

**EVALUATION OF E-LEARNING POLICY, PROCESSES AND PRACTICES IN A
CORPORATE ENVIRONMENT**

by

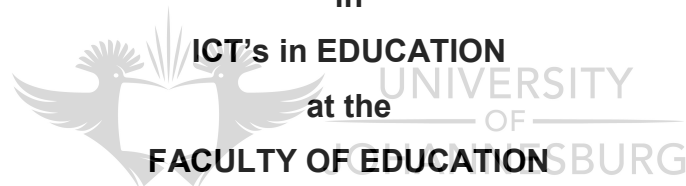
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requirements for the degree**

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DECLARATION

I, Venola Singh, declare that this research report is my own, unaided work, except as indicated in the acknowledgments, the text and the references. This dissertation is being submitted in fulfilment of the requirements for the degree Magister Educationis in Higher Education at the Faculty of Education at the University of Johannesburg. It has not been submitted before, in whole or in part, for any degree or examination at any other institution.

Signed on this 15th day of September 2011

.....

Venola Singh



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Last, I am ever grateful to the Lord Almighty for the wisdom and stamina to persevere.

ABSTRACT

Information and communications technology (ICT) has an impact on every aspect of our lives. Using ICT has required the development of new knowledge and skills, which also has an impact on facilitators and learners who need many new skills to learn, work and adapt to the ever-changing world. Therefore, successful technology integration into teaching and learning requires learners to have access to an appropriate range of tools and the abilities to analyse, synthesise and present information. Hence, technology integration should be an essential part of an organisation's learning culture. While ICT has been part of education for over 10 years, its use in teaching and learning, both in educational and corporate environments, often perpetuates instructivist models of education, rather than supporting social tool-mediated knowledge construction. The purpose of this research was to gain an understanding of learning technologies as a tool to design, develop and deliver learning interventions within a corporate environment. The study makes use of an acquisition-participation-contribution framework, which is part of cultural historical activity theory, in order to determine how the Training Department at Discovery has designed and delivered learning and to evaluate learner expectations. This case study made use of quantitative and qualitative research methodologies. The first phase involved the analysis of the organisation's documents and reports on the strategies deployed within the company. During this phase, the organisation's annual report, learning strategies, learning technologies strategy and the annual training report were reviewed and analysed. In the second phase of data collection, questionnaires were conducted on 82 participants, who included learners, facilitators and training managers from all business entities within the company. The first part of the questionnaire asked demographical information and the second part was made up of 27 statements relating to the acquisition, participant and contribution framework. These data were analysed statistically to determine how participants rated the importance of each statement in its current state and how they would like to experience it in the future. The last phase of the data collection involved three focus group sessions. Participants in the focus group sessions were from the head office in Johannesburg and a branch in Cape Town. The questions asked in the focus group sessions were designed with the aim of getting a better understanding of the differences in learning expectations of both the Training Department and learners.

These data were analysed deductively against the acquisition, participant and contribution framework. Results from both the qualitative and quantitative investigations found differences in what learners want and what the Training Department actually delivered. The results from the questionnaire and focus groups clearly indicated that learners want to experience learning interventions that are social and collaborative in nature. They want to be able to contribute to the learning process. However, the Training Department designed and delivered learning interventions that focused on the distribution and acquisition of knowledge. These results suggest that in corporate environments, the department responsible for the professional development of employees needs to understand the needs of staff better and that learning is not the consumption of information, but is concerned with knowledge production to support individual and collective transformation.



LIST OF ACRONYMS

ADDIE – Analysis, design, development, implementations and evaluation

ADKAR – Awareness, desire, knowledge, ability and reinforcement

CoP – Community of practice

HR – Human resources

ICT – Information and communications technology

LMS – Learning management system

SCORM – Sharable Content Object Reference Model



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CHAPTER 1: INTRODUCTION TO THE RESEARCH STUDY

1.1 INTRODUCTION

In today's competitive business environment, the workforce is seen as the organisation's greatest asset. For this reason, business leaders depend on their organisations' training departments to provide the workforce with development opportunities that will deliver real value. Thus, learning departments should be designing learning experiences that will create an environment for learners to collaborate and contribute to the learning process. While many learning departments design learning interventions that place emphasis on the distribution and consumption of facts, true value-add can be generated from a learning experience that allows the learners to apply the knowledge that has been gained. The purpose of this research is to investigate the level at which learning interventions are created within a single corporate organisation and also to examine the role that learning technologies play.

Information and communications technology (ICT) is rapidly changing the ways in which we do things. It has permeated almost every aspect of our society and has provided useful tools for communications, calculations, entertainment, design and information gathering. New technologies and concepts are introduced daily and new ways of using technologies for teaching and learning are constantly unveiled. Using ICT has required new knowledge and skills: the facilitators and learners of today need many new skills to learn, work and adapt to the ever-changing world. Successful technology integration is marked by learners having access to an appropriate range of tools and being able to select and use them to help obtain information in a timely manner, to analyse and synthesise information and to present it professionally in solving a problem; hence, technology integration should be an integral part of an organisation's learning culture. This includes the design and development of learning curricula that include learning technologies.

Rogoff (1994) believes that technology can act as a catalyst, influencing change from a traditional classroom to an environment of a community of learners. A constructivist approach can be an effective way to integrate technology successfully into the learning environment (Hill, 1997). Such an environment provides facilities for

learners to learn by doing, to work with others and to have authentic experiences that make learning motivating and relevant. Social constructivism suggests that learners learn concepts or construct meaning about ideas through their interaction with others, with their world and through interpretations of that world, by actively constructing meaning (Krajcik, Czerniak & Berger, 1999). They cannot do this by passively absorbing knowledge imparted by a facilitator. Learners relate new knowledge to their previous knowledge and experience. One of the researchers who referred to social constructivism theory in education is Vygotsky (1986). He stated that learners construct knowledge or understanding as a result of active learning, thinking and doing in social contexts.

Research has found that there is a very strong connection between appropriate facilitator use of technology and increased learner achievement (Valdez, McNabb, Foertsch, Anderson, Hawkes & Raack, 2000). While technology integration is often concerned with learning environments, the focus remains on integrating technology into training practices, learning experiences and the learning curriculum. Integration includes a sense of completeness or wholeness and incorporates the need to overcome artificial separations by bringing together all essential elements in the teaching and learning process, including technology as one of the elements, but not the sole element (Earle, 2002).

Technology could provide the cognitive tools for learners as they make sense of the information gathered – allowing experts, facilitators and learners to communicate their thoughts on and interests in the subject matter and to simulate real-life situations and problems. Many studies have been conducted to evaluate the effectiveness of facilitators' integration of ICT into learning environments (Van Braak, 2001; Wetzel, 2001). Although these approaches have been successful, they lack exemplary use of ICT for instruction and learning (Jaber & Moore, 1999). There is a need to explore how facilitators engage learners in meaningful and beneficial learning and in what instances the computer is seen as a part of everyday learning activity (Dias, 1999).

While successful integration of technology into learning environments depends on many factors, cultural historical activity theory (CHAT or activity theory) can be used

as a framework to study the integration of technology into organisational learning interventions. This research explores how learning activities in technology-mediated learning curricula must be understood in the context of larger socio-cultural issues. This chapter provides an overview of the cultural historical activity theory and how it can be used to study the effectiveness of technology integration. A brief review of Stetsenko's (2008) transformative stance on learning is provided, while the final section of the chapter summarises the research and outlines the dissertation.

1.2 AN OVERVIEW OF VYGOTSKY'S CULTURAL HISTORICAL ACTIVITY THEORY

Lev Vygotsky is a prominent figure in Russian psychology. He is considered one of the greatest psychologists of the 20th Century (Toulmin, 1978). Vygotsky's career in psychology started in 1924 and he died of tuberculosis only 10 years later at the age of 37. During his career, Vygotsky undertook one of the most ambitious projects in the history of psychology. The most fundamental issue for Vygotsky was the relationship between the mind, on the one hand, and culture and society, on the other. He believed that the notion of culture should not be limited to a set of external factors influencing the human mind. Vygotsky maintained that culture and society are not external factors influencing the mind but, rather, are generative forces directly involved in the very production of mind. It was critically important, according to Vygotsky, that this fundamental idea be assimilated by psychology (Vygotsky, 1978).

At the same time, Vygotsky rejected a straightforward view of culture and society as directly determining or shaping the human mind. Vygotsky argued that the only way to reveal the impact of culture on the mind was to follow developmental, historical transformations of mental phenomena in the social and cultural context (Vygotsky, 1978).

The idea of a non-straightforward, dialectical cultural determination of mind was elaborated by Vygotsky into a set of principles, concepts and research methods (Vygotsky, 1986). He contributed to the advancement of a research methodology suitable for developmental research by introducing the notions of molar units of analysis and the formative experiment. One of his greatest contributions to human educational development was cultural historical activity theory.

Activity theory is a socio-cultural, socio-historical lens which can be used to analyse human activity systems. It focuses on the interaction of human activity and consciousness within its relevant environmental context (Leont'ev, 1981; Vygotsky, 1978). Human activities are driven by certain needs, where people wish to achieve certain purposes. The activity is mediated by one or more instruments or tools. The basic principles of activity theory are object orientedness, internalisation/externalisation, mediation, hierarchical structure and development. The most immediate benefit of activity theory is in providing a triangular template for describing these relationships and looking for points of tension as new goals, tools or organisational changes create stress within the current roles, rules and artefacts (Engeström, 1987).

An activity always contains various artefacts, namely, instruments, signs, procedures, machines, materials and rules. Artefacts play a mediating role, as relations between elements of an activity are not directed, but mediated. Artefacts are created and transformed during the development of the activity itself and carry with them a particular culture. Objects, as cultural entities, are the prime unit of analysis within an activity system (Engeström, 2001). The relationship between a subject and an object of activity is mediated by a tool. A tool can be anything used in the learning process, including both material tools and tools for thinking (Engeström, 1987). The relationship between subject and the community is mediated by rules; the relationship between object and community is mediated by the division of labour, which indicates how the activity is distributed among the members of the community. Rules cover both implicit and explicit norms, conventions and social relations within a community, as related to the transformation process of the object into an outcome (Engeström, 1987). The basic structure of an activity can be illustrated as in Figure 1.1.

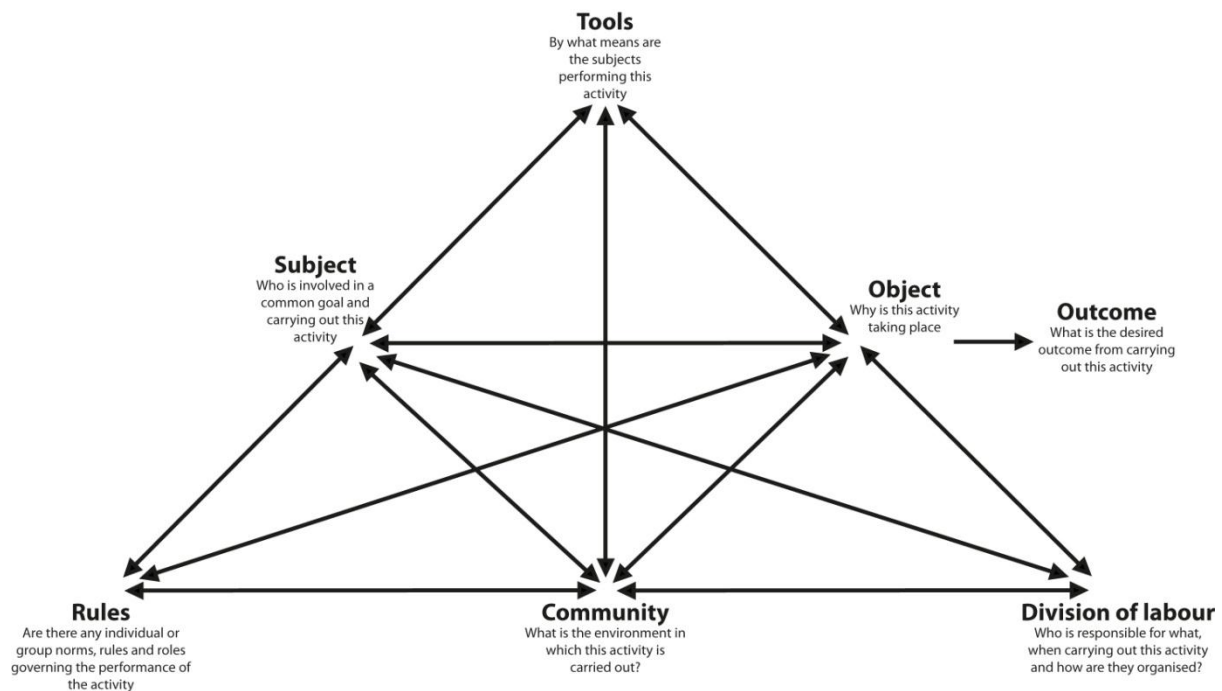


Figure 1.1: Activity Theory - Adapted from Engeström (1987)

CHAT can be a useful tool for learning designers when creating a learning intervention. The level at which learning interventions are designed determines the real value of the learning outcome. Therefore, designers need to ensure that learning experiences provide learners with an opportunity to collaborate with each other and contribute to the learning process.

1.3 STETSENKO'S TRANSFORMATIVE STANCE ON LEARNING

Stetsenko (2008) supported Vygotsky's CHAT and believed that tools and objects used within the activity system must encourage collaboration and socialisation among the subjects in order for effective learning to take place. She claimed that in order for an individual's learning and development to be successful, it must take a transformative stance. This stance comprises three levels of learning: acquisition, participation and contribution. She added that learning is not about acquisition or participation, but rather about contribution to collaborative practices among learners which simultaneously transform them and their society. She designed a framework to evaluate the levels of learning by using several dimensions (Table 1.1). These dimensions include the key definitions of learning; keywords used to describe the learning intervention; what the intervention stresses; the role of the facilitator; the nature of knowing; the timeline used to engage learners in the learning process; who

has developed through the learning process; and the key goals of the learning intervention.



