussed in Sections 7.5.1 and 7.5.2.

Lastly, the form of the AiLA is textured in a dynamic energy created through the coherence-correlation factor, also referred to as C-Dynamics, as discussed in Section 7.4. Many of the current learning architectures or learning designs focus on coherence and correlation as distinct aspects of good design. The researcher posits that strength is drawn from the dynamic energy when coherence and correlation exist simultaneously and interact as a metaphysical force that can be felt within the collective consciousness of the learner group. Evidence of such a metaphysical force within a learner group was presented in Sections 4.5.2.3 and 4.5.3.4. When a learning effort is constructed within the AiLA around the C-Dynamic, the learning effort becomes textured and layered. This layering can be utilised to scaffold thinking into the Tier 2 of spiral dynamics, inspiring the Being level of existence.

8.3.6   The intentionality of the AiLA

The principle of 'intentionality' empowers the perdition and explanation of human behaviour (humanness), which provides the structure for intentional direction (Turner, 2017) within the AiLA. The intentionality principle consists of beliefs and desires that lead to intention, combined with the skill and awareness that provides intentionality (Malle & Knobe, 1997). Figure 8.1 indicates intentionality as the 'fourth segment' within the AiLA. The intentionality of the AiLA directs the prediction and explanation of humanness within its learning efforts towards four intentions: Reactive through innovation; Mindset of relevance: Raise consciousness; and Regenerative mindset.

8.3.6.1   Reactive through innovation

As the data indicated, it is becoming more challenging to behave pro-actively due to the volatility of disruption in a 4IR/5IR world. Therefore, the AiLA intends to shift the behaviour from pro-active to re-activeness through innovation. The notion is that within an organisation with high OAq, the people system would react faster through relevant innovation to adapt to the new normal required. Therefore, the intentionality of the AiLA is to develop the collective system to apply Adaptive-Intelligence in being more aware of disruptions, think with more clarity, and produce innovation that will resettle the system in a new normal.

8.3.6.2   Mindset of relevance

Building from the intention to be re-active through innovation, the reactiveness should be precise. Finding relevance to disruptions that should be reacted to would be imperative. Therefore, the AiLA intends to focus the mindset of learners to find relevance and distinguish from non-relevance. When presented with complexity and multi-truths, finding what is relevant will become a significant advantage within OAq

8.3.6.3   Raise consciousness

Building on the critical awareness within the mindset of relevance, the intention of the AiLA becomes that of raising consciousness. Learning efforts produced through the AiLA should focus on more than providing information and developing knowledge. The AiLA intends to apply the knowledge generated within the learning efforts to bring into the learner's consciousness the awareness of change and impact, relevance, and

reactiveness through innovation. In raising an organisation's collective consciousness, the intentionality is to heighten the OAq.

8.3.6.4   Regenerative mindset

Raising consciousness should extend beyond the problem spaces of work. The AiLA intends to extend the consciousness level of learners beyond problem spaces to problem ecologies. These problem ecologies almost always include the awareness of the larger impact on organisation sustainability, global sustainability and planet care. The time has come that educators, in every form, should take responsibility for guiding human development to regenerate rather than consume. Reactiveness through innovation should focus on solutions that will regenerate the organisation, societies and the planet. Such an approach toward the problem ecology would require a mindset beyond the static or growth mindsets. Therefore, the AiLA intends to develop regenerative mindsets through its design of learning efforts.

8.3.7   The paradigm of the AiLA

Figure 8.1 indicates paradigm as the fifth segment of the AiLA. 'Paradigm' as a segment of the AiLA refers to how learning systems are viewed to produce the outputs of the AiLA. The context of the paradigm segment is the indication of thinking patterns within the AiLA. There are four paradigms or patterns of thinking constructed within the AiLA: problem-ecology (PE), deeper learning pedagogy, beyond competency, and collectiveness. The reason for the paradigms within the AiLA is to direct the design and delivery of learning efforts from the AiLA towards specific thinking patterns that are required in shifting learning experiences for subsistence to Being as indicated in the purpose of the AiLA.

8.3.7.1   Problem ecology paradigm

The problem-ecology paradigm is the space from which learning efforts should originate. The problem-ecology paradigm could be seen as the ontology of the AiLA. As reviewed in Section 5.6, the paradigm of PE as intended within the AiLA is understood as a sequential existential problem state, drawing a corresponding value meme that provides agency to interact and learn from and within the PE, which maximises the adaptive potential of the system. Learning within a PE paradigm is about discovering new questions about possible futures and adapting self or collective

self (Bachmann, 2011; Sng *et al.*, 2018). The PE paradigm within the AiLA is seen as an open, regenerative, flow learning effort leading to the reframing and regeneration of the self and the system (Scharmer, 2009). Within an AiLA, the PE paradigm is focused on generating a problem-value (PV), which stays behind once a problem is resolved, aiming to increase OAq.

8.3.7.2 *Deeper learning paradigm*

In Section 6.4, the researcher reviewed deeper learning, specifically the shortfall of pedagogy in Section 6.4.1, deeper learning for organisational learning in Section 6.4.2, multi-truth agency in Section 6.4.3 and social axioms in Section 6.4.4, which led to describing the deeper learning pedagogy. As a thinking paradigm, the deeper-learning pedagogy paradigm could be seen as the epistemology of the AiLA. The AiLA is an integral and adaptive learning architecture. The pedagogical paradigm is weaving together aspects of deeper learning to enhance current pedagogical approaches such as Andragogy, Metagogy or Heutagogy to enhance any shortfalls of such pedagogies within developing higher OAq. The deeper-learning pedagogy paradigm focuses the thinking on increased sustainability. Learning efforts created through the AiLA should cultivate regenerative epistemologies (Burns *et al.*, 2019) to better understand the sustainability of business and the planet. The deeper-learning pedagogy paradigm further focuses on increasing awareness, bringing into consciousness the intentional shift from habitual awareness to generative awareness and awareness of the whole self or Being (Scharmer, 2016). Lastly, the deeper-learning pedagogy paradigm directs the thinking towards increased sense-making. Increased sense-making could be accelerated by weaving a deeper awareness of collective, collaborative and co-sensing of experiences (Arts *et al.*, 2021) contextualised within the complexity domain (Snowden, 2003). Emergent properties could be explored faster with the allowance of multi-truths and social axioms as a baseline for the epistemology of the AiLA.

8.3.7.3 *Beyond competency paradigm*

The third AiLA paradigm, 'beyond competency', asks for learning efforts that extend thinking past the point of current traditional baseline company-learning programmes. When the focus of a learning effort is on producing a specific, limited competency, the output of such a learning effort is static and limited to the competency. Moreover, OAq depends on non-routine events as disruptive to existing routines (Scholten *et al.*, 2019). The researcher suggested a paradigm shift toward dynamic capability as the means to overcome the limitations and static characteristics of competency thinking, as reviewed in Section 6.2.1.5. Focused on dynamics

capability, learning efforts produced from the AiLA should contain thinking that extends beyond competencies towards adaptiveness, intelligence, cognitive flexibility and humanness.

8.3.7.4   Collectiveness paradigm

The final paradigm in the AiLA is 'collectiveness'. As reviewed in Section 6.2.2 and discussed in Section 7.3, the paradigm of 'collectiveness' is constructed from the concept of collective efficacy and collective intelligence. Collective efficacy is concerned with the shared belief and confidence of a collective, a faculty team or a learner group in its conjoint capability to attain levels of acceptable output (Bandura, 1997; Donohoo *et al.*, 2018). In this context, 'levels of acceptable output' would refer to learning and adaptation levels within an organisation. As a collective intelligence, the paradigm of collectiveness views the AiLA and the learning efforts produced through the AILA as an organisation's combined effort and ability to learn, understand and adapt as a connected whole in navigating problem ecologies. Hence, the 'collectiveness paradigm' should manifest in learning efforts designed to produce faster adaptation in organisational systems due to the collective attainment of learning output versus unintegrated individual attainment of similar learning outputs.

8.3.8   The output of the AiLA

The final segment of the AiLA, as indicated in Figure 8.1, is the output of the AiLA. The 'output' of the AiLA through its aim is stated as the increase of organisational adaptive quotient. A secondary output is stated as the increase of the speed and the impact of learning. As much as the purpose of the AiLA is to shift learning experiences from subsistence level to a Being level, the reason for wanting to shift is to increase OAq. Adaptability, higher levels of *Adaptive-Intelligence* and raised consciousness are all elements that can be expected to present when learning is at a 'Being level'. These elements should also increase OAq. If organisations want to become disruption resilient, their reaction through adaptation should become their strength. Together with increasing OAq is to focus on the speed and impact that adaptation potential is built through the OLS.

The secondary output of the AiLA requires continual consideration of the reaction speed and the relevance of what the OLS produce. The OLS should be able to react fast with innovation and be equipped to produce learning efforts that would increase

OAq. Therein, the two outputs of the AiLA form a line of sight within the problem ecology. Having a clear 'line of sight', from inspiring a higher level of learning to having an organisation with the capability to respond and adapt fast and effectively, is the highest focus of the AiLA.

8.4 Answering the research questions

This study aimed to describe a new learning architecture that could increase an organisation's adaptive quotient, speeding up its ability to respond to any disruptions it will face within its environment. The study aimed to look at some particular considerations in the context of a disruptive world of work, including facing extreme disruptions such as the COVID-19 pandemic. The study also explored the possibility that there would be high value to base a new learning architecture on African wisdom to stabilise the learning architecture. The study set out to achieve this using the primary research aim and six research objectives. The research aim and objectives were linked to a research question and sub-questions, respectively, as described in Section 1.6 (Aim and objectives of the study) and Section 1.7 (Research alignment framework). The six research sub-questions will be discussed and answered below. A conclusion will be drawn from answering the sub-questions by reviewing the main research question related to the aim of the study.

8.4.1 Research sub-question 1

Why is a new learning architecture necessary for organisations that are gearing towards a new normal?

In answering the first research sub-question, the researcher wants to remind the reader that the term 'New Normal' was a mid-way change to this question. The reason for the change to the question came midway through the study. As the researcher was in the early stages of participant interviews during data gathering, the world entered an extreme disruption, COVID-19 Lockdown. At the onset of the study, five months before the announcement of the global pandemic COVID 19, the focus was well set on the everyday disruptions of the 4IR and 5IR. The 4IR and 5IR focus remained relevant to the study. However, the experience of extreme disruption elevated the necessity to understand the reality of massive disruption. The focus on 'New Normal' experiences of human and organisational adaptation and the role learning would play in preparing humans and organisations for such changes due to

any disruption, including an extreme event, was incorporated into the researcher's exploration.

In this study, 'New normal' refers to any new future position that an organisation should settle into after a change in its environment caused by a disruption in its ecology due to the 4IR or 5IR or an extreme global event. The first research sub-question can be answered in the affirmative. The study found that most of the learning architectures utilised within the organisations examined were not geared towards assisting such organisations to adapt to any future 'new normal'. Learning architectures and OLSs were more likely to follow an industrial-age-like or information-age-like characteristic. When an industrial-age-like learning architecture is followed, the learning focus is on stability, standardisation and return on investment. When an information-age-like architecture was followed, learning efforts focused on accumulating, storing, sharing and protecting information, including knowledge. Knowledge within an industrial age paradigm is seen as power and should be accumulated and protected. In these two types of learning architectures, the learning systems had to respond to a slow, content-filled system where information was more important than adapting to a disruptive reality.

The slowness and the lack of focus on the importance of adapting to a new and ever-changing reality made it necessary to look for a new learning architecture. A new learning architecture paradigm should be forged in an experience-age-like approach. In applying a metamodernist paradigm, learning effort oscillates between "how to adapt", "how to embrace disruption", and "how to become antifragile". The researcher opined that most of the current learning architecture in the organisational learning system could not produce the focus required to increase the organisational adaptive quotient. The above made it apparent that a new learning architecture is necessary for organisations gearing towards any 'New Normal'.

8.4.2   Research sub-question 2

How will an African humanness paradigm ground an nLA in the human development strategy of an adaptive organisation?

The second research sub-question was answered in the affirmative by placing an 'African Humanness' paradigm as the core energy of the AiLA framework, as described in Section 8.3.1. The study found that traditional modernist and post-modernist learning architectures were formed primarily within a Western worldview, as described by Lessem (2001) and an *Orange* value meme, as argued by Beck and

Linscott (1991). The study further indicated a higher reliance on a metamodernist paradigm within a future learning architecture which could address the shift towards 'regenerative economies' (Scharmer, 2009), 'technology augmented intelligence' (Ngubane, 2017) and 'androrithms' (Leonhard, 2020).

The researcher asked if it would be possible to make a momentous leap into the 'Tier 2' existence of a 'Being' (Graves, 1974), which seems to be required to enable humans and organisations to learn to cope with an exponentially changing world. For the researcher, the one place that an answer resonated was within a 'Southern' worldview (Lessem, 2001), addressing people and their dignity, promoting human and social welfare, incorporating arts and humanities and fostering self-fulfilment in a context of a collective and communal relationship. Such a worldview exists in what Laubscher (2013) called 'Africa Purple' or 'African Humanness'. This study revealed that when African Humanness is placed at the centre, as the core energy of a learning architecture described in the AiLA framework, the energy released into the OLS is that of human first, Adaptive-Intelligence, raised consciousness, and sustainability. Therefore, tapping into African Purple within a learning architecture of an adaptive organisation should provide the necessary grounding for its human development strategy. The grounding of such a learning architecture like an AiLA should inspire 'Tier 2' learning providing a vision for an existential world of 'Being'.

8.4.3   Research sub-question 3

Why would an nLA be relevant or important to increase OAq?

The third research sub-question is answered affirmatively through the emergent properties when connecting the role of disruption within the reality of the world today, resettling into a new normal, the complexity of the future and the ability of an organisation to adapt. Organisation adaptive quotient (OAq) is an organisation's ability to adapt and thrive in a fast-changing environment (Powell, 2018). OAq is measured by how skilled an organisation is in making an intentional change in its strategic approach, including its knowledge levels, to an evolving environment at a rate required by the impact of the change. In addition, OAq focuses on the collective adaptability potential of the organisation and the extent to which it can harness such adaptability potential (Colby, 2003).

The near-future organisation will be vastly different from today's organisation, where the future is not an extension of the present (Leonhard, 2021). The pace at which an organisation adapts will have to match the exponential convergence of a complexity

explosion of the future world. Learning as a mechanism to cope with exponential changes requires a new emphasis (Suškevičs *et al.*, 2018). on learning organisations and organisational learning as a strategy to increase OAq. The study shows that many organisations claiming to be learning organisations are not fully learning organisations yet. These organisation's OLS and learning effort are still very separated from business systems and sometimes far removed from the adaptation problem space that the organisation faces. The lack of an organisation being able to respond quickly through innovation to disruption was evident within the empirical data. Much of the slowness within the adaptation curve can be linked to the OLS and current learning architectures being applied. Therefore, the relevance and importance of describing a learning architecture that would increase OAq has become imperative for such a near-future organisation. In describing the AiLA framework, the researcher has shown the relevance and importance of a learning architecture that would increase the speed and impact of learning by focusing on knowledge generation and adaptive potential as a factor of OAq.

8.4.4   Research sub-question 4

What would be the pedagogical requirements for an nLA focused on a regenerative learning ecology?

The fourth research sub-question was answered in the affirmative by describing two pedagogical requirements for a regenerative learning ecology. A regenerative learning ecology should become one of the characteristics of a metamodern organisation ecology. The regenerative learning ecology would focus on transforming economic, democratic learning infrastructure and organisational pedagogy to redress the damage done in the past (Scharmer, 2020). The empirical evidence within the study indicated that the current modernist and post-modernist OLS are not geared towards reversing the damage done in the past. The inability of these OLSs is mainly due to the shortfall in currently applied pedagogies, as described in Section 6.4.1 and discussed in Section 7.6.2.

The study suggests a fundamental shift in the epistemology of the metamodernist OLS to bridge the shortfall in pedagogy application. In Section 8.3.7.1, describing the problem ecology paradigm of the AiLA framework, two new pedagogical paradigms were introduced for a regenerative learning ecology. These two pedagogical paradigms are axiomatics agency and multi-truth agency. The researcher recognises that the two pedagogical paradigms are not complete pedagogy theories. Therefore,

the study promotes axiomatic agency or multi-truth agency as pedagogical epistemologies. The axiomatic agency and multi-truth agency are seen as an 'augmentation' that should be woven through any current pedagogies applied within the OLS learning architecture.

8.4.5 Research sub-question 5

How can Adaptive-Intelligence be made relatable within an nLA to become integral to OAq?

The fifth research sub-question is answered in the affirmative in describing 'Adaptive-Intelligence' (Ai) as integral to OAq. Ai is seen as integral when it focuses on the consciousness of problem ecologies and cognitive complexities in a settling new normal. Ai was reviewed within the literature in Section 5.5.2 and discussed in Section 7.3 within its adaptation paradigm and adaptation mindset. In the discussion of Ai, the researcher posited a working definition of Ai as a learnt ability to interact with a social environment, including a business environment or a problem space, through adaptive thought, responses and accrued knowledge to become fit for a new normal.

Grave (1959), Wilber (2001), and Beck *et al.* (2018) refer to Ai in their discussion of what has become known as Integral Theory. The integral nature of the Ai working definition is inferred from the intentionality of a raised consciousness as proposed in the AiLA framework and the literature as revised in Section 6.2.3. The inference of how Ai can relate to OAq through a learning architecture is made with three Ai contributions. Firstly, Ai contributes to how individuals or collectives (teams and organisations) change themselves to better fit the environment in the present or the near future. Secondly, Ai can be used to better shape the environment, including the business environment, to fit the needs of the individual or the collective. Thirdly, Ai contributes to OAq when Ai is used by the individual or the collectives to seek new environments that are a better fit than the present one.

8.4.6 Research sub-question 6

What dynamic enables the integration of content and context within an nLA, and what role would it play?