Table 1.1: Transformative Stance on Learning - Adapted from Stetsenko (2008)

	Acquisition	Participation	Contribution
Key definition of learning	Information processing; obtaining knowledge; individual process “in the head”	Participation, i.e. becoming a member of community; the permanence of having gives way to the constant flux of doing	Contributing the collaborative practices of humanity: continuing, while simultaneously transforming them
Keywords	Knowledge, concepts, meaning, fact, content; acquisition, internalization, transmission, attainment, accumulation	Apprenticeship, situatedness, contextuality, cultural embeddedness, discourse, communication, social constructivism, cooperation	Contribution, transformation, history as collaborative practices, cultural tools; vision and directionality; activism and commitment
Stress on	The individual mind and what goes into it; test and control of acquisition outcomes	The evolving bonds between the individual and others; the dialectic nature of learning interaction: The whole and the parts affect and inform each other	Dialectics of continuity and transformation, tradition and innovation; Knowledge for and as action; learning-for-change
Ideal	Individualized learning	Mutuality and community building	Contribution through self-development and community development
Role of teacher	Delivery, conveying, inculcating, clarifying Having, possessing facts and skills	Facilitator, mentor; Expert participant, preserver of practice/discourse	Activist open to collaboration and dialogue; agent of a collaborative change
Nature of knowing	Carrying out past experiences into the present; future is irrelevant	Belonging, participating, communication	Collaboratively transforming the past in view of present conditions and future goals
Time line	No agency for social change	Focus on the presently evolving patterns of participation; the past is irrelevant and no future	Interface of the past, the present, and the future; the past and present are known through positioning vis-à-vis the future
Agency	Individual learner	Collaborative agency	Co-evolving individual and collaborative agency
Who develops?	In the head	Community	Learners-through-humanity and humanity-through-learners
Where is mind	Knowledge of facts and skills	In patterns of participation	In continuous flow of transformative action
Key goals of learning		Ability to communicate in the language of community and act according to its norms	Knowing the past in order to be able to transform it; emphasis on the vision for the future from which the past can be known

At an acquisition level of learning, the focus of the learning intervention is placed on only the information processing from a knowledgeable person – often a facilitator to the learners. It stresses the learner’s mind and what goes into it. Therefore, the end result is learning for the individual and it focuses on bringing past learning experiences into the present: the future is irrelevant. At the participation level of learning, the focus of the learning intervention is placed on participation and becoming a member of the community. The role of a facilitator is that of a mentor or expert participant. The end result of learning is thus mutuality and community-building and it focuses on the presently evolving patterns of participation: the past is irrelevant and there is no future. At the contribution level of learning, the focus of the learning intervention is placed on contributing to collaborative practices of humanity, while simultaneously transforming them. The role of the facilitator is that of an activist who is open to collaboration and dialogue and is an agent of collaborative change. The end result of learning is contribution through self-development and community development. The focus is on interfacing the past, present and future.

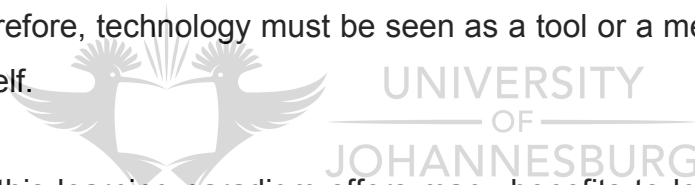
Taking the above framework into consideration, Stetsenko (2008) further claimed that the transformative stance of learning is in sync with the growing demands that globalisation imposes on education and other practices of social life. She expanded by saying that although learning takes place on all three levels, learning and development practitioners must strive to design learning interventions that promote learning at a contribution level. The successful integration of learning technologies can assist in achieving the goals of learning at a level of contribution and collaboration among learners and facilitators.

1.4 THE IMPACT OF TECHNOLOGY INTEGRATION FOR SUCCESSFUL E-LEARNING

Over the years, ICTs have successfully become part of the learning environment: so much so that the term e-learning spells survival for many learners. Horton (2006) defined e-learning as the use of information and computer technologies to create learning experiences. Allen (2006) added that e-learning is the delivery of carefully

constructed instructional events through computing technologies. E-learning offers new opportunities to both facilitators and learners, as it enriches the learning experience through tools and resources. It supports not only the delivery but also the exploration and application of information and the promotion of new knowledge. The benefits of e-learning are detailed in Chapter 2.

Bransford, Brown and Cocking (2000) listed five ways in which new technologies can be used within a learning environment: bringing exciting curricula into the classroom based on real-world problems; providing scaffolds and tools to enhance learning; giving learners and facilitators more opportunities for feedback, reflection and revision; building local and global communities; and expanding opportunities for learning. Each of these poses an opportunity for technology integration, and successful integration will see growth in both technology skills and content knowledge. Improving a learning curriculum with the integration of technology can help change the paradigm of existing learning environments. Therefore, technology must be seen as a tool or a means to an end goal and not the end itself.



Such a change in this learning paradigm offers many benefits to learners. Technology provides opportunities for learners to confront problems and make decisions in an imaginary environment that is realistic enough to provide meaningful issues and appropriate consequences (Knapp & Glenn, 1996). Although technology is not a solution for education reform, it can act as a significant catalyst for change. Technology can also be a powerful tool to support collaborative learning environments. There is ample evidence that technology integration in learning curricula has facilitated the acquisition of higher-order thinking skills among learners (Lim & Hang, 2003).

In today's world, where technology is often used as a change agent to transform learning practices, the integration of such learning technologies into learning curricula is often driven by individual and institutional ideologies (Amory, 2007). Instead, learning technologies that promote individual transformation must be designed to support collaborative social problem-solving activities. Hence, interactive learning interventions

must be aligned with constructivist learning theories. Therefore, CHAT is useful not only as a tool to design learning, but also as a heuristic to evaluate learning activities (Amory, 2007).

There are many benefits to using activity theory for studying the effectiveness of technology integration in learning curricula. First, activity theory provides a framework to study the impact of technology integration (Hill, 1997). It enables us to have a much richer understanding of the interaction among facilitators, context, learners and their environment when facilitators make changes to training methods and begin to adopt new technologies and resources in their training practices. Second, activity theory provides a holistic method for explaining technology integration (Knapp & Glenn, 1996). Third, activity theory allows us to conceptualise the complexities of the research context in terms of the characteristics of the technology integration activities, the factors that affect change and the interactions among factors that allow us to study the social, cultural and historical characteristics of the target population (Jonassen & Rohrer-Murphy, 1999). The environment in which the target population operates includes the community, rules and division of labour. Fourth, activity theory also allows us to identify the goals of the target population that we are trying to study (Hill, 1997). It requires us to understand the character and history of the subject, the object (outcome) that the subject is aiming to achieve, the characteristics of the surrounding community and the tool/technology integration available to the subject. Activity theory allows us to explore the interaction of human activity and the mental models of the individuals as they interact with the relevant learning environment (Jonassen & Rohrer-Murphy, 1999).

1.5 SUMMARY

One of the biggest challenges that remains in e-learning is the ability to determine the level of technology integration and the way it is used to mediate content. It is not technology itself that has resulted in improved learner outcomes, but rather how the technology has been used and integrated into instructional processes (Bernauer, 1995). It is not what technology can do by itself, but what facilitators and learners may be able to accomplish using these tools. The use of learning technologies must be seen as an

ongoing, innovative process that is designed to meet instructional and learning needs (Robey, 1992).

Therefore, this research was undertaken with the purpose of being used as a starting point for both technologists and learning practitioners at corporate organisations. It explains the complexity of evaluating and integrating technology into learning interventions and how CHAT and Stetsenko's framework can be applied to this task. The aim is to get learning departments within organisations to use tool-mediated learning in order to reveal better technological tools and requirements for learning processes in various organisational environments, based on different rules and regulations; to estimate the level of technology integration in current learning scenarios and discover potential weaknesses; and to determine how current tools can be changed, so that they can improve the level of interaction between learners and facilitators, following social specificities of diverse learning environments.

In this chapter, an overview of activity theory and Stetsenko's transformative stance on learning is provided. An introduction on e-learning is given, followed by the importance of successful technology integration and the benefits that CHAT can provide as a heuristic.

Chapter 2 provides a detailed explanation of the knowledge worker, the benefits of e-learning and the various types of learning technologies available. Chapter 3 details the research methodology used and provides a deeper understanding of Stetsenko's transformative learning framework. Chapter 4 explores the case study in more detail, followed by the research findings in Chapter 5. The recommendations based on this research finding are documented in Chapter 6.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

Hamel and Prahalad (1994) and Knight and Pye (2005) stated that corporate organisations operate in rapidly changing and aggressive environments that are constantly under pressure to survive the threats of challenging competitors. Thus, organisations must redefine their future objectives according to varying conditions in order to alter the way they operate in an attempt to become more agile and adaptive (Terblanche, 1999). Wren (1994) suggested that for an organisation to achieve its organisational objectives, it must seek to derive optimum advantage from the knowledge possessed by all available resources. This creates an opportunity for learning and knowledge management to become part of the organisation's management approach.

According to O'Keefe (2002), creating opportunities of learning and knowledge-sharing for its workforce is the only way an organisation can survive. Dixon (1997) further added that an organisation's sustainable competitive advantage is its ability to afford its employees an environment to learn faster than its competitors. For this reason, organisations have to relook at the learning opportunities and approaches that they offer their employees. Brown and Gray (2004) and Casey (2005) stated that initiatives for managing the knowledge distribution within an organisation have to become an imperative consideration for employee learning. Dodgson (1991) postulated that technology can play a major role in creating learning opportunities and the distribution of knowledge within a learning organisation. However, much consideration must be given to the selection and purchase of such technologies, as well as the designing of learning curricula using such technologies, in order to ensure success.

The aim of this chapter is to explore how employees learn within an organisation and the role of learning technology for 21st Century companies. This section will first examine the role of cultural historical activity theory and expansive learning within a learning organisation. The terms "knowledge economy", "knowledge worker" and

“learning organisations” are explained. A high-level explanation of CHAT is provided. In addition, this chapter also explores the role of technology in changing the culture of learning within an organisation, aligned with CHAT.

2.2 THE ROLE OF ACTIVITY THEORY AND EXPANSIVE LEARNING WITHIN A LEARNING ORGANISATION

Miller (1996) defined a learning organisation as an organisation where employees, either as individuals or groups, are able to apply the knowledge that they have acquired to a decision-making process or to influence other employees within the organisation.

A learning organisation is a social experience. Figueiredo (2003) emphasised that within a learning organisation, each individual's learning depends upon the knowledge that other members of the organisation possess. Communication and learning are facilitated through social interaction of the organisation's workforce. The context in which the social interaction takes place defines the meaning, the understanding and the learning. Individual and team learning are the different levels of learning that exist within a learning organisation. Kogut and Zander (1996) stressed that learning within the organisation is more powerful than trying to train individuals. Saint-Onge and Armstrong (2004) supported this by emphasising that employees need environments within an organisation to share and learn in groups. Thus, encouraging collaboration among learners ensures contribution to the learning process. According to Engeström (1995) and Engeström and Kerosuo (2007), Vygotsky's CHAT, which was briefly explained in Chapter 1, embraces the idea of a learning organisation that expands the unit of analysis of learning beyond the individual to groups of learners within the organisation. CHAT strongly supports pedagogical actions to facilitate and change learning within an organisation.

Concepts such as “networks of learning” (Powell, Koput & Smith-Doerr, 1996) and “network learning” (Knight & Pye, 2005) were derived as a result of a shift in the learning culture within an organisation. This shift saw learning moving away from single organisations or organisational units towards learning in multi-organisational or inter-

organisational networks. The CHAT framework supports this shift in the way in which learning takes place in the world of work and organisations. Engeström (1996) argued that the expansion of the unit of analysis from a single activity system to two or more interconnected activity systems is characterised by the term “third-generation activity theory”. An object is the fundamental basis on which CHAT is built and is thus of crucial importance (Leont'ev, 1978). Hence, one can conclude that there is no activity without an object, as discussed in Chapter 1.

Used in various studies since the late 1980s and embedded within the framework of CHAT, a theory of expansive learning (Engeström, 1987, 2001) has been introduced. The theory of expansive learning elaborates upon the idea that learning takes place as a longitudinal process. In such a process, learners within an activity system take particular learning actions and examine the inner contradictions of their activity. Thereafter, they construct and execute a new model for their activity which expands its object. By doing so, learners open up new possibilities for action and development.

Theories of learning see knowledge, skills and changed patterns of behaviour as the outcomes of learning. However, in expansive learning, expanded objects and new collective work practices are the outcomes (Engeström & Kerosuo, 2007). Fuller and Unwin (2004) identified expansive learning environments within an organisation as having the following characteristics: the organisation must encourage employee participation in multiple learning communities that are both internal and external to the workplace. They must encourage diverse learning in terms of tasks, knowledge and location of the development experience and support employees' efforts to acquire formal qualifications. The organisation must allow employees time off from work for reflection or to access other learning opportunities – thus promoting learning as a driver for employees' career advancement and for building organisational capability. They must create employee development initiatives that provide opportunities for boundary crossing. The organisation must become a workplace where technical skills are valued and must create a concrete workplace curriculum that is easily accessible by

employees. Organisational acknowledgement and support for employees as learners must exist.

It could be argued that for businesses to excel, organisations would have to create environments that embrace expansive learning in order to operate successfully within a knowledge economy (Wikstrom & Normann, 1994), which is explored in the next section.

2.3 BUSINESSES OPERATING WITHIN THE KNOWLEDGE ECONOMY

Over the past 200 years, traditional economists have recognised that only two factors of production have existed, namely, labour and capital. Knowledge, productivity, education and intellectual capital were all regarded as external factors that fell outside of this system of production. However, such traditional economic models did not address issues of long-term growth. The new growth theory, which is based on work by economist Paul Romer, attempted to address the causes of long-term growth. Continuing with the work started by economists such as Joseph Schumpeter and Robert Solow, Romer proposed a change to the traditional economist model by seeing technology, and the knowledge on which it is based, as a fundamental part of the economic system. Romer (1986, 1990) stressed that knowledge has become the third factor of production in leading economies.

Fuller and Unwin (2004) postulated that new and improved technologies and markets are constantly emerging. It is argued that the rising of new competitors could generate great, new opportunities. Baldwin and Danielson (2002) further added that the success of global economy businesses depends on how well companies take advantage of their most valuable assets: these being knowledge, skills and innovation of their workforce. These are the key elements for producing high-value products, services and advanced business practices. According to Blair (1998), knowledge, skills and innovation are at the heart of the modern, knowledge-driven economy. Blair further emphasised that this new economy challenges organisations to be pioneering and innovative, to improve performance continually and to build new alliances and create joint ventures. Corporate

organisations should thus make knowledge management and skills development a key component of their business strategy.

The United Kingdom Department of Trade and Industry (1998) defined a knowledge-driven economy as one in which the generation, development and use of knowledge play the primary role in the creation of wealth. Often, people associate the knowledge economy with high-technology industries such as telecommunications and mobility.