The final research sub-question is answered in the affirmative by describing the 'Form' of an AiLA in Section 8.3.5. The dynamic that enables the integration of content and context within an OLS and its learning architecture is called C-Dynamic. C-Dynamic is described as a dynamic energy created through the coherence-correlation factor, as discussed in Section 7.4. Coherence and correlation were consistently mentioned concerning the integration or lack of integration within the OLS. Together with coherence and correlation, the concept of integration, inter-relationship and interplay emerged from the data. This specific research sub-question was posed through the emergence of the incidence mentioned before, and the question was asked if there might be a unique dynamic if coherence and correlation would inter-play when intentionally linked as a dynamic duo within a learning architecture.

The study suggests that the coherence-correlation dynamic or C-Dynamic is viewed as a synergetic strength that develops within the learning effort. C-Dynamics is postulated as an intentional, metaphysical energy, functioning as a meta-dimensional integration factor between content and context, problem space and problem complexity, and competency and adaptation potential. C-Dynamic plays the role of balancer, integrator and sense-maker within the 'Form' of an AiLA.

8.4.7 Review of research aim and objectives

The overall aim of the study was to describe a new learning architecture (nLA) utilising an African aphorism that could increase organisational adaptive quotient with a settling new normal. The study set out to explore participants' experiences within the organisational learning ecosystem to gain insights into the related concepts that might have an increasing influence on organisational adaptiveness as a business requirement for organisations thriving in the future. This aim was achieved by answering the research questions in Section 8.4.2, the AiLA framework description in Section 8.3 and the meta insights shared in Section 8.2. A clear, holistic description of a learning architecture for thriving organisations in an exponentially changing organisation was formed in answering the research questions. The AiLA framework provided a more detailed description of a learning architecture utilising an African aphorism as its core energy. The meta insights helped contextualise the AiLA as a new learning architecture that focuses on increasing organisational adaptive quotient. Six objectives supported the aim of the study. namely:

i.   To conceptualise an nLA in relation to gearing organisations for a 'new normal'.

ii.   To conceptualise an African aphorism for the nLA.

iii. To conceptualise OAq as the primary output of the nLA.

iv. To suggest a different pedagogical approach within a regenerative learning ecology.

v. To explore *Adaptive-Intelligence* as a contributor to OAq.

vi. To explore the concept of coherence-correlation dynamics (C-Dynamics) within the nLA as an open learning system.

In the researcher's view, this study succeeded in achieving the above objectives by highlighting each of the objectives within the AiLA framework. All the objectives were achieved and described within the AiLA framework, integrating all of the objectives into the aim of the study.

8.5   Assessment and quality criteria

As indicated in Section 1.12, the researcher followed the advice of Flick (2018), arguing the difficulties with generalised quality criteria in qualitative studies. Therefore, as Flick recommends, the researcher applied quality strategies rather than limiting criteria. These strategies included generalisation and triangulation. To facilitate generalisation as a quality strategy, the researcher applied transferability, theoretical sampling and fittingness as specific strategies. Triangulation was applied on the notion that different data collection methods will yield comparable results, and the results should be considered valid (Howitt, 2016). For triangulation, the researcher followed the guidelines of Flick (2018), applying workability, modifiability and relevance as quality strategies. The final consideration within the quality criteria of the study was adherence to ethical considerations within the study.

8.5.1   Generalisation

As mentioned above, for 'generalisation', transferability, theoretical sampling and fittingness were applied as quality strategies. Each of the generalisation aspects will be discussed below.

8.5.1.1   Transferability

'Transferability' was explicitly applied to generalise the context for the study's results (Lewis & Richie, 2003). Transferability was achieved primarily by ensuring sufficient

contextual information about the research site. Transferability was to provide specific contextual information about the fieldwork (Shenton 2004). Specific information was detailed on: *i*) The time period of the data collection process, together with contextual information regarding the changing conditions during the data collection process; *ii*) the specific research sites that were utilised; *iii*) the number of participants and the different types of participants that were selected during theoretical sampling; *iv*) the number and the duration of the data collection sessions; *v*) the type of data collection sessions, being either face-to-face or video conferencing. During data analysis using the constant comparison method, the contextual transferability of the data from one context to another and correlations between different contexts were noted.

8.5.1.2   Theoretical sampling

'Theoretical sampling' was utilised for designing variations of the conditions under which the phenomenon is studied as broadly as possible (Flick, 2018). During theoretical sampling, four specific participant groups were selected during the three stages of data collection, creating various conditions to evaluate the phenomena. For the in-depth interviews, two sampling frames were created to ensure that the same interview question would provide variation in the context of the responses. A third sample frame was created to sample the focus group interviews, providing for a further variation in the responses to the phenomena. Finally, during the last phase of data collection, the participant observations, a fourth sampling frame was established. Utilising the sampling frames, the researcher proceeded with theoretical sampling for each data-gathering phase.

8.5.1.3   Fittingness

'Fittingness' refers to the degree of comparability of the different context that was established during transferability and theoretical sampling. A high level of comparability was noted within the data, which improved the usability of the data. The usability of the data was measured in the comparability of information during Phase 1, the empirical phase, and Phase 2, the conceptualisation phase. The fittingness of the data was confirmed in Phase 3, theorising when the data provided enough evidence and insights to formulate a substantive theory in describing the AiLA.

8.5.2   Triangulation

'Triangulation' is the convergence of various research methods to produce more objectives and valid results (Jonsen & Jehn, 2009). For this study, the researcher

applied two research methods as a blended methodology as described in Section 2.3, namely 'hermeneutic phenomenology' and 'grounded theory'. Hermeneutic phenomenology was primarily used in Phase 1 of the study, whereas grounded theory was used throughout all three phases. Within the blended methodology, four variations of data gathering were applied. First, there were two rounds of in-depth interviews, with the Round 1 of interviews being hermeneutic phenomenology. The second round was ground theory. In the third variation, the data extracted from the two rounds of data gathering were refined through a round of focus group interviews. Three focus groups were interviews conducted. The fourth variation was participant observations. Some of the forming themes were further explored during a covert observation process and when additional data were gathered.

Triangulation was strengthened by following the criteria of 'workability', 'modifiability' and 'relevance'. 'Workability' was obtained by applying abductive analysis to the data relating the analysis to real-life situations, as the participant shared during the hermeneutic phenomenology interviews. 'Modifiability' refers to the openness of the research results to be extended upon and further developed. The result of this study and the description of the AiLA framework is the first description of a new learning architecture for organisations that have to change and adapt constantly. Further study and application information would be required to update and refine the theory of *Adaptive-Intelligence* within an organisational adaptive quotient. Finally, the research data and the research results seem relevant to an organisational learning system under pressure to ensure a workforce with high adaptability potential. As the study indicated, a separated, tacit knowledge-based learning system is too slow in growing a workforce's adaptability potential and increasing an organisation's adaptive quotient. Following the process described above, the researcher believes that triangulation was obtained.

8.6   Ethical Considerations

The study strived to ensure that research ethics were considered all the time. Firstly, as a student of the Da Vinci Institute for Technology Management, the researcher ensured that the institute's ethical code and the general guidelines for ethical research were complied with at all times. Secondly, written consent was obtained from the researcher's sponsor to use their client base as the research site as indicated in Appendix A. All participants were also informed of the approval of the research site. Thirdly, all participants, excluding the participants in the overt observation, were notified of their right to participate and that participation was voluntary. The

participants signed participant consent forms as per Appendix C. The consent form also provided the participant with the assurance that all information would be confidential and that use of the data obtained would always be anonymous. For the participants who participated in the overt observations, full confidentiality of their research site and personal information were maintained. Fourthly, data recording and storage were also seen as ethical considerations. All transcripts were kept confidential and identified by participant codes, known only to the researcher, were used. All audio, video and transcripts were processed electronically and stored on a 'cloud server' with password-protected access. Only the researcher had access to the stored data.

8.7   Delimitations of the study

The scope and expected delimitation of this study were outlined in Section 1.14. This part presents the final comments and considerations regarding the delimitation of the study. The first delimitation, is the limitation on coverage of the study. The study included six organisations within two industries in South Africa, East Africa and West Africa. The organisations selected across geographical areas, industries, and diverse architecture assisted with the transferability of the results of this study to other similar organisations. Nevertheless, the reader must be discerning and aware of the potential limitation of transferability of the results within all organisations, industries and geographical areas.

The second delimitation is that study focused, through its aim, on describing an Adaptive-intelligence Learning Architecture utilising an African aphorism that increases organisational adaptive quotient, conducted as a qualitative research study. A blended research methodology consisting of hermeneutic phenomenology and grounded theory was applied to add academic rigour, tell the story of the life experiences of the research problem space, and allow the AiLA framework to emerge from the data. Despite this, as expected in an emerging field of study, the findings are tentative and dependent on individual interpretation, including the subjective interpretation of the research. Therefore, many of the experiences and verbatim phrases of the participants were included in Chapter 3 to enable the reader to infer their conclusions.

The third delimitation also refers to the aim of the study in that the focus of the study was on the organisational learning environment. The study described the AiLA as a learning architecture within an organisational learning system. The study results are

therefore limited to the learning environments and learning efforts within an organisation. The study does not claim learning or learning architectures within the academic or educational systems. The study did not explore any biological or psychological evidence on how humans learn per se. The study focused on the life experiences of participants of a current and possible future organisational learning system, which are strategically used within an organisation to cope with or adapt to a new normal.

The fourth and final delimitation relates to the sample size. The sample was carefully selected according to the sampling strategy of the study to provide the richness of data and context required in a grounded theory study. The sampling strategy and the sample were selected for and from the research sponsor's client base. The proposed substantive theory, the AiLA framework, is presented as an idea that best suits the sponsor's business model. In that, the researcher recognises and promotes that the AiLA framework might need further investigation and broadening of the application. In this view, the researcher recommends further studies on the application and implementation of the AiLA framework as we enter the next two decades of the 21st century.

8.8   Recommendations for future study

This study focused only on describing a new learning architecture within an organisational learning system, of which the AiLA framework is proposed as such a new learning architecture. Therefore, the full extent of learning within an exponentially changing second and third decade of the 21st century was not fully explored. However, through the data, it became evident that the impact of a disruptive future, with more frequent extreme global disruptions, might have a much bigger impact on the broader educational system, not just the corporate learning system. Considering the delimitations of this study and the areas not explored during the research, it is suggested that further research is conducted on the broader generalisable education domain.

A second recommendation would be to test the sustainability of the results of the AiLA as applied within an organisational learning system. This study theorised the AiLA framework. However, further testing of the implementation, the design and delivery of learning efforts utilising the AiLA should still be conducted.

8.9 TIPS managerial leadership framework

This section considers the proposed framework from a business leadership perspective by integrating it with the TIPS managerial leadership framework depicted in Annexure I. The TIPS managerial leadership framework addresses organisational performance and change by considering the core elements of management of technology, innovation, people and systems (Da Vinci, 2022). In addition, at a deeper level, the TIPS managerial leadership framework reveals an integral approach to organisational performance focusing on the emergence of an engaged, agile and aligned workforce (Da Vinci, 2023).

There are several parallels when viewing the proposed AiLA framework, as described in Section 8.3, through the lens of the TIPS managerial leadership framework. The AiLA is presented as an integral architecture as it relates to the seminal work of Graves (1974) and Wilber (2001). As the TIPS framework finds its integral nature within the emergence of an engaged, agile and aligned workforce, AiLA finds its integral nature within its purpose and its outputs. The AiLA purpose relates to the emergence from an existential paradigm of 'Subsistence' to an existential paradigm of 'Being'. In its output, the AiLA promotes the increase of organisational and individual adaptive quotient, improving the workforce's engagement, agility and alignment.

At a core element level of the TIPS framework, there are parallels with AiLA regarding 'Systems-thinking' and 'Innovation'. The AiLA recognises the complexity of the organisational learning system within which an AiLA would be deployed. The growing complexity within an OLS is tied to the output of the AiLA through both OAq and the requirement of an increase in the speed and impact of learning. The requirement of an increase in the speed and impact of learning relates to systems theory but also directly to the management of people and innovation. Within the intentionality of the AiLA, the management of innovation is placed above proactive planning. It is the view of the AiLA that reactiveness through innovation would lead to an increase in the speed and impact of learning and the improvement of OAq. From a TIPS lens, the management, or the improvement in the effectiveness of innovation management and people management, relates to improving organisational performance. The deployment of an AiLA within the organisation, specifically the OLS, can therefore contribute to the improvement of organisational performance.

8.10 ROI and the unique contribution of the study

Return on investment (ROI) within a people context is defined by Fitz-Enz (2010) as the measure of the financial value added by the workforce against the investment made by the organisation to them. Phillips (2007) has earlier indicated that measuring ROI within a people environment should include a non-financial value, such as the contribution people will make to stakeholders within social communities and clients as well as internal clients of the organisation's ecosystem. For the researcher, and within the context of this study, the primary measure of ROI is not the financial value as a profitability margin but rather the increase in the potential of collective human intelligence as it relates to OAq. Therein, the ROI for this study is within the fabric of the study's unique contribution at a personal and professional value level, a sponsoring organisation value level and a social value level.

As indicated in Section 1.4, the study aimed to make a unique and novel contribution to the body of organisational learning knowledge and, more specifically, to the adaptation of the organisational learning system by describing a learning architecture that would increase an organisation's adaptive quotient. This topic was identified in response to many debates within the learning and development fraternity and some organisational development arenas. Some common themes developed within these debates. These themes were centred on the impact and the speed of adaptation to an exponentially changing business environment. This study addresses some of these debates in that it provides an architecture that is conceptualised with the view of a future business system and an accompanying future organisational learning system. The output of the architecture is the intention to increase the organisational adaptative quotient, something that current L&D fraternities are not focusing on. In addition, the AiLA framework provides a structural view of a variation that L&D fraternities could deliver on if they apply the AiLA framework to their design and delivery of learning efforts within their organisation's learning systems.

Further, this study should make a unique contribution to the sponsoring company, where the AiLA will be implemented. The sponsoring company and the researcher's employer are an innovative learning provider within South and Southern Africa. As an innovative organisation, its mission is to change tomorrow through learning efforts focused on unleashing the full human intelligence and human adaptability potential, thereby actively contributing to its client's adaptive quotient. The unique contribution that this study will make to the sponsoring company is by applying an intentional learning architecture that aligns with and strengthens their vision.

A social-level contribution this study has made is in the positioning of the gift of Africa, its humanness (Laubscher, 2013), as the core energy of the AiLA. As an African and

a learning and development practitioner who has operated throughout Africa, it was an extreme honour to explore and position the characteristics of being African at the centre of preparing for the future. Building on Africa's unique humanness culture, a culture found in most African cultures, the AiLA promotes the aphorism of African Humanness as its core energy. Something that we as Africans can be proud of.

8.11   Conclusion

In Chapter 8, the researcher presented the study's results as meta-insights gained from the data gathered and analysed and a focused review of current and relevant literature. The researcher used the discussion from Chapter 7 to develop the meta-insights. As a direct result of the meta-insights, the researcher introduced a framework for a new learning architecture referred to as AiLA. The researcher also answered the research question and sub-questions, thereby reviewing the aim and objectives of the study.

Further, Chapter 8 concludes the study and the rich experience the researcher gained in exploring the life experiences of the research participants. It was an honour for the researcher to hear, analyse and tell their story to contribute to organisational learning. This chapter highlighted how the research aim was achieved by describing an Adaptive-intelligence Learning Architecture utilising an African aphorism that could increase organisational adaptive quotient. As a result, OAq became to be seen as one of the key contributors to organisational success in a future where change will be exponential and adaptation fundamental. The underpinnings of the AiLA were highlighted by presenting the AiLA framework, combined with sharing the researcher's meta insights gained during the study.

The researcher acknowledges that this is not a study that holds all the future answers. Instead, this study contains the understanding and insights of the researcher as a constructed reality from the participants' life experiences. The AiLA framework presented is based on the constructed future reality that was possible from the data analysis, seen through the eyes of the participants. The vastness of the study of organisational learning is acknowledged, and readers are invited to draw on their own experiences within the field of learning and development and organisational learning system and to remain sceptical and curious about learning in an exponentially changing business environment.

The researcher hopes that this study will contribute to the value the learning and development field makes to organisational strategy. To contribute to the science of

human development and the importance of understanding human learning behaviour as a strategic pillar to the adaptive potential of an organisation. Furthermore, if the reader is a learning practitioner, Organisational Development Professional, or learning strategist, the researcher hopes this study will inspire the reader as it did the researcher. More specifically, the researcher hopes that it will inspire Tier 2 thinking, African Humanness thinking and, most of all, inspired an innovative future where adaptability and reacting with innovation is what we, as human development scientists aspire to do.

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Appendices

Appendix A: Ethical Clearance Letter

daVinci
institute

Ethical Declaration

I, the undersigned, hereby declare that the Doctoral proposal of the student named below has received ethical clearance from The Da Vinci Institute Ethics Committee. The student and supervisor will be expected to continue to uphold the Da Vinci Institute's Research Ethics Policy as indicated during application.

Title of Proposal: An aphorism of the core elements of a learning-experience architecture

Student Name: Clifford Brunette

Student number: 5922

Academic Supervisor: Dr. R Viljoen

Field Mentor: N/A

Chairperson: Ethics Committee

**Heather Goode
Dean: Teaching and Learning**

Signature: _____

Date: 12 April 2019_____

Appendix B: Research site consent

Date: 27 September 2019

To whom it may concern

Reference: Doctoral Research Study: C Brunette

Herewith permission is granted to Cliff Brunette to conduct his Doctoral research study within Cornerstone Performance Solutions Pty Ltd (CPS) client base as his research site. This permission is granted in context of the research being conducted within the ethical clearance of the academic research institution. Further in the context that the research is done at an individual level and all participation is voluntary, confidential and represent the individual views of the participants. No information, strategic or otherwise may be solicited, or shared publicly regarding any CPS client. Any information that may be deemed confidential will be coded or redacted within the working data. The Doctoral candidate has agreed and committed to adhere to the context of this presentation.

pp:

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Cornerstone Performance Solutions

www.cps.co.za

Appendix C: Participant consent form

Da Vinci Institute of Technology Management

Title of the study:	Adaptive-Intelligence Learning Architecture: Utilising an African Aphorism to increase organisational adaptive quotient
Researcher:	Cliff Brunette Mobile: 082 418 6191; email: cliffbrunette@gmail.com Student No.: 5922
Research Institution:	The Da Vinci Institute for Technology Management
Research Supervisor:	Dr Rica Viljoen Mobile: 082 449 5846; email: rica.viljoen@meridiangsl.com

Dear Participant

You are invited to participate in research conducted by Cliff Brunette, a registered student at Da Vinci Institute, conducting a doctoral research project under the supervision of Dr Rica Viljoen. Your participation in this study would be highly appreciated and the information provided would be deemed of high value to the research. Please read the information below and ask questions about anything you do not understand, before deciding whether to participate.