In a world where knowledge work is becoming ever-present, it is of vital importance to create and develop a workforce of employees with the skills, innovation and inspiration to rise above and meet the demands of the new global economic climate. Brown, Hesketh and Williams (2004) postulated that the economic success of a business is directly related to the essential skills held by its workforce. According to Reich (1991), businesses in the new knowledge economy have moved away from high work volume to high-value work, where emphasis is on the quality of the output. Thus, Drucker (1993) claimed that organisations operating in a knowledge economy require knowledge workers. For this reason, corporate organisations must ensure that much effort is put into creating an environment and providing tools to allow employees to share learning experiences.

2.4 THE ROLE OF THE KNOWLEDGE WORKER WITHIN THE KNOWLEDGE ECONOMY

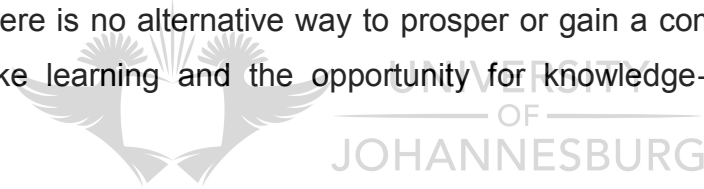
Leen and Melnikas (2005) indicated that a knowledge economy is driven by a knowledge worker. Drucker (1993, 1999) defined a knowledge worker as one who works primarily with information or one who develops and uses knowledge in the workplace. A knowledge worker is also able to supply and manage his/her own knowledge to find out how existing knowledge can best be applied in order to produce optimal results for the benefit of the organisation.

Foray and Lundvall (1996) defined knowledge workers as “symbolic analysts”: workers who control and work with symbols rather than equipment. They claim that a knowledge

worker's benefit to a company could be in the form of increasing the intellectual capital value of the business and gaining greater and improved insight into customer preferences. This results in significant gains in knowledge which assist the business from a competitive point of view. Knowledge workers exist across various industries and include architects, financial workers, analysts, teachers and computer engineers. Haag, Cummings, McCubbrey, Pinsonneault and Donovan (2006) claimed that in highly developed economies, such as the United States, more than 60 per cent of their current workforce are knowledge workers.

2.4.1 Knowledge as a characteristic of a knowledge worker

Cohen (1971) defined knowledge as the result of learning. Knowledge is a result of the internalisation of data into information and experience. Thus, knowledge gained through experience is just as important as formal learning (Cameron, 1996). Barro and Xavier (1995) emphasised that the implication of businesses operating within a knowledge economy is that there is no alternative way to prosper or gain a competitive advantage other than to make learning and the opportunity for knowledge-sharing of primary importance.



There are two types of knowledge: tacit and explicit knowledge. Cohen (1971) differentiated between the two, where tacit knowledge is knowledge obtained from experience. Therefore, it is seen as the personal knowledge that exists within the individual's mind, behaviour and perceptions. Explicit knowledge, on the other hand, is the formal, recorded knowledge gained through education and teaching. Kahin and Foray (2006) claimed that in a knowledge-driven economy, tacit knowledge is as important as explicit knowledge.

According to Brown, Hesketh and Williams (2004), an increase in knowledge improves the economic status of individuals, businesses and nations as a whole. Knowledge can further grant a healthier and improved quality of life to those privileged enough to acquire it through education and learning. However, many corporate organisations do

not encourage knowledge-sharing among employees and hence limit the learning process.

2.5 WHAT IS LEARNING?

Learning can be viewed from many different perspectives. Jean Piaget and Lev Vygotsky have contributed towards learning and development by offering explanations for cognitive learning styles and abilities.

According to Piaget, the cognitive development of a human occurs from infant to young adult in four universal and consecutive stages. These stages can be broken down into sensorimotor, preoperational, concrete operations and formal operations (Woolfolk, 2004).

The sensorimotor stage occurs between the ages of zero and two years. During this stage, the child experiences his/her own world through the senses and movement (Marsh, 1996). The second stage of development is the preoperational stage and occurs from the child's second to seventh years. According to Piaget, the child has not yet mastered the ability of mental operations during this stage. The third stage is concrete operations and takes place between the ages of seven and 11 years. Piaget postulated that students at this stage learn best through hands-on discovery learning, while working with tangible objects (Davenport, 1998). The process of reasoning also starts to take shape during this stage. Occurring from 11 years of age to adulthood is formal operations – Piaget's final stage of cognitive development. People who reach this stage are able to think abstractly. Skills such as inductive and deductive reasoning are achieved during this stage.

Lev Vygotsky offered an alternative to Piaget's stages of cognitive development. A major influence in the field of education is Vygotsky's socio-cultural theory of development. Very different from Piaget's theory that states that children act on their environment to learn, this theory states that people learn through social interactions and their culture (Woolfolk, 2004).

Central to Vygotsky's view on how learning takes place is the zone of proximal development (Vygotsky, 1978). He described this zone as “the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (Vygotsky, 1978: 86). Vygotsky claimed that learning occurs just above the learner's current level of competence (Leong & Bodrova, 2001). This implies that the copying learner will achieve higher performance when working with a more competent learner.

The zone of proximal development works in conjunction with the use of scaffolding. Feden and Vogel (2006) described scaffolding as a six-step approach to assist learning and development of individuals within their zone of proximal development. Skills, knowledge and previous experiences create the foundation of scaffolding for potential development. When students interact with adults or peers, they are able to accomplish a task which they could not have possibly achieved on their own. Vygotsky (1978) postulated that the use of language and shared experience is necessary for successfully implementing scaffolding as a learning tool.

Moll (1990) showed that for Piaget learning is a result of both mental and physical maturity, together with experience. Piaget believed that development precedes learning. In contrast, Vygotsky claimed that learning processes lead development (Moll, 1990). Vygotsky was of the belief that “learning is a necessary and universal aspect of the process of developing culturally organised, specifically human, psychological functions” (Vygotsky, 1978: 90). This implies that learning leads to the development of higher-order thinking.

Both Piaget and Vygotsky believed that learning occurs in both formal and informal environments. Cross (2007) defined formal learning as knowledge that is captured and shared by people other than the owner of that knowledge. Formal learning often requires prerequisites, pre- and post-assessments and examinations and it sometimes

results in a certification or formal qualification. It is often presented by an instructor in a prepared learning environment, where outcomes and learner attendance are tracked.

On the other hand, informal learning, as explained by Cross (2007), occurs when knowledge has not been externalised or captured and exists only inside the head of an individual. In order to get to that knowledge, one is required to talk to the person possessing the knowledge. Informal learning takes place in unprepared learning environments and can include instant messaging; a spontaneous meeting on the Internet; a telephone call to someone who has the needed information; a sales meeting introducing a new product; a chatroom in real time; a coincidental meeting by the water cooler; a scheduled web-based meeting with a real-time agenda; an expert walking someone through a process; or a meeting with a mentor or manager.

According to Dierkes, Berthoin Antal, Child and Nonaka (2001), business professionals are constantly learning, in both formal and informal settings. However, many organisations do not create environments that support both formal and informal learning. Lucas (2001) defined learning within an organisation as an essential process to acquire knowledge or skills in order to improve the workforce's capability to perform business or professional activities. Graham (1996) claimed that an end result of organisational learning is an employee's ability to help improve the business' bottom line. Slocum, McGill and Lei (1999) postulated that learning helps an individual or group work better, faster, more efficiently or smarter.

Marsick and Watkins (1996) believed that enterprises should encourage continual learning, as it facilitates the company's ability to adapt to new situations and take advantage of new business opportunities. Such learning will occur in both formal and informal environments. Jacob (1995) claimed that continual learning within an organisation will allow employees to increase their productivity and efficiency.

Rossett (2001) postulated that information technology has accelerated the process of continual learning and made it more successful in this digital age. Rosenberg (2006)

supported this by emphasising that technologies can be viewed as the enablers of change in a learning organisation. Technologies, such as the Internet and email, can connect people irrespective of their geographic location, making learning and knowledge sharing more achievable. Technologies are best regarded as the facilitators of knowledge creation in innovative societies (OECD, 1996). Rossett (2001) stated that the new economy looks at technology not as a driver of change, but as a tool for releasing the creative potential and knowledge within people.

Currently, technologies are being used as a vehicle to enable workforce development: the outcome is performance improvement within the organisation (Allan & Lewis, 2006). According to Wenger, McDermott and Snyder (2002), workforce development is commonly associated with the concept of learning communities. Concepts such as learning communities and computer-networked learning are located in socio-cultural theories of learning.

Learning technologies integrate several technologies that support computer-networked learning – giving birth to the concept of e-learning (Hall, 2003). Such technologies include learning management systems, online courseware, online assessment and surveys, virtual classrooms and system simulation tools. In order to enjoy the optimal value and success of such technologies, learning departments must ensure that curricula are carefully crafted. While successful integration of technology into learning environments depends on many factors, CHAT can be used as a framework to design the integration of technology into organisational learning interventions.

2.6 LEARNING TECHNOLOGIES AND CHAT

As discussed in Chapter 1, Lev Vygotsky's cultural historic activity theory is the framework adopted by this research as a way of understanding learning technologies (tool-mediated construction) and the way they are used within corporate organisations to foster and promote learning. Tools mediate interactions through the activity context. They are physical and can include anything from pens and pencils to technological artefacts (Amory, 2006). Objects are another crucial element of the activity system and

play a vital role as they are the prime unit of analysis within the activity system. There is no activity without the object, as it embodies the meaning, the motive and the purpose of a collective activity system (Engeström & Kerosuo, 2007). As described by Engeström (1987), objects are given as raw material to the subjects within the activity system, who must analyse and interpret the meaning of the objects. This view is supported by Stetsenko (2008), who believes that tools and objects used within the activity system must encourage collaboration and socialisation among the subjects in order for effective learning to take place. Through the general law of development which states that “psychological functions emerge out of social, collective activity” (Vygotsky, 2004: 83), Vygotsky placed action at the centre of development. Hence, it is important that the subjects (learners) analyse the objects (content, simulations or assessments) through the use of tools (learning management systems or virtual classroom applications) to collaborate and contribute to the learning and to make it a shared process. The diagram below, Figure 2.1, graphically represents this context.

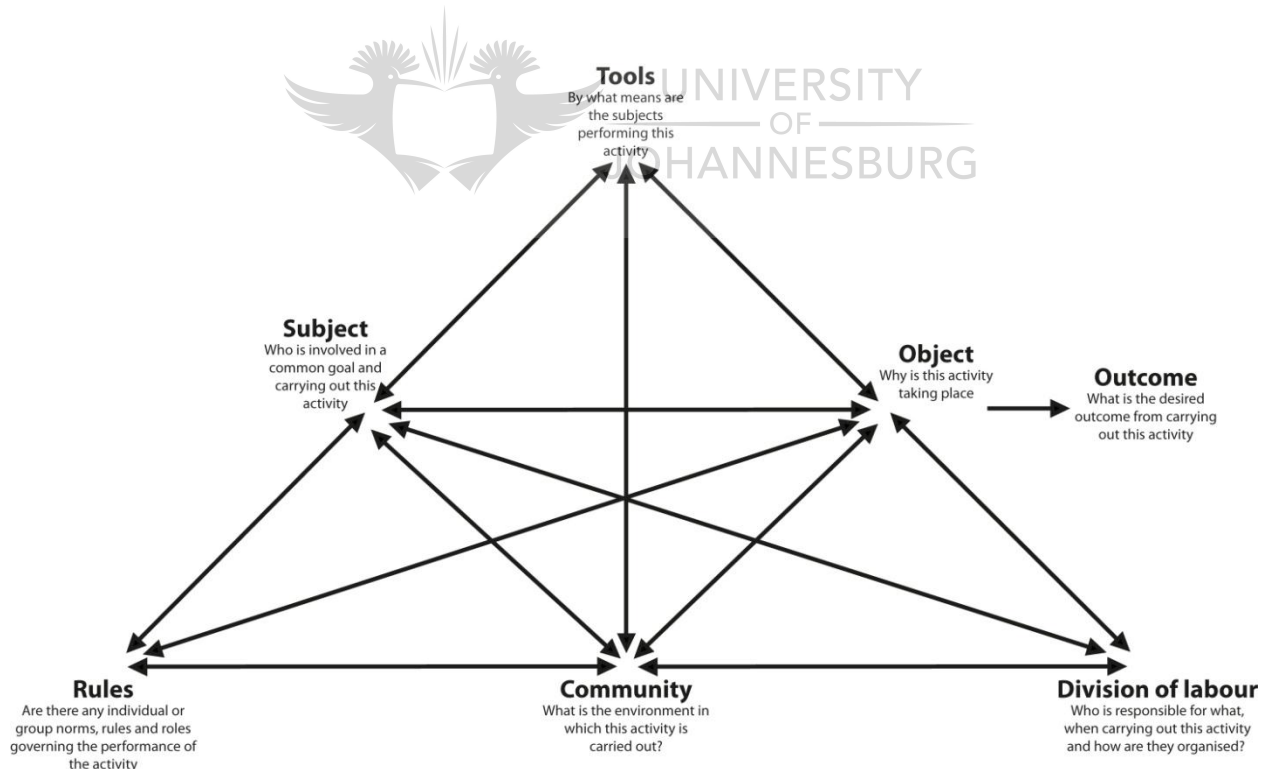


Figure 2.1: Cultural historic activity theory (Adapted from Engeström ,1987)

It is important that when learning solution designers are crafting a learning intervention that they take note of the role that learning technology and content play in nurturing a comprehensive learning practice. Hence, facilitators and learning solution designers must ensure that they use the tools and objects to promote socialisation and collaboration within the activity system to ensure that the subjects contribute to the learning intervention.

Organisations are now combining the use of instructor-led training and technology-driven online courses to provide their learners with a blended learning environment. Amory argued that “the term blended learning approach allows the introduction of technology, or some of the contemporary educational practices, into learning situations that only wish to replicate the past into the future while pretending to embrace change. Blended learning is in reality nothing more than a conservatist’s panacea” (2007: 663). Therefore, it is critical for learning designers to understand the functionalities of all learning technologies completely and how these can be blended into the learning intervention to yield optimal results.



2.7 THE ROLE OF E-LEARNING WITHIN A CORPORATE ORGANISATION

The knowledge age saw the boom of information and communication technology. According to Tight (2002), the concept of lifelong learning associates itself with the fourth generation of learning technologies that are manifest in computer-based training. “Computer based training is now widely recognised as a viable approach for education in institutions of higher learning, as evidenced by a number of institutions that offer courses” (Van der Westhuizen, 1999: 1). Corporate South Africa embarked on a similar course of action. Tight (2002) further added that corporations embrace e-learning as a practicable solution for training their adult learners, as it increases access to and participation in learning. The paragraphs that follow will provide the definition, benefits and challenges of e-learning.

2.7.1 Definition of e-learning

Due to the complexity of the concept, the definition of e-learning has been subject to much debate. Horton (2006) defined e-learning as the use of information and computer technologies to create learning experiences. Allen (2006) added that e-learning is the delivery of carefully constructed instructional events through computing technologies. Such technologies can include the Internet, an organisation's intranet, mobile devices, CDs and DVDs.

E-learning is a relatively new form of training delivery. Minton (2000) claimed that despite its infancy, e-learning is growing in popularity and that training departments within organisations are now beginning to accept it as a credible training option.

A survey conducted by Bersin & Associates (2005) indicated a steady growth in e-learning within corporate organisations (Figure 2.2).

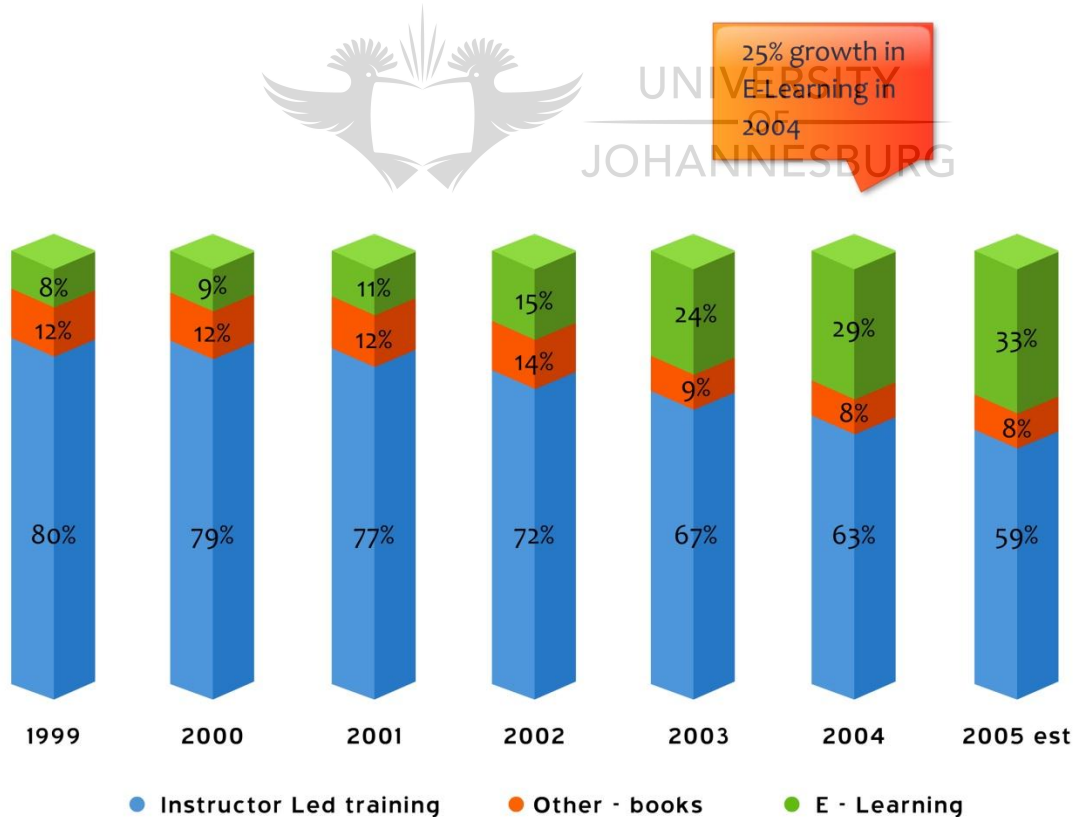


Figure 2.2: E-learning market growth by delivery method (Adapted from Bersin & Associates (2005))

Pantazis (2002) postulated that a critical aim of e-learning is to ensure that technology makes an effective contribution to the development of a skilled workforce. This results in the progress an organisation makes towards economic competitiveness. E-learning can be useful for developing knowledge of any subject matter and for a range of skills. Learners are then expected to put their newly gained knowledge and skills into practice. Despite such growth, e-learning has both advantages and disadvantages.

2.7.2 Benefits of e-learning

According to Minton (2000), implementing an e-learning solution promises substantial benefits for organisations. Research completed by Weaver (2002) has shown that the implementation of e-learning solutions can enhance workers' experience of learning and encourage them to work critically and reflectively for the success and growth of any organisation.

Such benefits include a significant reduction in training time. Allen (2006) claimed that training time can be reduced by up to 40 or 50 per cent. This is partly because the individualised, self-paced approach allows learners to skip material with which they are already familiar and understand and move onto the issues on which they need training. This will result in greater efficiency of a workforce in a shorter period of time. Reduced training time will mean less of an impact on an organisation's production time. E-learning also helps reduce direct training costs. This reduction occurs as there is no need for training facilities such as venues, equipment, refreshments or travel and accommodation costs (Pantazis, 2002).

According to Hall (2003), e-learning offers a more flexible learning opportunity to an organisation's workforce, as learning is available when required and at a time and place that is convenient for the employee. This approach makes just-in-time learning possible for employees who never would have been able to work the traditional training solution into their work schedules.

Rosenburg (2006) postulated that e-learning provides consistent content delivery as it eliminates the problems associated with different instructors teaching slightly different material on the same subject matter. This is critical for company-based product training. Online learning content can be easily and quickly updated. E-learning also offers better support to learners, as some technologies offer collaboration between facilitators and learners (Hartley, 2003).

Horton (2006) and Hall (2003) claimed that e-learning improves learning retention by up to 250 per cent compared to the traditional classroom training. This results in a stronger grasp of the subject matter and the ability to revisit or replay sections of the training that might not have been clear to the learner the first time.

According to Hartley (2003), e-learning offers easier management and better reporting for learning within an organisation. Managers and trainers can keep track of the course offerings and schedule or assign training for employees and track their progress and results. They can review a learner's score and identify any areas that need additional mentoring or coaching. Holmes and Gardner (2006) supported this and further noted that e-learning opportunities should facilitate constructing a learner profile that depicts scoring and progress results, from which areas that require additional mentoring can be identified for development.

Dam (2004) claimed that business goals that are achieved through the implementation of e-learning solutions include expeditious time to market their new products and services. E-learning also makes the integration of a global workforce and the creation of a strong business culture possible. Businesses have achieved improved sales by developing a knowledgeable and effective sales force through e-learning.

While e-learning might offer many benefits to an organisation, there are some disadvantages that must be considered before e-learning can be seen as a training method for learning organisations.

2.7.3 Challenges of e-learning

According to Tahir (2002), one of the biggest challenges of e-learning is the initial investment cost of purchasing technology. Rossett (2001) claimed that while creating the business plan is not much of a challenge, securing executive sponsorship might be. Executives want to be able to see their return on investment. When presenting the business plan to management, it is imperative to illustrate the long-term return on investment. However, other issues could have an impact on the viability of e-learning in organisations.

A fear of technology is still apparent in many employees: especially in those over the age of 40 (Dam, 2004). Sullivan (2002) stated that this should come as no surprise. Many of these employees have always been exposed to the traditional learning methods where a teacher or instructor has been present. The traditional learning approach has been consistent for many individuals throughout their schooling lives and even through university. Such a classroom environment makes learners comfortable, as it is a familiar learning environment. According to Piskurich (2003), employees view traditional classroom training as being warm and personal. They enjoy attending external training as they see this as an opportunity for socialising and gain value from personal discussions with employees from other organisations. On the other hand, they might view e-learning as being cold and impersonal.

Therefore, organisations embarking on an e-learning strategy must ensure that they have proper change management in place. Hall (2003) and Rosenberg (2006) stated that trainers can be seen as the biggest obstacle when implementing an e-learning solution in an organisation. They feel threatened that the new learning approach will eradicate them from the organisation. Piskurich (2003) disagreed with this and suggested that technology will enable trainers to function in the role of a mentor or coach. This has sometimes not been possible when trainers have been involved in traditional classroom training that consumed much of their time.

Allan and Lewis (2006) claimed that bandwidth is sometimes an obstacle to acceptance of e-learning. Learners find it extremely frustrating when the technology runs very slowly or sometimes does not function at all. Piskurich (2003) suggested that this problem could be eliminated if online learning courses were in small bite-sized chunks, rather than lengthy courses that could take hours to complete. The bandwidth issue can be further resolved through the use of distributed content servers if an organisation has geographically distributed offices.

Taking into consideration both the benefits and challenges of e-learning, Piskurich (2003) stressed that e-learning is not an “either or” proposition, but a limitless opportunity to merge the best practices of workplace learning with the flexibility, strength and cost-effectiveness of technology-based delivery. Rosenberg (2006) advised that organisations on the verge of implementing e-learning solutions should consider the critical success factors.

2.8 CRITICAL SUCCESS FACTORS OF E-LEARNING

Dagada and Jakovljevic (2005) defined a few critical success factors for the implementation of a computer-based training strategy in the South African corporate training environment. These include the design and development of an e-learning strategy, executive sponsorship for the implementation, tools for integration into existing business infrastructure and change management. The paragraphs below provide detailed explanations of these success factors.

2.8.1 An e-learning strategy

A strategy for e-learning is imperative as it gives clear direction for the project at hand (Porter, 1996). A learning strategy will include how learning programmes are delivered to the people who need them to accomplish business goals. An organisation’s e-learning strategy should link directly to its learning strategy (Alvarado, 2004). According to Tahir (2002), an e-learning strategy will address all the benefits that this learning method has to offer. It must include the technologies, resources and investment cost required to make this initiative possible. Sullivan (2002) stressed that the strategy must

include a communication and change management plan. Many organisations do not consider change management until the system is about to “go live”. Often, this is far too late. One of the biggest mistakes organisations make is leading with technology before a strategy is established. Too much money is spent, which results in disappointment and resistance to investing more when the proper time for investment arrives (Rosenburg, 2001). A strategy, in line with the CHAT framework, serves the purpose of the division of labour, rules and community. It must clearly define the individuals who are responsible for the various stages of the implementation of the technology, as well as any company policies or procedures that must be adhered to. The strategy must specify the environment in which the technologies will be rolled out and the people who will be exposed to using such technologies while participating in learning interventions.

2.8.2 Executive sponsorship

One major problem that executives find with e-learning as an effective training strategy is the initial cost and the concern that it may not be effective (Tahir, 2002). According to Newton and Ellis (2005), the support of executive managers for e-learning can be achieved by aligning the benefits of e-learning with the organisation’s strategy. E-learning is viewed as an innovative and new approach for an organisation and thus much pressure is placed on both the trainer and the learner to make this approach successful. Executive managers thus become sensitive to the costs of using this form of training. According to Shih and Wang (2004), e-learning should be seen as part of the value-creation process. The focus on value will assist in defining the factors responsible for a successful e-learning programme. Once the approach of e-learning is valued and accepted by the executives, they will assist in promoting this to other employees within the organisation. Rosenburg (2001) stated that executive sponsorship can influence and improve the adoption rate of e-learning within an organisation. When aligned with the CHAT framework, executives can be seen as one of the subjects as they should be involved in driving and achieving the common goal.

2.8.3 Select tools for integration with the existing corporate infrastructure

Rosenburg (2006) claimed that the organisation's choice of technology is paramount. Organisations must invest in e-learning technologies that can fit into their current technology infrastructure. Hall (2003) added that various e-learning tools must also be compatible and able to communicate with each other. The Sharable Content Object Reference Model (SCORM) is an example of the rules found within CHAT, as it specifies a collection of standards and specifications for e-learning. It defines communications between the content on the client side and a host system. A learning management system is a common example of a host system. In order to ensure that technologies can work effectively within the existing technology landscape, proper testing and proof of concepts must be carried out. True value in e-learning technology can only be achieved if it can be used optimally (McPherson and Nunes, 2006).

2.8.4. Importance of change management

Bersin and Associates (2005) identified a change in learning culture as being the third biggest challenge organisations face when implementing e-learning. Such a culture change can lead to resistance. Organisations need to identify ways to manage this change and turn resistance into an acceptance process for this new learning style.

Dublin (2004) postulated that a change management plan is essential for supporting change management efforts. This plan must form part of any e-learning strategy (Cross & Dublin, 2002). Sullivan (2002) added that the change management plan must be designed specifically to address various target groups within the organisation. The plan must address managers, trainers and employees. It must focus on supporting learners and the organisation as a whole, taking them through the three phases of change: awareness, engagement and involvement (Dublin, 2004).

2.9 TYPES OF E-LEARNING APPLICATIONS

E-Learning offers new opportunities to both facilitators and learners, as it enriches the learning experience through tools and resources. It supports not only the delivery, but also the exploration and application of information and the promotion of new knowledge.

These tools and resources include learning management systems, generic online content, custom online content, virtual classroom applications, system simulation tools and online assessment and survey tools. Within the activity system, these tools will provide the subjects with the means to perform the tasks. The paragraphs below will provide detailed explanations of the functionalities of the tools and resources mentioned above.

2.9.1 Learning management system (LMS)

Hall (2003) emphasised that an LMS provides a single point of access to disparate learning sources, as it takes a centralised organisational approach to learning. These systems provide shells to populate course content and offer a variety of course delivery methods (Holmes & Gardner, 2006). According to Piskurich (2003), the value proposition of an LMS is the cost efficiency related to the administration, record-keeping and reporting of learning that occurs within the organisation. The system automates the administration of learning programmes and offers opportunities for human resource development. If competencies are defined using job roles on the LMS, skills gaps can be identified and the LMS will propose available learning solutions to the employee. This will result in the automated use of competency maps to define career development and performance paths.

LMS software products include a database of student records with administration and delivery interfaces for learning. Tahir (2002) postulated that the functionalities of an LMS include the scheduling and registering of learners for online and classroom courses. The system provides access to launch e-learning courses and tracks learner progress through these courses. The system further manages course registration and an attendance record of classroom-based learning can be kept: thus providing learning administrators with the ability to manage learning resources, including venues and equipment (Alvarado, 2004).

Once learners complete a course, the LMS can administer tests based on proficiency requirements and can report test results and recommend the next steps. In this

capacity, the LMS plays an instrumental role in assuring that organisations meet rigid certification and legal requirements in industries such as healthcare, finance and government. An LMS also supports learner collaboration and further allows for interconnectivity with the virtual classroom, learning content management systems and enterprise applications (Allan & Lewis, 2006).