Purpose of the Study

As now known by most learning and development (L&D) professionals, organisational learning requirements in the second and third decade of the second millennium will change drastically provide a workforce that has capability to thrive within a future-ready organisation. Seemingly, the biggest need stemming from a future-ready organisation is to speed up and increase the impact of learning on the adaptability potential of the future-ready organisation. The problem this study intends to probe is a seeming lack of understanding the new requirements for high-speed, high-impact learning in a new learning economy, focused on the optimisation of human potential rather than optimisation of organisational profit. Encapsulated in this problem is the lack of a structured agile-learning architecture that enables a coherent and correlating open learning systems.

The research aims to explore and conceptualise a new learning architecture within the African context that can increase the speed and impact of organisational learning as a construct of adaptability potential of a future-ready organisation within a new learning economy. From the empirical data collected during the research proposal, the specific aim of the research is to describe a new learning architecture that utilises an African aphorism to increase the adaptive quotient of an organisation.

Procedures

If you volunteer to participate in this study, you may be asked to do the following:

- Participate in individual interviews during the investigation phase. Each interview will be pre-arranged and scheduled with the participant.

- Participants will be requested to partake in at least two interviews, of which one or both may be a video conference call.

- Participate in focus group discussions during the investigation phase. Each focus group session will be scheduled in advance and participants will be invited individually to the focus group session.

- Participate in data clarification conversations after data analysis to confirm data integrity.

- Sign the written consent from on page 5

Your participation is completely voluntary, and you may withdraw at any time without penalty. Please give serious consideration to your decision to participate as the researcher would want to establish a long-term (12 to 14 months) research relationship with you.

Confidentiality

The content of the interviews, focus groups, or any other information shared will be used for research purposes only with the sole objective to meet the aims and objectives of the study. The information gained from the interview will be at all times treated as confidential and anonymous. Certain comments from interviews and focus group observations might be used to support research findings, but they will not be linked to any individual and no personal details will be shared. All personal detail of any participant will be known only to the researcher. To ensure anonymity, the researcher will apply unique participant codes which will be used in all of data published in the public domain.

Ethical considerations

The student and the supervisor are bound to uphold the institution's ethics policy and ethical standards of research as agreed to, and permission provided' by Da Vinci Institute for Technology Management.

Potential risks and discomforts

During interviews or focus group discussions you may come across a reflection or question that you could find unpleasant. For instance, a few of the questions may cause you to think about negative emotional states; for example, "how do you feel when you are angry or stressed or about stresses and frustrations caused within the workplace due to changing environments?"

It is important to keep in mind that there are no right or wrong response during any interview or focus group discussion. You are encouraged to discuss any concerns you have with any interview or focus group observation with the researcher.

Potential benefits to participants and/or to societies

As a participant you will have the opportunity to contribute to the underlying understanding of, and establishing, a working learning architecture to underpin organisational learning methodology. Through your participation you may develop

your own meta insights, and deepen you own understanding of the creating and delivering organisational learning at speed and with impact. Further, you will be contributing to the L&D fraternity at large by providing an African perspective on the role L&D will play in the establishing or transitioning of future-ready organisations.

Publication

The overall results will be published in scientific journals and might be used in the development of a specific learning theory.

Consent

Thank you for your consideration. Your help is greatly appreciated. Please complete the consent form below if you elect to be part of this research and return it to the researcher.

Please Initial Box

I confirm that I have read and understand the information for the above study and have had, or will use, the opportunity to ask questions.

☐

I agree to multiple interviews as indicated within the procedure paragraph.

☐

I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason.

☐

I agree to take part in the above study.

☐

I agree to the interviews / focus group / consultations being audio recorded.

☐

I agree to the use of anonymised quotes in publications.

☐

Name of Participant	Date	Signature

Name of Researcher	Date	Signature

Appendix Dr1: Interview questionnaire Round 1

L&D Practitioners

How many years have you been involved in people development?

What is your current role in the learning and development space?

1.   Would you describe your or your organisation's approach to learning as traditional, innovative or agile?

2.   Describe how you experience that approach in your role?

3.   When you hear '4IR' what does that mean for you, as far as it relates to learning and teaching?

4.   When you hear 'Adaptation - organisational and human' what does that mean for you?

5.   Are you in any way experiencing different demands for your organisation to adapt?

6.   How do you feel about the speed or pace of learning that is required to match the change demands of today?

7.   How much of your teaching time is spent on information-sharing versus sense-making of new information?

8.   Would you describe your organisation as a learning organisation or a traditionalist organisation?

9.   Given your response to question 8, how does what you do in your craft correlate with that concept?

10. Do you experience your daily work in your organisation as coherent within the demands for change?

11. Given your response to questions 9 & 10, what does that mean for your organisation's teaching and learning strategies?

12. Given your response to questions 9 & 10, how does that influence what you do daily within your current role?

13. What is your experience of the learning-economy, what drives the teaching and learning decisions in your organisation, or the L&D fraternity at large?

14. How do you experience your organisation's learning system - open or closed - please explain?

Organisational Leaders

1. How many years have you been involved in people development?

2. What is your current role regarding learning and teaching in your organisation?

3. When you feel there is a skills gap in your team/area, what is your general approach to closing that skills gap?

4. In your experience, how stable are the skills-requirements in your team, and your organisation at large?

5. Would you describe your or your organisation's approach to learning as traditional, innovative or agile?

6. When you hear '4IR' what does that mean for you in regard to teaching and learning?

7. When you hear 'Adaptation - organisational and human' what does that mean for you?

8. Are you in any way experiencing different demands on the organisation to adapt?

9. How do you feel about the speed or pace of learning that is required to match the changing demands of today?

10. Would you describe your organisation as a learning organisation or a traditionalist organisation?

11. Do you experience your daily work in your organisation as coherent within the demands for change?

12. Given your response to question 11, what does that mean for your organisation's skills development strategies?

13. What is your experience of the learning economy, that drives the teaching and learning decisions in your organisation, or for you in your team or business unit?

14. How do you experience your organisation's learning system – 'open' or 'closed' - please explain?

Appendix Dr2: Interview questionnaire Round 2

The Round 2 questions will be personalised and adapted according to the participant's Round 1 responses to create coherence between Round 1 and Round 2 interviews and the participants' stories.

<u>L&D Practitioner and Organisational Leaders</u>

1. Given your response to (R1, Q5), why would that be an appropriate approach to learning in your organisation at this point?

2. Given your response to question 1, what do you think, if anything, can improve the outcomes or results of your organisation's teaching and learning efforts?

3. Do you think that the speed and impact of your learning efforts or learning results should increase, given the demand from organisational changes?

4. Can you suggest how your organisations learning approach can be more agile?

5. Given your suggestions in question 4, would that speed up learning and create more impact within the context of organisational adaptation?

6. If I ask you to describe an 'open learning system', what would that look like?

7. If any, what would the role of 'coherence and correlation' be within that (as described in question 6 'open learning system'?

8. In your version of an 'open learning system', as described in question 6, would you consider 'collective human intelligence' as an essential factor for the speed and impact of learning within the context of organisational adaptation?

9. Given your current view of your organisational learning system, what role will 'optimisation of human potential' play in a future learning system?

10. In your opinion, based on your experience, what should the focuses be of an organisational teaching and learning strategy or learning architecture to optimise human potential within a 4IR organisation?

11. What would be required to shift from a profit-focused learning economy to a 'human potential optimisation' learning economy?

Appendix E: Focus group questions

Introductory questions:

1. Please introduce yourself to the group stating who you are, where you are from and your current role?

2. How many years have you been involved in, or practising as ...

   a. L&D professionals

   b. Organisational leader acquiring learning solutions

Opening questions:

1. What is your opening position or current view of…

   a. Corporate Learning in a post COVID-19 "New Normal"?

   b. How did the corporate learning system adapt as a result of the biggest disruption of our time - the Global COVID-19 Pandemic?

Key questions: (Apply brainstorming or NGT as a generative conversation builder)

1. Necessity for organisational adaptation…

   Adaptation requires a mindset of relevance

   a. Would you agree with the statement that the leading organisations during the 2nd and 3rd decade of the 21st century will be the organisations that show high adaptability rather than high stability - financial or otherwise. Yes/No?

   b. What are your views on the statement - The speed and impact (scale) of change is determined by the problem-complexity faced by the organisation?

2. If an Adaptive Learning Architecture, within the context of organisational learning, is described as:

"A structure or system encompassing learning effort (Le) and learning experience (Lx), where Le is the integration of work and learning and Lx is the integration of human being and human doing, with the primary aim to increase the speed and impact (potential) on organisational adaptation"

a.   What is your view of such an organisational learning system that promotes deeper learning focusing on the optimisation of?

     i.   Human potential as an Adaptive-Intelligence (Ai)?

     ii.   Collective Human Intelligence (Ci)

b.   A learning system that promotes an axiomatic pedagogy?