Amory (2007) criticised how first-generation learning systems focused on the management and measurement of training and included little functionality to foster learning. The presentation of content is insufficient to promote learning and he stressed that learning technology should be used as a tool to make educational philosophy concrete. This can be achieved if theory drives the application of technology within educational context. He further criticised that the development of learning management systems are often developed by computer scientists, mainly males, using complex development standards and software – making the LMS development gender exclusive. This is supported by Holmes and Gardner (2006), who claimed that the use and promotion of learning technology within a learning environment is more easily embraced by male facilitators than their female counterparts. Amory added that while modern LMSs include tools that support learners in participating in complex learning tasks that require social interaction, few instructors understand and make use of such tools to enhance the learning intervention. This enhances the belief that people learn *from* rather than *with* technology.

One of the major improvements found in a new generation LMS is its collaboration function. It can be used to enable learners to collaborate online on a particulate subject. Supported by the framework developed by Stetsenko and Vygotsky's CHAT, online collaboration encourages social interaction among learners, thus contributing positively to the learning process. The LMS allows business rules to be defined on the system which are similar to the rules defined within activity theory. Further, it supports the division of labour through the ability to allocate various roles on the system. Such roles specify what actions the subject can perform on the system.

2.9.2 Generic online content

Generic online courses are off-the-shelf courses purchased from third-party vendors. According to Bersin and Associates (2005), during the 1990s, companies such as SkillSoft, SmartForce, NETg and DigitalThink created exciting, innovative generic online content for IT and technical training. Such providers defined and created the e-learning market, with courses that demonstrated and proved the value of online training. Today, the generic content market has become very large and forms the foundation of any corporate e-learning strategy. Bersin and Associates (2005) added that the biggest shift that has taken place in the generic content market is the evolution of online content from purely IT and technical training to more soft skills, management and leadership training. Generic online content is another example of a tool within an activity system, as it provides the subjects with a means to achieve an outcome. Most generic online courses have pre- and post-learning assessments. These assessments usually only assess the acquisition of information. Learning designers need to integrate generic content into a learning curriculum in a manner that allows learners to apply the content that is being learned. Too often, learning designers use generic content as a means to transfer facts, but fail to create opportunities for the learners to apply the knowledge gained. This can be avoided through the use of a blended learning approach.

2.9.3 Custom online content

Custom online courses are designed and developed specifically for an organisation. Such courses are used to educate employees on the organisation's product and service offerings. Horton (2006) emphasised the need for instructionally sound design of online courses. The online courses should be developed as small learning chunks, taking the bandwidth constraints into account. Often, instructional designers design online custom courses that are content heavy. In some instances, formative and summative assessments are eliminated from the course, creating the challenge of assessing if knowledge has been gained. Furthermore, some instructional designers place too much emphasis on graphics to make the course aesthetically appealing, while neglecting to include activities that allow the learner to apply the knowledge gained. Hall (2003) cautioned that the authoring tools used to develop the custom online learning courses

must be carefully selected and adhere to SCORM standards. This is critical if the courses are accessed using an LMS. SCORM standards outline the specifications to be used to develop online courses using various development tools. Such specifications ensure that the course is able to communicate with the LMS.

2.9.4 Virtual classroom applications

According to Allan and Lewis (2006), virtual classroom systems can provide high levels of interaction for distance-learning initiatives. They offer synchronous real-time collaboration, which can include the use of interactive whiteboards and technologies that allows audio and video sharing. A virtual classroom is a learning environment created in a virtual space. The objectives of a virtual classroom application, as defined by Piskurich (2003), are to improve access to learning experiences by allowing learners and facilitators to participate in remote learning communities using personal computers. A virtual classroom application can improve the quality and effectiveness of learning by using the computer and networks to support a collaborative learning process. According to Casey (2005), the explosion of the knowledge age has changed the context of what people learn and how it is learned. The concept of virtual classrooms is a demonstration of this knowledge revolution. While facilitators use virtual classroom applications to conduct training sessions for geographically dispersed learners, they often fail to incorporate the system's ability to allow learners to interact within the session. This destroys the opportunity to allow learners to collaborate with each other and hence prevents the learners from contributing to the learning process.

2.9.5 System simulation tools

Dam (2004) defined system simulation tools as online learning technology that can simulate a business or system process. Such tools allow for the design and development of system and process training. The developer is able to create a system process and guide the learner through the process. Explanations can be added to the system process training. Pantazis (2002) added that system simulation training tools will enable organisations to train employees in a process without exposing them to the live

process environment. This can prevent costly mistakes made on a live system process by a learner.

Some system process tools come with assessments. This implies that once a process is created using the simulation tool, learner competency can be assessed. Once a learner understands how to perform the process and is competent to work on the system, he/she is then placed in the live system environment. Holmes and Gardner (2006) cautioned against the design of simulations that can lead to rote learning. The test simulation, which assesses a learner's competency in the process, should not replicate the simulation that demonstrates or teaches the process. If such practices are not avoided, the learner will not apply the knowledge gained in order to complete the task at hand.

2.9.6 Online assessment and survey tools

According to Marra and Bogue (2006), online assessment and survey tools can help an organisation create assessment and surveys with ease and in a shorter space of time compared to traditional data-gathering tools.

Online assessments and surveys can be distributed to potential respondents over the Internet or via an LMS. Participants can be scheduled to take these assessments and surveys. Reports are generated thereafter. Such reports are then analysed to give the organisation the information it is looking for (Bersin & Associates, 2005). Although various methods exist for data gathering and knowledge assessments, Yun and Trumbo (2000) claimed that online assessment and survey tools are relatively lower in cost and facilitate a better participant response rate. Horton (2006) warned that much thought must be placed into designing an online assessment, taking into account the limited question types available if scoring is to be automated.

Holmes and Gardner (2006) criticised the limitations of online assessments. Such limitations include the question types that can be accommodated using an online medium. These question types include multiple choice and true and false questions,

which provide a predefined list of suitable options to the learner and limit the assessment of the learner's cognitive gain. Such question types only allow the learner to be assessed at Kirkpatrick's (1996) first level of assessment. This level focuses on assessing the acquisition of information and not the application of the knowledge gained. However, accurate scoring of online assessments prevents human error in marking. Further, rapid access to reports gives facilitators the opportunity to analyse trends and patterns of answers provided by learners who have taken the assessments. Complex assessments such as the marking of essays and open-ended questions still need to be carried out by the facilitator.

2.9.7 Designing a learning intervention using a blended learning approach

When learning designers are tasked with crafting a learning curriculum, it is imperative that they use CHAT as a framework and learning technologies as the tools to ensure maximum collaboration among learners. They should embrace a blended learning solution which will ensure that technologies are optimised and that social interaction is encouraged. A blended approach can incorporate the use of an online course and a classroom-facilitated session as well as online assessments and simulations. For example, if a designer is tasked with crafting a time management course, a blended approach could mean allowing a learner to read and understand the facts and content on time management via an online course. This course should be completed before the classroom-facilitated session and can be made available via a learning management system, which will allow facilitators to monitor learner preparation before the facilitated session. The collaboration functionality within the LMS allows learners to communicate with the facilitator and each other while taking the online course. Then, through a facilitated session, learners can ask questions and share experiences based on the online course. Clearly designed activities will allow the learners to apply their knowledge to real-life scenarios. Thereafter, they can be assessed via an online assessment or simulation role plays.

2.10 PURPOSE OF THE RESEARCH

“Much of education technology replicates hegemonic practices that limit educational transformation, have little to do with contemporary learning practices and much to do with fundamental and totalitarian ideologies and instruction” (Amory, 2007: 2). Amory claimed that belief systems are therefore an integral part of the development and use of technology by all components of different societies. Referring to CHAT, Stetsenko postulated that “people not only constantly transform and create their environment; they also create and constantly transform their very lives, constantly changing themselves in fundamental ways and, in the process, gaining self-knowledge. Therefore, human activity – material, practical, and always, by necessity, social collaborative processes aimed at transforming the world and human beings themselves with the help of collectively created tools – is the basic form of life for people” (2005: 72).

The statements above by Amory and Stetsenko led to the researcher wanting to know how the training department at Discovery uses learning technology tools to deliver and foster learning among its employees and if such learning solutions meet the expectations of the learners and optimise the functionalities that the learning technology tools have to offer. Further, does the Learning Technology department base the use of these technologies on its own ideology or on the basis of the transformative stance of learning practices?

2.11 SUMMARY

This chapter has documented the role of cultural historic activity theory in organisations operating within a knowledge economy. It has defined the role of the knowledge worker. The chapter has reviewed the notion of learning and the role that learning technologies play in shifting the culture of learning within an organisation.

By defining the method of e-learning, its benefits, challenges and critical success factors were also outlined. The researcher suggests that if e-learning endeavours to have a true, lasting organisational effect, then a holistic approach should be followed; hence, the concept of CHAT needs to be integrated into the use of learning technologies. The

organisation's vision and strategic objectives must be adhered to, as they are a guide to what the end result of e-learning should accomplish. This chapter also states the purpose of the research: namely, to gain an understanding of learning technologies as a tool to design, develop and deliver learning interventions at Discovery. The purpose was exploratory in nature and focused on gaining insight and familiarity with regard to the variables investigated. The next chapter documents the research methodology.



CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

Hull (2004) defined research as a systematic and focused inquiry that reaches beyond commonly available information in order to acquire detailed knowledge, thus providing a basis for analysis and comment. Hull mentioned that research should:

- i) be focused – not general;
- ii) be systematic – there should be a structured, organised approach to the problem;
- iii) uncover information that is not readily available; and
- iv) provide a basis for analysis and comment.

Hull (2004) viewed research methodology as the philosophical grounds on which research is founded. According to Bryman and Bell (2003), a research method is simply a technique for collecting data. It can involve a specific instrument, such as the completion of a questionnaire or a structured interview, or participant observation, whereby the researcher listens to and watches others. Research methodology thus provides control mechanisms for data collection and analysis, in order to develop a theory.

This chapter explores the various methods used to conduct research and explains the concept of a case study. It looks at the various methods used to collect data, followed by an explanation of reliability, validity and ethical considerations. This chapter then elaborates on the framework adopted from Stetsenko (2008) to design the questionnaire tool.

3.2 INDUCTIVE VERSUS DEDUCTIVE RESEARCH

According to Bonoma (1985), Parkhe (1993) and Romano (1989), there are two major approaches to theory development: deductive theory testing and inductive theory building. The difference between these two approaches can be viewed in terms of scientific paradigms, with the deductive approach representing the positivist paradigm

and the inductive approach representing the phenomenological paradigm (Smith, 1989). Hussey and Hussey (1997) recognise these research theories as deductive and inductive research.

On the one hand, deductive research is a study in which conceptual and theoretical structure is developed and later tested by empirical observation. Thus, particular instances are deduced from general inferences. For this reason, deductive methods are referred to as a shift from the general to the specific. On the other hand, inductive research is defined as a study in which theory is developed from the observation of empirical reality. Thus, general inferences are induced from particular instances. This approach involves a shift from specific observations to broader generalisations and theories. Inductive and deductive research theories can use either a quantitative or qualitative research strategy.

3.3 QUANTITATIVE, QUALITATIVE AND MIXED-METHODS RESEARCH CRITERIA

Qualitative research is a research strategy that usually emphasises words rather than quantification in the collection and analysis of data (Bryman & Bell, 2003). Qualitative methodology captures or discovers meaning through a research question. It encompasses approaches that are different from each other and it focuses on phenomena that occur in their natural setting and involves studying these phenomena in all of their complexity. According to Platt (1981), qualitative research dominates the ability to study meaning.

Gubrium and Holstein (1997) suggest four traditions of qualitative research. These are naturalism, ethno methodology, emotionalism and postmodernism:

- Naturalism seeks to understand social reality in its own terms, “as it really is”. It provides rich descriptions of people and interaction in natural settings.
- Ethno methodology seeks to understand how social order is created through talk and interaction and has a naturalistic direction.

- Emotionalism is concerned with subjectivity and gaining access to “inside” experience, with a focus on the inner reality of humans.
- Postmodernism has an emphasis on “method talk”, which is sensitive to the different ways in which social reality can be constructed.

Qualitative research approach is of use to:

- understand the meaning of the events, situations and actions with which the participants of the study are involved, as well as the accounts that they give of their lives and experiences;
- understand the particular context within which the participants act and the influence that this context has on their actions;
- identify the unanticipated phenomena and generation of new grounded theories; and
- understand the processes through which events and actions take place.

The major drawbacks of qualitative studies include problems with generalisations and that they are difficult to replicate, are too subjective and have a lack of transparency:

- Hammersley (1989) suggested that the scope of the findings of qualitative investigations is restricted. When participant observation is used or when unstructured interviews are conducted with a small number of individuals in a certain organisation, it is impossible to know how the findings can be generalised to other settings.
- Hughes (1990) claimed that as a result of qualitative research being unstructured and often reliant upon the researcher's initiative, it is almost impossible to conduct a true replication, since there are hardly any standard procedures to be followed. In qualitative research, the researcher is the main instrument of data collection, so what is observed and heard and also what the researcher decides to concentrate upon is very much a product of his/her predilections.
- According to Hatch (1996), qualitative research is too subjective. This implies that qualitative findings rely too much on the researcher's views on what is significant and important.

- Bryman and Cramer (2001) argued that the process of qualitative data analysis is frequently unclear. It is often not obvious how the analysis was conducted, in other words, what the researcher was actually doing when the data were analysed and, therefore, how the study's conclusions were arrived at: thus resulting in a lack of transparency. However, they added that these areas of a lack of transparency are increasingly being addressed by qualitative researchers.

Quantitative studies are regarded as descriptive and inferential research that involves either identifying the characteristics of an observed phenomenon or exploring possible associations among two or more phenomena (Buchanan, 1992). Descriptive research attempts to examine and understand a situation without modifying or influencing the situation under investigation and is not intended to determine cause-and-effect relationships. This type of research yields quantitative information that can be summarised through statistical analyses.

Quantitative theory is causal and deductive: preceding analysis occurs, using tables and statistics, as well as discussions on how these are related to the assumption. According to Bryman and Cramer (2001), quantitative research can be characterised as a linear series of steps, moving from theory to conclusions. The measurement process in quantitative research entails the search for indicators. Establishing the reliability and validity of measures is important for assessing their quality.

Quantitative research can be characterised as exhibiting certain preoccupations: the most central of which are measurement, causality, generalisation and replication (Bryman & Bell, 2003). Quantitative research has been subject to much criticism by qualitative researchers. These criticisms tend to revolve around the view that a natural science model is inappropriate for studying the social world.

The major drawbacks of quantitative studies include:

- Quantitative researchers fail to distinguish people and social institutions from “the world of nature” (Schutz, 1962). Schutz incriminated social scientists who employ

a natural science model and treat the social world as if it were no different from the natural order. In so doing, they draw attention to the belief that the principles of the scientific method can and should be applied to all phenomena that are the focus of investigation. As Schutz argued, this means turning a blind eye to the differences between the social and natural world. It therefore means ignoring the fact that people interpret the world around them, whereas this capacity for self-reflection cannot be found among the objects of the natural sciences.

- The measurement process has an artificial sense of accuracy. It has been argued that the connection between the measures developed by social scientists and the concepts they are supposed to be revealing is assumed rather than real (Cicourel, 1964). A common reaction to this problem is to use questions with fixed-choice answers, but this approach merely provides “a solution to the problem of meaning by simply ignoring it” (Cicourel, 1964: 108).
- The reliance on instruments and procedures hinders the connection between research and everyday life. Many methods of quantitative research rely heavily on administering research instruments to subjects, such as structured interviews and self-completion questionnaires, or on controlling situations to determine their effects, such as in experiments. However, as Cicourel (1982) asks, how do we know if questionnaire respondents have the requisite knowledge to answer a question or whether they are similar in their sense of the topic being important to them in their everyday lives?
- The analysis of relationships between variables creates a static view of social life that is independent of people's lives. Blumer argued that studies that aim to bring out the relationships between variables omit “the process of interpretation or definition that goes on in human groups” (1956: 685). This means that we do not know how what appears to be a relationship between two or more variables has been produced by the people to whom it applies. This criticism incorporates the first and third criticisms that have been referred to above: that the meaning of events to individuals is ignored and that we do not know how such findings connect to the everyday context. It adds a further element in that it creates a sense of a static social world that is separate from the individuals who make it

up. In other words, quantitative research is seen as carrying an objectivist ontology that reifies the social world.

While there are many differences between quantitative and qualitative research approaches (Table 3.1), the main difference is that qualitative data are open-ended, while quantitative data are closed-ended. Both methods may involve interviews or observations, but qualitative methods yield recordings of interviews or long descriptions of observations that are observed by the researcher while quantitative methods involve lists of behaviours, frequency of observations or multiple-choice questionnaires (Bryman, 1998).

Table 3.1: Assumptions of a quantitative versus qualitative research approach (Adapted from Creswell in Hussey and Hussey, 1997)

Quantitative	Qualitative
Objective in nature	Subjective in nature
Researcher is independent from that being researched	Researcher interacts with that being researched
Value-free and unbiased	Value-laden and biased
Formal Based on set definitions Impersonal voice Use of accepted quantitative words	Informal Evolving decisions Personal voice Use of accepted qualitative voice
Deductive process Cause and effect Static design – categories isolated before study Context-free Generalisations leading to prediction, explanation and understanding Accurate/reliable through validity and reliability	Inductive process Mutual simultaneous shaping of factors Emerging design – categories identified during research process Context-bound Patterns, theories developed for understanding Accurate and reliable through verification

Mixed-methods research is a research design or methodology for collecting, analysing and mixing both quantitative and qualitative data in a single study or series of studies in order to understand research problems better (Creswell, 2003). This definition calls attention to an investigation in which the researcher collects both qualitative and quantitative data. Qualitative data consist of collecting open-ended information without predetermined response categories, such as in unstructured observations and focus groups; whereas quantitative data consist of close-ended information in which the researcher sets the response possibilities in advance, such as an instrument with responses from “strongly disagree” to “strongly agree” or using a Likert scale rating (Taylor & Heath, 1996). The second aspect of the definition is that researchers analyse both the quantitative and qualitative data. Each type of data involves its own distinct analysis approaches. Qualitative researchers analyse text or image data, while quantitative researchers analyse numeric data.

The third aspect of the definition – mixing – requires further comment. The inclusion of this term into the definition is a recent development (Creswell, 2003), suggesting that some form of mixing or interrelating the data provides better insight into research problems than collecting only quantitative or qualitative data or collecting both forms but not forging a connection between them. The advantage of collecting both forms results in quantitative data yielding generalisable trends and qualitative data providing in-depth voices and experiences of individuals within specific settings or contexts (Greene & Caracelli, 1997). Capturing both trends and in-depth perspectives provides more information than either quantitative or qualitative alone can offer. Combining the two forms of data seems to enhance the use of each.

This use can be seen in two procedures for mixing. First, researchers can integrate the quantitative and qualitative data by collecting both forms of data and then combining, integrating or comparing the two data sets. This integration requires some thought because it involves merging numeric data with text data. A second approach to mixing involves connecting the quantitative and qualitative data collection and analysis. For example, the first phase of a project yields statistical results that can then be followed

up with in-depth qualitative interviews. In this way, the researcher can interpret and expand on the quantitative data analysis by following up with qualitative data collection. The research in this study used the approach of mixed methods as an inquiry. The mixing involved connecting the quantitative data analysis phase with the qualitative data collection phase.

Creswell (2003) established four procedures for conducting a mixed-methods inquiry. The one adopted in this research was the sequential, exploratory mixed-methods design (Figure 3.1). This is a two-phase design that involves a quantitative data collection phase followed by a second phase of qualitative data collection. This design follows up on quantitative results from experiments, questionnaires or questionnaire studies by probing the results in more depth through qualitative data such as focus groups, individual interviews or observations.

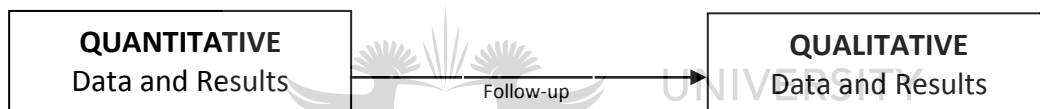


Figure 3.1: Sequential, exploratory mixed-methods design (Adapted from Creswell, 2003)

A challenge in conducting mixed-methods research is the need to develop methodological skills in both quantitative and qualitative data collection and analysis: skills that are not always possessed by a single researcher. Thus, initial mixed-methods investigations can profit from teams of individuals with expertise in both qualitative and quantitative research (Hanson, Creswell, Piano Clark, Petska & Creswell, 2005). Moreover, this design requires demanding resources over a sustained time. Thus, it comes as no surprise that large, funded, multi-year projects are easier to conduct in a mixed-methods format than small inquiries by single investigators. The single researcher needs, at a minimum, basic skills of quantitative and qualitative data collection and analysis and the resources to conduct this design. These skills involve collecting experimental, questionnaire or other quantitative data, as well as conducting

focus groups and interviews, observing and gathering documents for qualitative data. Analysis involves descriptive and inferential analysis quantitatively, and thematic development qualitatively.

3.4 RESEARCH PARADIGM AND DESIGN

Paradigms in the human and social sciences help us understand phenomena (Creswell, 1994). This research adopts Gummesson's (1991) definition of a paradigm as a worldview representing people's value judgements, norms, standards, frames of reference, perspectives, ideologies, myths and theories. In fact, this could be anything that governs an individual's thinking and actions.

According to Creswell (1994), once the research problem has been carefully defined and research objectives have been developed, the researcher must determine the research design. Research designs are general strategies or plans of action for addressing the research problem, the data collection and the analysis process. Burnett (2002) claims that research generally has three purposes: exploration, description or solution. These result in three general types of research design: exploratory, descriptive and causal. This research is exploratory in nature. Exploratory research is typically carried out to satisfy the researcher's desire for better understanding or to develop a preliminary background and suggest issues for a more detailed follow-up study. Exploratory research can be conducted using literature reviews, case analyses, interviews and focus groups.

Given that this research is exploratory and inductive in nature, the selection of methods and approaches offers numerous varieties. These range from case studies (Yin, 1994; Stake, 1994; Gummesson, 1991) and action research (Gummesson, 1991) to grounded theory (Glaser and Strauss, 1967; Strauss, 1987).

3.5 THE CASE STUDY METHOD

The case study research method is one of the most prevalent forms of social science research. It is widely used to conduct research in many areas, including business,

education, psychology, sociology, political science and economics (Dooley, 2002; Merriam, 1998; Yin, 2003). In particular, case studies are relevant when conducting research in organisations where the intention is to study systems, individuals and programmes. Although case studies are often qualitative, case study research can equally embrace the quantitative paradigm and be based on “any mix of quantitative and qualitative evidence” (Yin, 2003: 15).

3.5.1 What is a case study?

The concept of a case study has been defined in various ways as a process, a unit of study or an end product (Merriam, 1998). From a process perspective, Yin defined a case study as “an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident” (2003: 13). Similarly, Scholz and Tietje defined a case study as “an empirical inquiry that investigates a contemporary problem within its real-life context” (2002: 9). Delimiting the object of study – the case – is “the single most defining characteristic of case study research” (Merriam, 1998: 27). Assessing the parameters of the case is to consider how restricted the data collection will be: this will include the specific number of interviews that can be conducted or the number of observations that can occur. If there is no actual limit to some of these possibilities, the phenomenon is not bounded enough to be deemed a case (Merriam, 1998). It is argued that “cases are socially constructed and co-constructed between the researcher and the respondent. In this way, cases are not really defined or bounded until data collection and even analysis is finished” (Wells, Hirshberg, Lipton & Oakes, 2002: 340).

As Yin (2003) and Stake (1995) have articulated, in typical case study research, the case may be carried out on an individual, where the individual is the primary unit of analysis. Case study research may also be carried out on several individuals or it can be an event or entity that is less well defined than a single individual. This case study is bounded, as it is limited to a single corporate organisation – Discovery Holdings.

3.5.2 Why and when is case study research undertaken?

Case study research “comprises an all-encompassing method covering the logic of design, data collection techniques, and specific approaches to data analysis” (Yin, 2003: 14). Having defined case study as an empirical inquiry that investigates a contemporary phenomenon in the context of its real life when the boundaries of the phenomenon and context are not as evident, Yin acknowledges that case study inquiry “copes with the technically distinctive situation in which there will be many more variables of interest than data points, and as one result relies on multiple sources of evidence, with data needing to converge in a triangulating fashion, and as another result benefits from the prior development of theoretical propositions to guide data collection and analysis” (2003: 13-14).

3.5.3 When should a case study be used as a research strategy?

Three conditions that are useful in determining whether a case study should be used as a research strategy have been articulated by Yin (2003). The first condition relates to the type of research question that is being considered. Case study research is most appropriate when the researcher is interested in “how”, “what” and “why” questions. The second and third conditions relate to the extent of control over behavioural events and the degree of focus on current events. When the researcher is interested in current events and does not have the ability to control or manipulate behavioural events, case study research is deemed an appropriate strategy. A case study approach was adopted in conducting this research.

Three types of case studies can be undertaken: explanatory case studies, exploratory case studies or descriptive case studies (Yin, 2003). Case studies are particularly relevant when an understanding of complex social phenomena is needed, because “the case study method allows investigators to retain holistic and meaningful characteristics of real-life events” (Yin, 2003: 2). Additionally, case studies may be used in evaluation research to explain, to describe, to illustrate, to explore or to be used as a meta-evaluation (Yin, 2003). The case study adopted in this research is explanatory.

Case studies may be undertaken for a number of reasons. Case studies are very appropriate when the researcher is interested in a process or seeks an in-depth understanding of a phenomenon because of its uniqueness. Merriam (1998) argues that case study approaches are best suited to “how” and “why” questions: hence, a qualitative approach.

Case study research enables the researcher to draw upon many approaches to data collection, because a “case study does not claim any particular methods for data collection” (Merriam, 1998: 28). Depending on the nature of the research questions and overall research design considerations associated with the case study, quantitative approaches to data collection may be used, such as questionnaires.

According to Yin (2003), data for case studies may come from many sources, but he identifies six important sources for data collection that are widely used. These are: documentation, archival records, interviews, direct observation, participant observation and physical artefacts. Qualitative case studies commonly employ interviews. In many studies, interviews represent the only form of data collection. In addition to interviews, observations and documents may also be sources of data for qualitative case studies (Merriam, 1998). Quantitative case studies rely heavily on questionnaires of key constructs, frequency counts of observed phenomena or questionnaires (whether through interview or questionnaire) of critical respondents in a given case. In this research, documents, questionnaires and focus group interviews will be the instruments used for data collection.

Three principles for data collection help researchers reap the benefits from these data collection sources. The principles are to use multiple sources of evidence, to create a case study database and to maintain a chain of evidence (Yin, 2003). These three principles are important in helping the researcher further establish validity and reliability of case study evidence.

The use of multiple sources of evidence enables the researcher to address a broad range of issues within the case study, as well as enables the researcher to triangulate the findings of the case study. Conclusions drawn may be more convincing from multiple sources of data as opposed to one source of data. The second principle relates to organising and documenting the data collected in case studies. Maintaining a database that documents case study notes, documents, narratives resulting from the case study research and other pertinent information enables the researcher to connect answers to the evidence collected in the case study (Yin, 2003). The final principle relates to increasing the reliability of the information in a case study so that conclusions drawn from the case can be traced backwards.

3.6 DATA COLLECTION

A three-phase methodological research effort was employed so as to obtain a comprehensive data set in the analysis of the Discovery Learning Technology department.

The first phase involved the analysis of the organisation's documents in order to allow the researcher to gain better insight into the strategies deployed and reports generated. In the second phase of data collection, questionnaires were conducted on 85 participants, who comprised learners, facilitators and training managers from all business entities within Discovery. The last phase of the data collection involved three focus group sessions. Participants in the focus group sessions were from the head office in Johannesburg and a branch in Cape Town. Data were then analysed and findings were represented in the form of graphs and tables. In the graphs, standard error bars were used to identify statistical differences. Where error bars do not overlap, this indicates a significant difference.

3.6.1 Documents

The term "documents" covers a very wide range of different kinds of sources. The aim is to reflect that variability by examining a wide range of different documentary sources that have been or can be used in qualitative business and management research. This

includes personal documents in both written form, such as diaries and letters, and visual form, such as photographs. Public documents derived from an inquiry or legal investigation are also included, as well as official documents derived from organisational sources such as company annual reports, policy documents, strategies and internal memoranda. Documents also include mass media outputs, such as newspaper articles, and virtual outputs, such as Internet resources (Forster, 1994). For the purpose of this research, only official documents from organisational sources were investigated.

Organisational documents are a diverse group of sources that is of particular importance to the business and management. For the researcher, this is a rich source of data because of the vast quantity of documentary information that is available within most organisations. Some of these documents are in the public domain and include annual reports, mission statements, reports to shareholders and public relations material in printed form and on the Internet (Bryman & Cramer, 2001). Other documents that are not or may not be in the public domain include company newsletters, organisational charts, external consultancy reports, minutes of meetings, memorandums, internal and external correspondence, manuals for new recruits, policy statements, company regulations and strategies – as these are viewed as intellectual property and deemed as competitive advantage. Such materials can provide the researcher with valuable background information on the company and are often used by researchers as part of their investigations (Gummesson, 1991). Similarly, in case study research, documents can be used to build up a description of the organisation and provide a better understanding for the researcher.