"Axiomatic pedagogy focus less on detail (content) and more on truth points for decision making within variations of reality thereby teaching co-creation and *Adaptive-Intelligence* within transitive context and content."

c.   A learning system that promotes a Multi-Truth pedagogy?

"Multi-truth pedagogy is based on teaching principles of a multi-divers world where the context of human truth are considered more important than single representation of reality. A multi-truth pedagogy can allow for augmented intelligence as the combination of human intelligence and artificial intelligence."

d.   A learning system that promotes non-locality of learning?

"Non-locality of learning, as a principle of collective consciousness of humans, by a non-physical connectedness of a quantum event, formed at the meme-level of human co-existence within a shared context of reality"

Concluding question:

Considering the conversation, we had, how could learning organisations utilise an Adaptive Learning Architecture?

Appendix F: Structured frame for reviewing observations

Team Code _____

Data of observation _____

Number of team members _____

Occupational level of learners observed _____

<u>Observation structure:</u>

Evidence of occurrence regarding:	Contextualisation
Consciousness and collective consciousness	Participants indicated that they had experienced higher levels of awareness of their own or their group behaviour.
Collective learning	The group learning as a group about the group itself and the individual contributions to the group.
Collective intelligence	Participant's expression of the realisation of the collective value of the team collective understanding of their world of work.
Adaptive potential	Participants' considering change, choosing to change and the possibility that there should be change.
Worldview shifts	Participants' showing a paradigmatic shift in the fundamental way that the world of work or the world, in general, is viewed that might influence the implicit behaviour of the individual or the group as a collective entity.
Mindset shifts	Participant's reporting a change or shift in their thinking about problem-solving strategies required to perform their leadership duties and operational duties.
African humanness	Participants' relating to or referring to aphorisms or axioms of an Africa nature or seemingly Africa origin.

Appendix G: Memos Examples

The following are extracts from the 88 memos that were captured in the researcher's reflective journal as part of the memo writing process.

Memos relating to organisational adaptation:

Date	Interview	Type	Label	Memo	Note
01/12/19	YJCL1	TN	M35_TN	The view is that change can happen so that, being in one industry may lead to diverse, therefore diversification is required.	RO1_R12_YJCL1
30/12/19	MESO1	TN	M48_TN	The demands to adapt learning strategies are within the approach to learning, learning methodology. Learning architecture	RO1_O15_MESO1
06/02/20	IBCO1	TN	M54_TN	It seems that there is no correlation between faster learning and regularity requirements and organisational thinking	RO1_O53_IBCO1
22/02/20	MHMO1	ON	M62_ON	With less classroom learning, more digital enabled learning, more JIT learning, the struggle is adaption of learning - follow through.	RO1_O16_MHMO1
15/07/20	JBFL01	TN	M78_TN	The trigger for human adaptability, the human to adapt might be more than a mindset or mindset shift, it might need an event to create a crisis or a seemingly crisis. Maybe, learning architectures should somehow be creating seemingly crisis for humans to feel real needs to adapt	RO1_L38_JBFL1

Memos relating to learning approaches:

Date	Interview	Type	Label	Memo	Note
12/12/19	EBFL1	TN	M45_TN	The impact of 4IR is not viewed in light of technology but rather the relevance of human contribution.	RO2_R20_EBFL1
20/12/19	MESO1	ON	M43_ON	There is a strong indication that current leadership would abdicate their people development responsibility - learning is not seen as a human process.	RO2_028_MESO1
01/03/20	RLSO1	ON	M66_ON	The focus to move to be an agile organisation seems to be only in the abstract. The behaviours suggest that the org. is stuck in a traditional approach to learning. There are different viewpoints within the different layers of leadership.	R02_O50_RLSO1
27/04/20	MMFL2	ON	M16_ON	Becoming more agile is blocked by legacy thinking. Trapped in the old. Anchored to the information age - recording and report information. Organisations may be trapped in an old paradigm formed by legacy technology and legacy thinking. This legacy thinking is built within an information age organisation, where systems are built on recording and reporting information. For organisations to become more agile, to have an ALA, organisations should transition to the experience age where the focus is on the moments that matter, the experience that matters and the learning from that moment or experience.	RO2_L74_MMFL2

Memos relating to speed and Impact of learning:

Date	Interview	Type	Label	Memo	Note
17/11/19	MTCO1	TN	M38_TN	The speed of organisational learning is influenced by the readiness of the organisation to provide on-demand learning.	RO3__RO1_MTCO1
22/02/20	MHMO1	ON	M61_ON	The incoherence of the response can indicate uncertainty of how to deal with the fast pace required within the learning environment.	RO3_O13_MHMO1
29/04/20	CMFL2	ON	M20_ON	Speed of learning at a cognition level is unmeasurable. (Hypothesis - do some checking) Organisational learning is about visualisation of the adaptation. The focus of speed of learning might not be the speed of cognition of an individual. In organisational learning (OL) speed of learning may be more about the awareness or collective consciousness of the organisation regarding the adaptation required for the organisation to reshape for sustainability. $\therefore$ speeding up learning may thus be more about the visualisation of the pathways to organisational adaptation. $\therefore$ Impact of learning might therefore refer to the quality of learning that enables the adaptation at a required speed required for the adaptation. OL $\Rightarrow$ Collective Learning	RO3_L64_CMFL2 Re-definition of organisational learning is required.

Memos relating to coherence and correlation:

Date	Interview	Type	Label	Memo	Note
05/04/20	YJCL2	ON	M9_ON	A learning system without coherence and correlation is flawed. Coherence and correlation seem to be the anchor for an open learning system. Without clear coherence and correlation to the business strategies and goals, the learning has no purpose. Without purpose the system becomes mechanical only (loses the dynamic) that needs to be managed and manipulated from an external source (force inflicted to the system to create movement or motion = energy) - the L&D department. (External sources meaning outside of the participants in the system - the learner). Without coherence and correlation the system has no energy outside of the mechanical - it cannot extend beyond the classroom, eLearning module or assessment.	RO4_L14_YJCL2 Contextualise the concept of Mechanics and dynamics - link to quantum M&D
06/05/20	MESO2	ON TN	M27_ON M27_TN	Correlation between competency and capability Often in traditional approaches to learning, the focus is on competency. However, it is not always clear how the competencies in question, competencies that are developed, relate to work. This might be because there is no clear line of sight to the capability that is being developed in the organisation.	RO4_O29_MESO2

Memos relating to Collective Intelligence:

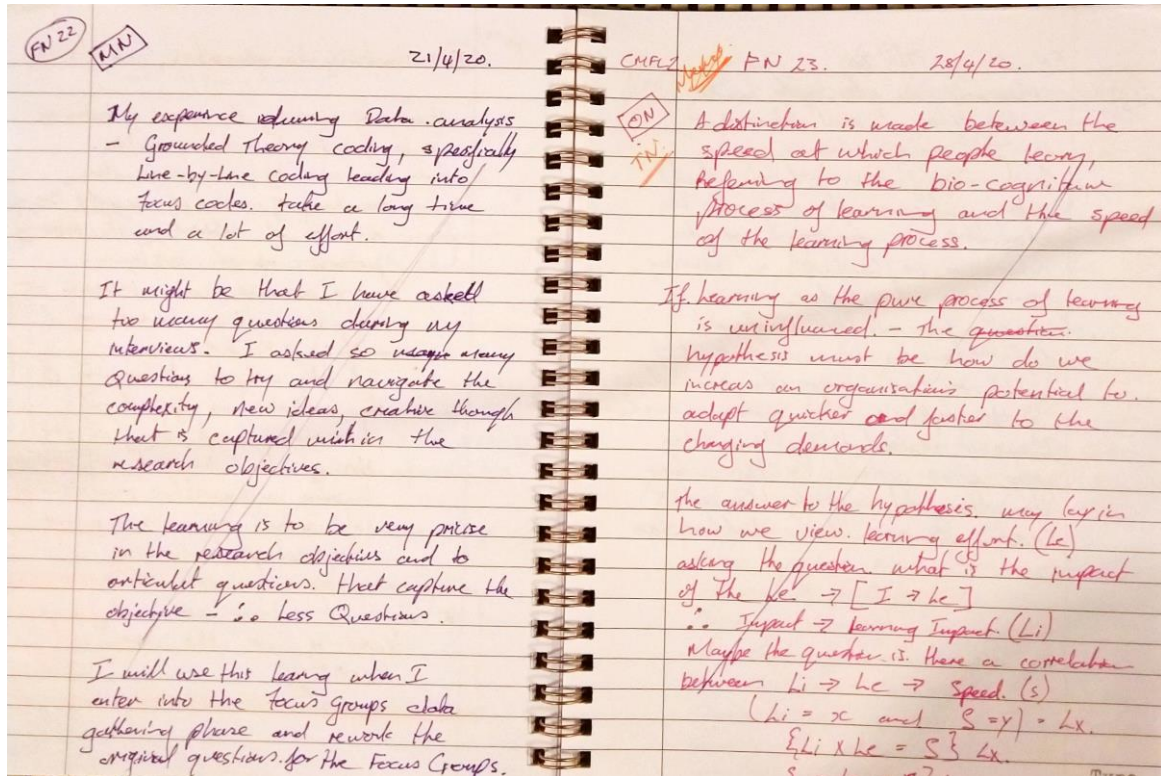| Date	Interview	Type	Label	Memo	Note
17/11/19	MTCO1	TN	M1_TN	Deeper Learning I must define "deeper learning" as a concept that is different and that will clarify the difference to "deep learning" as used in machine learning and AI. The focus of Deeper Learning is a human process of consciousness development. Build on an old philosophy of artisanship - the human as the artist in the world. Understand the craft, not just the task - learning not to be the machine	RO5_R2_MTCO1
17/01/20	CMFL1	ON	M65_ON	Learning can be collaborated and collective but, based on individual's learning the same thing and not organisations prescribing "group learning.	RO5_L3_CMFL1
05/04/20	YJCL2	ON	M10_ON	Locality becomes irrelevant Encouragement of learning The system creates learning through open participation It is the first mention of locality in the learning referring to the irrelevance of locality. Learning can exist/occur in a non-locality environment as much as a locality environment. Learning is encouraged through systems that share intelligence and not competence. Learning participation is motivated in the sharing and the shared intelligence. With the safe open participation in a shared or collective intelligence, the system creates the learning-drive (motivation) - the accountability to the system sets the requirements for the learning journey.	RO5_L13_YJCL2 Is locality and non-locality however linked to or the same as synchronous and asynchronous? CHI - Collective Human Intelligence as an axiom