However, the difficulty of gaining access to some organisations' documents means that some researchers have to rely on public domain documents alone. Even if the researcher is an employee of the organisation, it may well be that certain documents not in the public domain will not be available to them, as the documents are deemed as confidential information. Researchers also have to be weary of the fact that people who write organisational documents, such as managers, are likely to have a particular point of view that they want to get across (Hammersley, 1989). For this reason, researchers

must ensure that the criteria for evaluating the quality of documents include authenticity, credibility, representativeness and meaning.

For the purpose of this research, the following documents were reviewed: Discovery's annual report, the learning and development strategy for the Health business entity, the group learning technology strategy and the annual training report. This concluded the first phase of this research study.

3.6.2 Questionnaires

The questionnaire research method is one of the most common techniques of empirical research. It helps analyse the systematic pattern or behaviour of variables with wider data coverage and enables the researcher to test a hypothesis so as to form judgements about the research problem. However, the method is limited in depth and its structured instruments may produce biased outcomes. Further, it is prone to measurement errors (Robert, 1999).

Questionnaires are widely used to conduct research. Among the many modes available, the mailing approach is found less costly and has minimum researcher biases. However, limitations emanating from questionnaire design and poor-quality responses are among the drawbacks of this approach. Of all the noted shortcomings, low response rate is regarded as the major threat to the quality of questionnaire research outcomes (Wallace & Mellor, 1988).

A number of techniques have been suggested to increase the response rate, such as advance notification of the questionnaire and enclosed incentives (Jobber & O'Reilly, 1996; Harzing, 1999). However, most of these methods are costly and time consuming (Wallace & Mellor, 1988). Despite these problems, mainly the questionnaire method is used to gather qualitative data.

Conducting a questionnaire was the second phase of data collection at Discovery. The researcher invited participants to a scheduled meeting. During this time, they were

requested to complete the paper-based questionnaires. In this way, the researcher was able to answer and clarify any questions raised. This resulted in optimal participation and maximum input from the 85 participants.

The questionnaire was planned to capture various types of data on the views and practices of learning within the organisation. The instrument was designed to gather data on different issues, ranging from design to implementation and participation in learning. The questionnaire design included both current and future learning practices in order to diversify the type of data. In addition, the questionnaire was devised to encompass a rating scale score from 1 to 5 so as to facilitate various ways of data analysis, as suggested by Andrews (1984).

The draft questionnaire was checked and reviewed by the various levels of staff within the training department. Professionals in the field of learning and development have commented on and improved the instrument. Finally, a pilot test was conducted among a sample group of eight, comprising learners, facilitators and managers. Further improvements were made to the questionnaire. In order to reduce response errors, sufficient care was taken to make the questionnaires simple, short, clear and precise (Philips, Butani & Chun, 1995). In addition, respondents were not asked to identify themselves so as to reduce the possibility of response bias (Hasan, Shao & Shao, 1997).

3.6.3 Focus groups

Focus groups are a form of multiple interviews, with small groups of about four to 10 people selected with specific key attributes in mind. Examples of these attributes include specific knowledge, experience or socio-economic characteristics. Participants are invited to attend informal discussion sessions of no more than two hours' duration on a particular topic, facilitated by someone knowledgeable about the issues involved, but tactful and firm enough to keep the group in order and on task. Essentially, it is a group interview that typically emphasises a specific theme or topic that is explored in depth. By conducting a focus group, the researcher is invariably interested in the ways

in which individuals discuss a certain issue as members of a group, rather than simply as individuals. In other words, with a focus group, the researcher will be interested in aspects such as how people respond to each other's views and build up a view from the interaction that takes place within the group (Merton, Fiske & Kendall, 1956).

The advantages of using a focus group over individual interviews include efficiency, as 10 opinions can be obtained in about twice the time it takes to conduct an individual interview. By listening to other people's comments, more ideas, opinions and experiences and insights can often be gained. The dynamics of group discussion could lead individuals to define business problems in new and innovative ways and stimulate creative ideas for their solutions. The technique allows the researcher to develop an understanding of why people feel the way they do. In focus groups, participants are able to bring issues to the fore in relation to a topic that they deem to be important and significant. Thus, focus groups offer the researcher the opportunity to study the ways in which individuals collectively make sense of a phenomenon and construct meanings around it. It is also easier to take notes of the discussion, as this is expected and less threatening in a group situation. But, as with interviews, focus groups rely on the views of a small sample and so are not truly representative of any body of opinion (Wilkinson, 1999).

The limitations of focus groups include the difficulty to analyse data, as a huge amount of data is produced very quickly. Developing a strategy of analysis that incorporates both themes of what people say and patterns of interaction is not easy. Further, focus group recordings are particularly prone to inaudible elements that affect transcription. It can also be difficult to organise the focus group session. The researcher has to secure not only the agreement of people to participate in the research, but also has to ensure that they arrive for the focus group session. Often, researchers will have to attach some kind of incentive to ensure participation (Krueger, 1998). The recordings are more time consuming to transcribe because of variations in voice pitch and the need to take account of who says what. There is also a problem of group effects, which includes having to strike a balance between reserved and talkative speakers.

The focus group session at Discovery was the last phase of the data collection process. The questions posed at the focus group session were generated from the outcomes of the questionnaire responses. There were three focus group sessions held. The first was with two facilitators from the head office in Johannesburg. The second session was held with five learners from the head office and the last session was held with one facilitator from the Cape Town office. Each session was tape-recorded and then transcribed. The transcriptions were then analysed to find common themes of meaning in order to understand the phenomenon better.

3.7 QUESTIONNAIRE TOOL DESIGN

The questionnaire tool was designed on the premise of Stetsenko's transformative stance perspective and the implications for the notion of learning. Stetsenko (2008) argued that in order for development and learning of individuals to be successful, it must take a transformative stance. This stance comprises three levels of learning: acquisition, participation and contribution. Stetsenko (2008) designed a table that uses descriptors such as keywords, what the level of learning stresses, ideal level of learning interaction, role of the facilitators and timelines to describe each level (Table 1.1).

At an acquisition level of learning, the focus of the learning intervention is placed on only the information processing from a knowledgeable person – often a facilitator to the learners. It stresses the learner's mind and what goes into it. Therefore, the end result is learning for the individual and it focuses on bringing past learning experiences into the present: the future is irrelevant. At the participation level of learning, the focus of the learning intervention is placed on participation and becoming a member of the community. The role of a facilitator is that of a mentor or expert participant. The end result of learning is thus mutuality and community-building and it focuses on the presently evolving patterns of participation: the past is irrelevant and there is no future. At the contribution level of learning, the focus of the learning intervention is placed on contributing to collaborative practices of humanity, while simultaneously transforming them. The role of the facilitator is that of an activist who is open to collaboration and

dialogue and is an agent of collaborative change. The end result of learning is contribution through self-development and community development. The focus is on interfacing the past, present and future.

Taking the above framework into consideration, Stetsenko (2008) further claimed that the transformative stance of learning is in sync with the growing demands that globalisation imposes on education and other practices of social life. This framework was used as the foundation to design and develop the questionnaire tool, which was the first form of data collection. The language was simplified to accommodate the varied literacy levels of all the participants. The questionnaire was tested on a sample population and the necessary changes and recommendations were made to the questionnaire (Appendix 1). The results from the questionnaire were analysed and used to design the questions and select the participants for the focus groups, which formed the second phase of data collection.

3.7.1 Designing the questionnaire and sample testing

The questionnaire comprised two sections. The first section looked at the demographic information of the participants. This comprised the business unit in which they worked, the capacity in which they were completing the questionnaire, their race, age, gender and highest qualification. As this questionnaire was completed anonymously, no names were required.

The second section of the questionnaire was based on the framework developed by Stetsenko (2008). Nine out of the 11 dimensions from the original framework were used to describe the three levels of learning (acquisition, participation and contribution). The nine dimensions comprised: the key definition of learning; keywords; what the learning stresses; the ideal stance of learning; the role of the facilitator; the nature of knowing; timelines to be considered; who develops through the learning intervention; and the key goals of learning. This resulted in the use of 27 statements that appeared in random order and participants had to rate each statement's level of importance. The rating was on a scale of 1 to 5, with 1 being least important and 5 being most important.

Participants had to rate each of these statements from two perspectives of importance: in current and future learning practices. This was to accommodate how learning practices are currently being executed and experienced and how the participant will like to experience the learning practice in the future. See Appendix 1 for the final questionnaire used.

Once the questionnaire tool was drafted, a sample group of participants was invited to test the tool. These participants comprised training managers, learning solutions designers, facilitators and learners. Their comments and recommendations were considered and the necessary changes were made to the tool. The language used was simplified to accommodate the varied levels of literacy, resulting in the final questionnaire.

3.7.2 Conducting the questionnaire

An invitation was extended to many participants from the various business entities within Discovery. This included training managers, learning solutions designers, learning technology specialists, facilitators and learners. Invitations were in the form of several meeting requests, during which the purpose and benefits of the research were discussed. It was explained that participants would anonymously complete a paper-based questionnaire during this time. Participation was voluntary.

Individuals who here keen to participate accepted and attended the scheduled meetings. During the first few minutes of these meetings, the researcher explained the purpose of the consent forms and the focus group session that would be part of the next phase of this research. Participants then completed and signed the consent forms. An explanation of the questionnaire was provided by the researcher. A total of 82 individuals participated in the questionnaire.

3.8 RELIABILITY AND VALIDITY OF THE INSTRUMENT USED

The main objective of this research study was to investigate the use of learning technologies in line with the transformative stance of learning. As such, this study did

not intend to test hypotheses but rather to explore the relationship between the use of learning technologies and the transformative stance of learning. In this case, the validity and reliability of the instrument used must be demonstrated. Traditionally, two different categories of validity are examined. They are internal validity and predictive or external validity. Therefore, this paragraph will provide an overview and justification for the validity and reliability issues associated with the instrument used.

3.8.1 Reliability

Instrument reliability refers to the extent to which measurement error is minimised and provides “an evaluation of measurement accuracy” (Straub, 1989: 150). Straub (1989) suggested that the reliability of an instrument is generally measured by Cronbach's α . Questionnaire results where Cronbach's α is greater than 0,70 are usually indications that the questionnaire items are reliable (Straub, 1989). In this research study, Cronbach's α was 0,927, which is greater than 0,70. Hence, the questionnaire instrument was reliable.

Another common reliability issue associated with questionnaire instruments is that they are self administered. Fowler (1993) suggested that self-administered questionnaires require careful design with clear and precise instructions, a text of questions and a measurement scale, such as the Likert scale (Taylor & Heath, 1996). In this research, the instructions and text of questions proposed for this instrument were reviewed by various levels of staff within the learning department for clarity. Revisions were made following the comments from the sample group. Fowler (1993) also suggested that respondents are required to have good reading skills: otherwise the reliability of results is questionable. It was assumed that all employees within Discovery who participated in this research had sufficient reading skills to answer the questionnaire proposed in this study. This assumption was based on the fact that a matric qualification is the minimum requirement to be employed within the organisation. Finally, Fowler claimed that self-administered questionnaires actually provide an advantage over interviewer-administered questionnaires, for example, telephone or face-to-face, because of “the

fact that the respondent does not have to share answers with an interviewer” (Fowler, 1993: 66) and this increases the reliability of the results.

3.8.2 Validity

Internal validity refers to “whether the observed effects could have been caused by or correlated with a set of non-hypothesized and or unmeasured variables” (Straub, 1989:153). Straub (1989) suggested that internal validity in research can be maximised by an investigation of all the appropriate constructs and variables related to the phenomenon under investigation. As a result, this study uses the qualitative strategy in order to gather all values from learners and staff within the learning department prior to the development of the instrument. The use of qualitative data collection and analysis minimises the internal validity threats when developing the instrument. Moreover, since the instrument was subject to subsequent analysis, the validity of the instrument was further tested.

External validity refers to “how the results of a study can be generalized” (Cook & Campbell, 1979: 70). Cook and Campbell suggested that results of studies can be generalised via two approaches: “(1) generalised to a particular target of people, settings, and times, and (2) generalis[ed] across types of people, settings, and times” (1979: 71). The aim of this study was to develop a general framework for the relationship between learners' perceived satisfaction with and value of e-learning systems and the design approach used by learning development staff using e-learning systems. The aim was then to propose how this relationship can be used for future improvement and effectiveness of e-learning systems, in line with the transformative stance of learning. Consequently, on one hand, the results of this study can be generalised for learners who use the same e-learning system in order to predict the learners' perceived effectiveness of the system, based on the learners' perceived satisfaction with e-learning systems, learning solutions, design and delivery, as well as learners' perceived value. On the other hand, the process used in this study to gather values and develop the instrument to measure these values can be generalised to other information systems.

3.9 LIMITATIONS OF THIS STUDY

This research was limited to a single organisation, namely: Discovery. It relied on the views of a small sample from a single organisation: hence, its findings cannot achieve scientific generalisation. Even though more than 80 people participated in the questionnaire, the researcher really struggled to get people to participate in the focus groups. Further, people who participated in the focus groups were not from all the business entities that participated in the questionnaire. Although senior management participated in the questionnaires, they did not participate in the focus groups.

3.10 ETHICAL CONSIDERATIONS

The expression “basic ethical principles” refers to those general judgements that serve as a basic justification for the many particular ethical prescriptions and evaluations of human actions. Three basic principles among those generally accepted in our cultural tradition are particularly relevant to the ethics of research involving human subjects. These are the principles of respect of persons, beneficence and justice.

Ethical measures are viewed as important to the research process. Respondents should not be viewed as objects. They are participants on whom the researcher relies to obtain information. The research should be conducted on the participant’s behalf and not solely for the researcher. The participation of a respondent must be voluntary and informed and consent must be given. The respondent must be assured of anonymity and confidentiality, if required, and the benefits for the respondent must be stated. The respondent should at all times be protected against harm and should be given the opportunity to withdraw from the research at any time without any penalty. Appropriate consent has been received from all participants.

The results of the research would be made available to the respondents should they desire it. The purpose of the research must be clear to the respondents and they should be aware of what the information will be used for. Before the research commenced, the researcher made the respondents aware of the nature of the research instrument. The respondents were aware that participation in the research would not have any

detrimental consequences. The researcher did not expect the respondents to act contrary to their principles. It was also ensured that credit was given to the respondents concerned for the information gathered and their responses were not used as the researcher's own quotations. Honesty and integrity in presenting the findings should be of the highest standard: the researcher ensured that the meaning of a respondent's feedback was not changed to suit the desired results.