Memos regarding the learning system:

Date	Interview	Type	Label	Memo	Note
22/02/20	MHMO1	ON	M63_ON	The inclusion of the words "there would have been" indicates self-justification - it cannot just have been profit - business results - yet it was. The decision was made only if business results could be shown.	R06_O44_MHMO1
25/02/20	ACCO1	ON	M41_ON	African countries have seemingly higher academic qualification levels than South Africa. South Africa has higher job competencies than other African countries.	RO6_R68_ACCO1
01/03/20	RLSO1	ON	M74_ON	South Africa - the mindset of having a qualification is the goal instead of having the skill that the qualification teaches. The qualification closes the mindset to learn for future - I have arrived, I am done.	RO6_O113_RLSO1
28/03/20	YJCL2	ON	M3_ON	Focus Code - Creative pull; Culture is vulnerable; Openness to fit in. Creative pull - A culture of openness has an acceptance of creativity. Acceptance of creativity acts as a "pull" factor, enticing the people in the culture to participate and contribute to the purpose. Culture is vulnerable - An open culture is vulnerable and any shift in leadership angles can threaten the creative pull. Openness to fit in - The culture must allow for people to fit in, acceptance of the creative ideas, it requires the acceptance of multi-truths.	RO6_L51_YJCL2

Appendix G: Field note Examples

The following are extracts from the 33 field notes that were captured in the researcher's field notes journal. Example 1 is of the handwritten notes in the journal and example 2 is extracts from Microsoft OneNote.

Example 1: Field notes journal extract

Example 2: Microsoft OneNote extract

Personal Notes:

Date	Interview	Type	Code	Note
17/01/20	MMFL1	PN	FN6	Given the responses from the participants so far during the Round 1 interviews, the researcher became aware that there are very low levels of thought (thinking) in regards to collectiveness within the L&D strategies of organisations. Therefore, in preparation for Round 2 interviews, the researcher added a question to the question set on the concept of collective intelligence.

Methodology Notes:

Date	Interview	Type	Code	Note
24/03/20		MN	FN20	Use line-by-line coding in analysis of Round 2 interviews to engage kinesthetically with the data as a heuristic device for learning about the world I want to construct. Learning about the data. Move forward from line-by-line coding to focus coding. Evaluate the group of codes to more intense meaning. Smaller, more exact meaning. Test the data against the focus code, what is the larger story the code is telling. Focus coding is not extracting categories or subcategories. (Charmaz; 2014; A discussion with Prof. Kathy Charmaz on GT; Interviewer: Gibbs, G. R.) www.youtube.com/watch?=DSAHmHQS6WQ; Accessed 24/03/20

Observational Notes:

Date	Interview	Type	Code	Note
22/10/19	MMFL1	ON	FN2	It is noticeable how excited and motivated the participant is about change and innovation in the learning space. There is a focus in the participant and the participant's organisation to embrace 4IR, be more agile and serve the business need at speed and with impact.

Theoretical Notes:

Date	Interview	Type	Code	Note
10/10/19		TN	FN1	In an agile world - a 4IRO - to drive organisational adaptation - the why we learn" has changed, which changes the how we must learn. -> changes the learning architecture. -> find the change in why we learn!

Appendix H: First stage of open coding example

The below are extracts, as an example, from the first stage of open coding. The full table of open coding are available from the researcher on request.

Identifying Tag	Lived Experience Extracted - Learning Professional
{RO1_L11_MMFL1}	Adaptation is not forced.
{RO1_L12_MMFL1}	There is a lot of ambiguity that slows down the adaptation.
{RO1_L13_MMFL1}	You become isolated from the world outside the organisation.
{RO1_L14_MMFL1}	There is less pressure to innovate and adapt within larger organisations.
{RO1_L14_MMFL1}	Finding solutions for learning seems to0 slow.
{RO1_L15_MMFL1}	The right AI tools are not in place to become more relevant.
{RO1_L16_MMFL1}	The ability to incorporate AI and to curate content is slowing adds to slowness.
{RO1_L17_YJCL1}	I will become irrelevant if I cannot adapt.
{RO1_L18_YJCL1}	Continual disruption can be expected in 4IR.
{RO1_L19_YJCL1}	It will take more effort to keep up with disruptions.
{RO1_L1O_MMFL1}	The organisation is still figuring out how to adapt rapidly.
{RO1_L21_YJCL1}	Organisations that cannot adapt will become irrelevant.
{RO1_L22_YJCL1}	You are dead if you don't adapt.
{RO1_L23_YJCL1}	Organisation cannot grow if they don't have a mindset of adaptation.
{RO1_L24_YJCL1}	There are new requirements set.
{RO1_L25_YJCL1}	I may not have the skills for the new requirements.
{RO1_L26_YJCL1}	Diversification is a new requirement.
{RO1_L27_EBFL1}	The ability to do things differently than before.
{RO1_L28_EBFL1}	You will become irrelevant if you cannot adapt.
{RO1_L29_EBFL1}	Many students are still unaware of how their world of work will change – they are not seeing the need to adapt.

Identifying Tag	Lived Experience Extracted - Organisational Leader
{RO1_O1_MTCO1}	The organisation is still machine-like and not geared for adaptation
{RO1_O11_MESO1}	Change is difficult
{RO1_O12_MESO1}	Change is personal
{RO1_O13_MESO1}	New way of thinking required
{RO1_O14_MESO1}	New learning for adaptation
{RO1_O15_MESO1}	Learning necessary to adapt within learning architecture
{RO1_O16_MHMO1}	Businesses struggle with the application of learning in the new approach
{RO1_O17_MHMO1}	Adaptation is linked to level of agility
{RO1_O18_MHMO1}	Adaptation needs are linked to evolving customer
{RO1_O19_MHMO1}	Adaptation is becoming fit-for-purpose
{RO1_O1O_MESO1}	Adapting to agile Learning
{RO1_O2_MTCO1}	Adaptation is to allow people to feel, to learn and to think within new circumstances
{RO1_O21_MHMO1}	The need for adaptation is driven by the range of choice in the market (Clients)
{RO1_O22_MWCO1}	Adaptation is the ability to adapt to different circumstances
{RO1_O23_MWCO1}	Adaptation is about the emotional connection to the change
{RO1_O24_MWCO1}	Human adaptation can be inconsistent
{RO1_O25_MWCO1}	To adapt you must grow through the change
{RO1_O26_MWCO1}	Change, adaptation are painful
{RO1_O27_MWCO1}	Scalability of solutions
{RO1_O28_ACCO1}	It is more than change – we adapt to change

Appendix I: Final open coding example

The below are extracts, as an example, from the final open coding. The full tables of open coding are available from the researcher on request.

Research Objective 7: Role of coherence-correlation dynamic		
Identifying Tag	**Lived Experience**	**Code**
{RO4_O9_MHMO1}	Coherence is created through relevance of learning	Coherence and correlation in adaptation
{RO4_O7_MHMO1}	Correlation of adaptation and requirements to change	
RO4_L18_MMFL2	Coherence is the golden thread of relevance	Coherence and correlation required for sense-making
RO4_L8_YJCL2	Without coherence the system is challenging	
RO4_L16_EBFL2	C&C establish connectivity of the system	Coherency and correlation create connectedness
RO4_L17_EBFL2	Isolation in learning is not effective	
RO4_L24_CMFL2	Correlation is about the way we connect	
RO4_L25_CMFL2	Cross-functional connectiveness of learning paths	
{RO4_R18_IBCO1}	Lack of alignment between role player within the learning ecosystem - no anchoring learning architecture	Coherence and correlation in learning architecture
{RO4_R13_MHMO1}	Coherence exists when there is alignment to, or sight of, business strategy	
{RO4_R14_MWCO1}	Although there are different org. Strategies, the skills requirement across the client base is universal	
{RO4_R19_IBCO1}	It seems that there is no correlation between faster learning and regularity requirements and organisational thinking	

Appendix J: Content analysis

The below are extracts, as an example, from the content analysis. The full tables of open coding are available from the researcher on request.

<u>Aligned to theme – ALA Purpose:</u>

Concept	Content Category	Contextual Occurrence
<mark>Problem</mark>	Focused	More focused on their own problems, more choice, bigger ask to be available to learn
		Learning is in serving the customer or in solving the problem
		The problem complexity caused by a disrupted world determines the width of the paradox
		This might be indicative of people not in need of learning because they are not at work, and don't have work problems to solve
		Learning pathways must become more integrated with work and be available to solve just-in-time work problems
	The Complex (sense-making)	The size of the problem complexity is relevant to the size of complacency
		The complexity of the problem also creates the case for change
		The complexity of a problem like a national lock down brought speed or action to strategies that were planned but slow in execution
	Balance	If you find the issue the problem the "sweet spot" that binds us together, and solve for that, it has been proven during the past six months of the COVID-19 pandemic that such a system can exist
		Learning problems/work problems must be balanced in complex and a being bit scary, but still safe enough to overcome which motives the learning effort

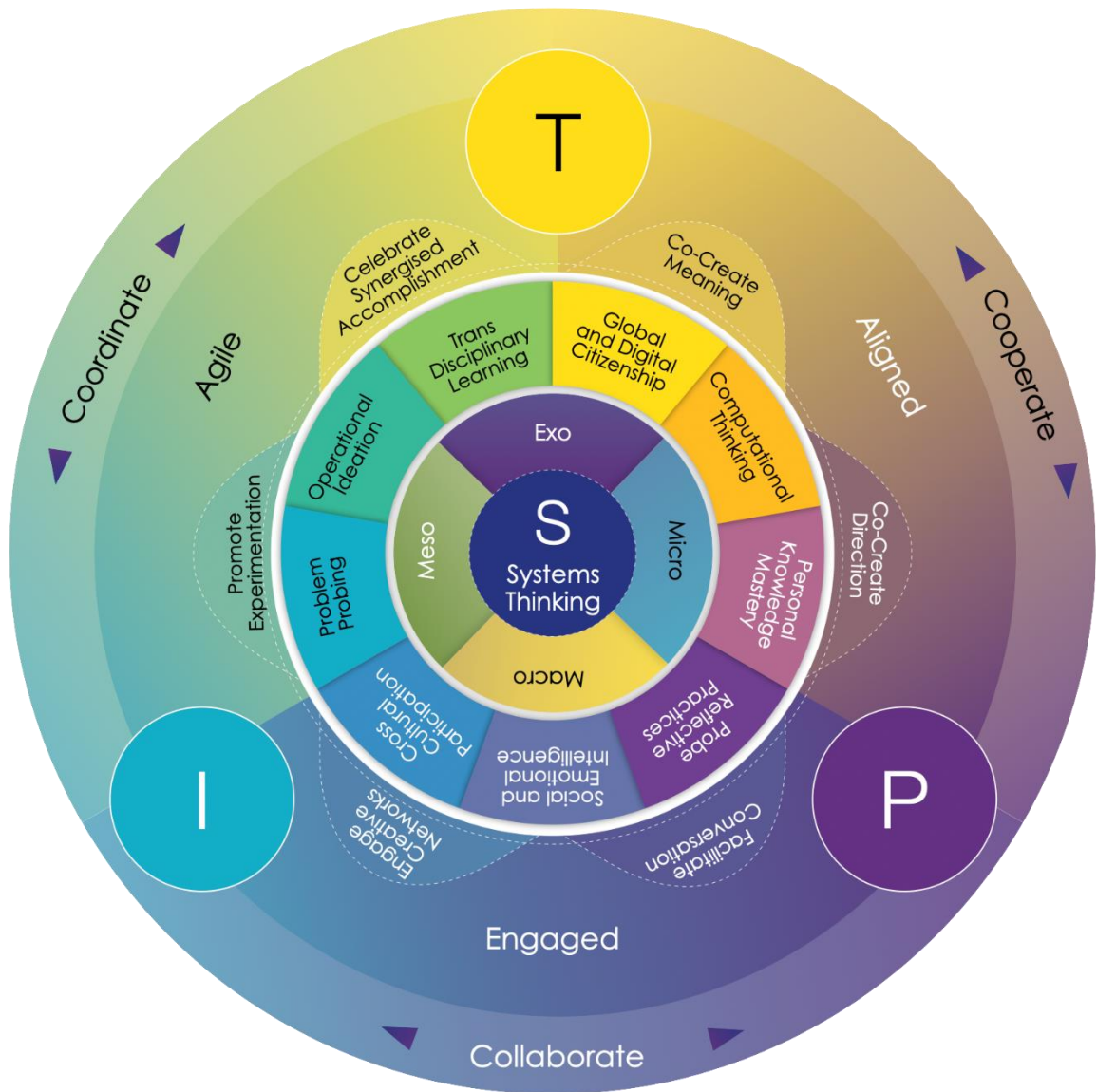# Appendix I: TIPS Managerial Leadership Framework

Figure A 1: TIPS Managerial Leadership Framework (Source: Da Vinci, 2020)
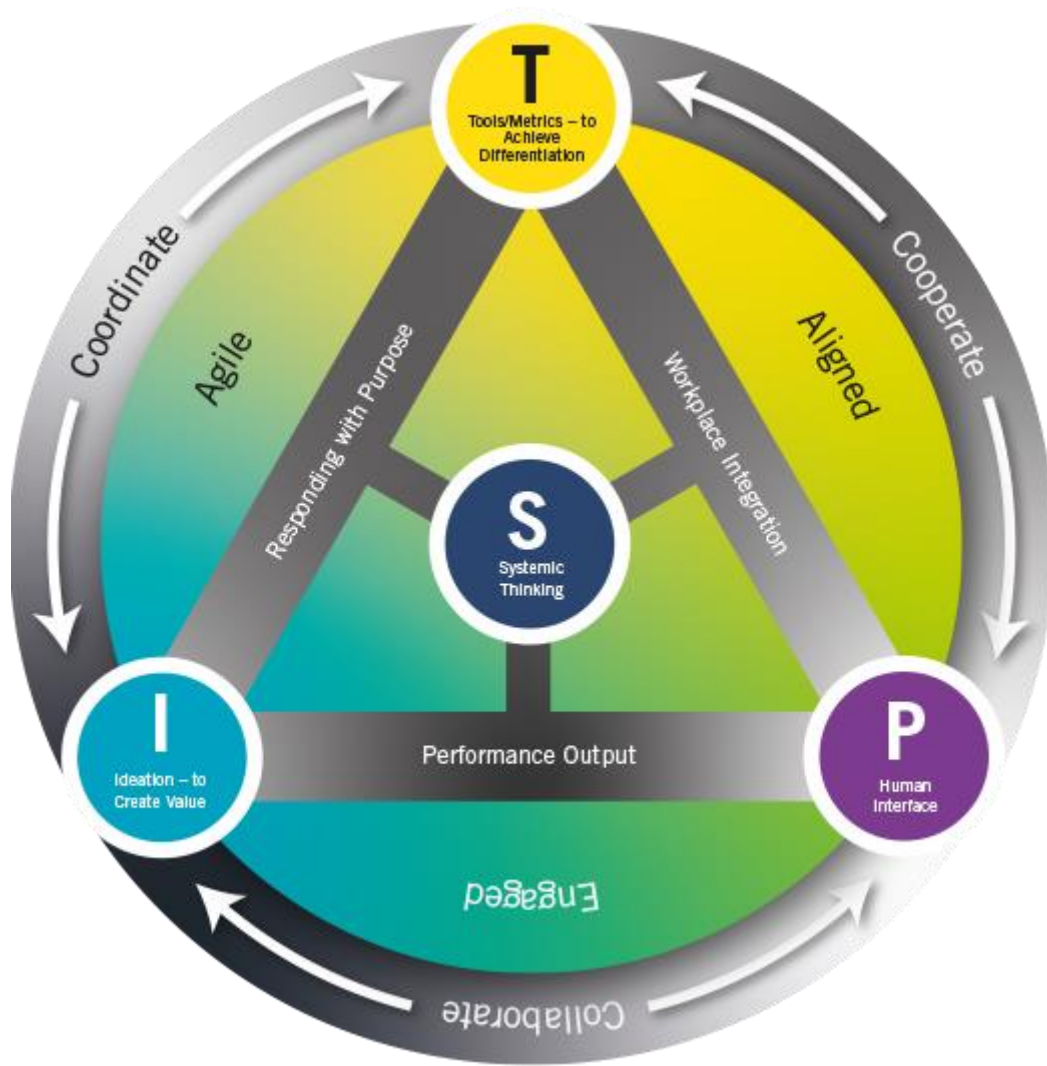
Figure A 2: Core Elements of the TIPS Managerial Leadership Framework (Source: Da Vinci, 2021)