Possible benefits, such as gaining insight into the learning experience from the various target groups within the workplace, were pointed out to the participants. Permission, through the form of consent letters, from key authorities, including learning and development managers within the organisation, was sought.

3.11 SUMMARY

This chapter documented the case study design and data collection instruments applied in this research. This included the methodology followed in researching the nature and impact of learning technologies as a tool for people development. The research followed a phased approach in administering several instruments to gather data in order to understand the phenomenon under research. In this research, both qualitative and quantitative data-gathering instruments were used, namely, documents, questionnaires and focus groups. The chapter then introduced Stetsenko's framework (2008) of the transformative stance of learning. An explanation followed of how this framework was integrated into the design of the questionnaire tool.

The next chapter introduces the research environment, Discovery, which presents a platform for the exploratory research undertaken.

CHAPTER 4: A CLOSER LOOK INTO DISCOVERY AS THE CASE STUDY

Making people healthier and enhancing and protecting their lives

Adrian Gore (CEO Discovery) in Vosloo (2004: 4)

4.1 INTRODUCTION

This chapter explores the context in which the case study is based. It will focus on Discovery Holdings as the parent company as well as its subsidiaries. The organisation's core values are explored. The positioning, role of learning and development and the Learning Technology department within the corporate structure are explained. In addition, the origin, mandate, functionality and composition of the Learning Technology department are explored.

4.2 COMPANY OVERVIEW

Discovery is a financial services company based in South Africa. Its product and service offerings are in the areas of private healthcare cover, life assurance and lifestyle and well-being benefits. Discovery Invest is the latest addition to its product and service offerings. The company operates in both local and international markets. Locally, the company specialises in the health and life insurance markets, as well as the market for lifestyle and wellness products and benefits. It also offers the Discovery Card to its local consumers, which is a credit card facility. Discovery's subsidiaries are PruHealth and Destiny. PruHealth offers life and health insurance in the United Kingdom, while Destiny offers lifestyle and well-being benefits in the United States (Figure 4.1).

Discovery is divided into various companies that were established and function as individual business entities. Figure 4.1 provides a view of these business entities and the countries in which they operate. Each entity services their target market based on product and functional differentiation. Discovery's Health, Life, Card and Invest are underpinned by the Vitality product.



Figure 4.1: Discovery corporate and ownership structure (Adapted from Vosloo (2008))

As at September 2009, Discovery had a total of 7 694 employees distributed among nine business entities (Table 4.1). Employees are dispersed regionally throughout South Africa. Such locations include Cape Town, Gauteng, KwaZulu-Natal and Centurion.

Table 4.1: Discovery employee breakdown (Source: Corporate Auxiliary Services, Discovery)

Company	Count
Destiny Health	129
Discovery Franchises	985
Discovery Health	3 560
Discovery Invest	97
Discovery Life	1 105
Discovery Vitality	364

Discovery Corporate	233
PruHealth	1 221

Discovery’s core purpose is to make people healthier and to enhance and protect their lives. Adrian Gore (CEO of Discovery) stated that if the strategy is to deliver on the purpose, Discovery will have to follow a solution-centric approach that focuses on meeting the needs of its clients (Vosloo, 2004). He further added that Discovery will continue to develop effective solutions for its consumers which, in return, will assist in the creation of a sustained demand for their products (Table 4.2). This ultimately leads to strong growth and increased market share.

Table 4.2: Discovery areas of involvement (Adapted from Vosloo (2008))

<p>Discovery Health Offers consumer-driven private healthcare cover Established: 1993 Covers: 2,1 million lives</p>	<p>Discovery Life Offers pure-risk life assurance Established: 2000 Covers: 545 000 lives</p>	<p>Destiny Health Offers consumer-driven healthcare in the US Established: 2000 Covers: 49 000 lives</p>	<p>PruHealth Offers consumer-engaged healthcare for private medical insurance in the UK Established: 2004 Covers: 75 000 lives</p>
<p>Discovery Vitality Science-based wellness programme spanning all these areas to differentiate them and create value for all Discovery members Established: 1997 Covers: 1,3 million lives</p>			

Discovery is one of the largest private medical schemes in South Africa, with membership currently exceeding two million, having seen huge membership growth over the last nine years (Figure 4.2).

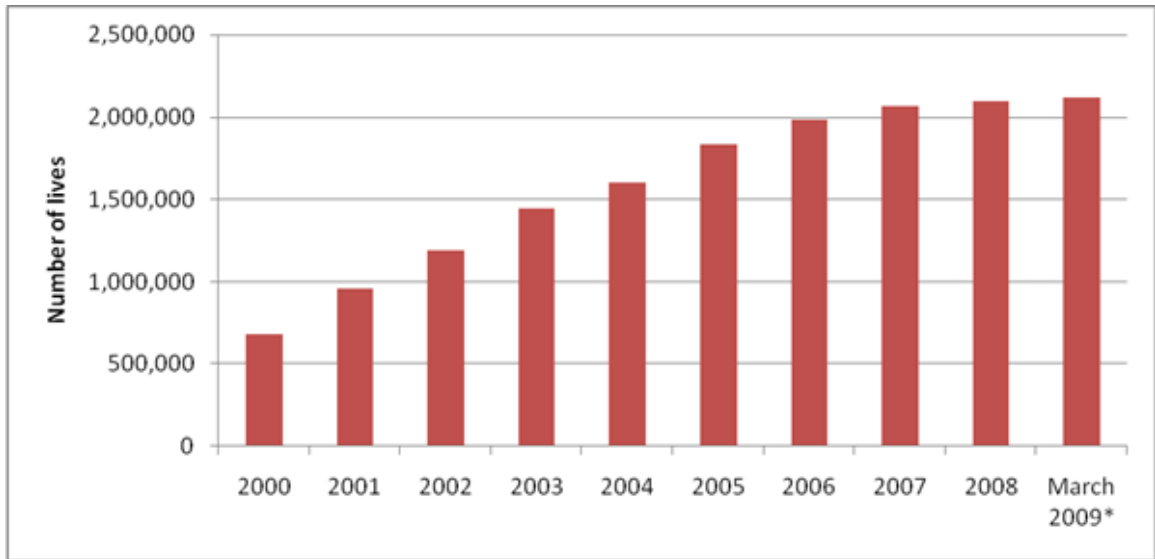


Figure 4.2: Discovery Health membership growth (Adapted from Vosloo (2008))

Based on its membership growth, Discovery has also achieved a broad market position in relation to competitors (See Figure 4.3).

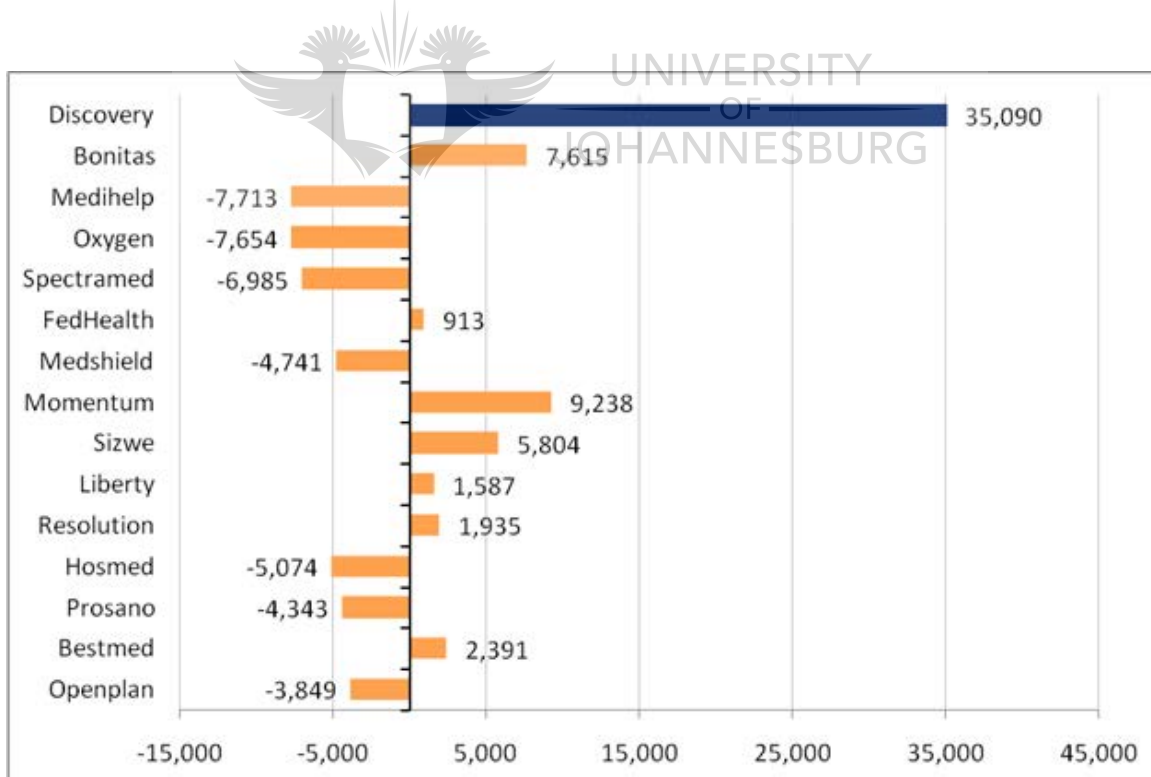


Figure 4.3: Discovery's South African market position in relation to competitors, based on membership growth (Adapted from Vosloo, 2008)

According to CEO Adrian Gore, Discovery's scale and innovation are a result of its employees. Discovery is a company that is built on the knowledge of its workforce (Vosloo, 2004).

4.3 DISCOVERY'S CORE VALUES

In all its endeavours, Discovery is guided by a set of values that determine how it conducts business and how it interacts with its stakeholders. These core values are: innovation and optimism; astuteness and prudence; great people; liberating the best in its people; integrity; honesty and fairness; intellectual leadership; tenacity; urgency and drive; and dazzling clients (Vosloo, 2008).

Two of these core values directly relate to its employees. These are "great people" and "liberating the best in its people". Executives believe that if the organisation liberates the best in its employees by developing and growing them, the results will have a direct impact on the organisation as a whole.

For this reason, employees are offered continual learning and development strategies to "liberate the best within them": ultimately resulting in "great people".

4.4 LEARNING AND DEVELOPMENT WITHIN DISCOVERY

Discovery has taken the combination of both a central and distributed approach to learning. Within the corporate Human Resources (HR) department lies the leadership team. Centrally situated, they are responsible for all leadership development across the organisation. The focus is on developing leaders at various levels, including team leaders, managers and executives. HR also provides employees with behavioural skills training.

Functional and technical training has been decentralised to each business entity. These business entities are Discovery Vitality, Discovery Card, Discovery Health, Discovery Life and PruHealth. Training managers, training solutions designers and facilitators sit within each business entity and are responsible for product, systems and, in some

cases, behavioural training as well. Each business entity develops and executes its own learning strategy and designs various programmes that address staff development. Discovery Health, which currently has 3 560 employees, has developed and is currently executing a learning organisation strategy. The strategy emphasises integrating learning and performance, with a strong focus on contribution of knowledge among teams and peers. There is a large focus on engaging learners at a social level in order to ensure that they collaborate and contribute to their department's learning interventions. However, no such strategy documents exist for any of the other business entities.

In July 2009, the Discovery training and development community from all business entities comprised approximately 72 members, namely: training managers, training solutions designers, facilitators and training coordinators. These members work in various Discovery regional offices across South Africa. Such locations include Cape Town, KwaZulu-Natal, Gauteng and Centurion. All training departments within Discovery use a combined delivery methodology of classroom and online learning modules and depend on the Learning Technology team for all their e-learning requirements.

4.5 THE ROLE OF THE LEARNING TECHNOLOGY TEAM

The Learning Technology team at Discovery was born in early 2006 with just two members. They focused on the administration of generic content and the design and development of online assessments and surveys. There was a project initiated in March 2006 to re-launch the learning management system for all employees within the organisation. Up until this point, the LMS was used by learning administrators to capture training attendance primarily. The team decided to take a bold step and develop the skills internally so as to be able to design and deliver custom online courses. This was achieved through the use of sound design methodologies, for example, ADDIE (analysis, design, development, implementations and evaluation) (Hall, 2003) and rapid authoring tools. The success of this initiative saw the increasing demand for custom online learning modules from the various training units and, hence, the rapid growth of

the Learning Technology team. The team is dispersed among the various regional offices with a manager and seven members focusing on various applications. Centrally situated at a Discovery Corporate level, the Learning Technology team, (Figure 4.4) is able to reach and service all business entities.

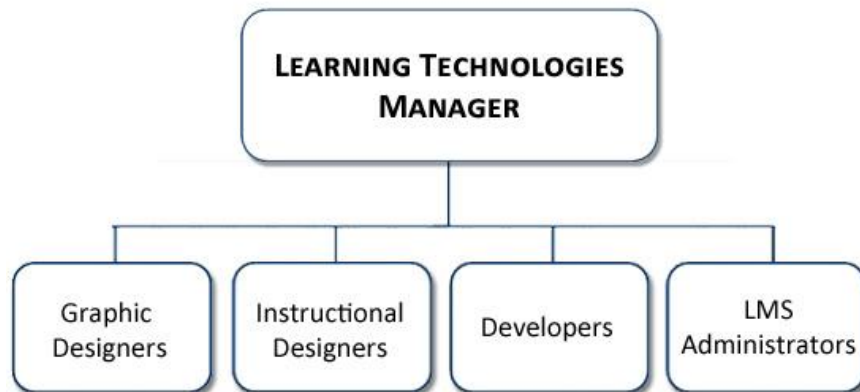


Figure 4.4: Discovery's Learning Technology team organogram (Source: Corporate Auxiliary Services, Discovery)

The Learning Technology team is responsible for the design and development of custom online courses. The team adheres to the content development lifecycle and has adopted the ADDIE model (Hall, 2003).

The team administers all of the generic online courses, which are purchased from external suppliers. There is an online catalogue of about 250 titles, which include categories such as information technology, financial management, communication skills, leadership and management and personal development. Course titles are changed annually or when the training managers request new titles for their respective business entities.

The Learning Technology team designs and develops online assessments and surveys for all business areas. Assessments include incentive-based, coaching and knowledge assessments. Surveys include satisfaction and evaluation surveys. Surveys are also

used to conduct online needs analysis and to assist the various training departments to establish the learning needs.

All system simulations for the purpose of training are designed and developed by the Learning Technology team. Simulations are created in three modes: the Show Me, Guide Me and Test Me modes. The Show Me mode will demonstrate a simulation of a specific process, while the Guide Me mode will allow the learner to apply the demonstrated actions from the Show Me mode. If the learner cannot remember a step, the system will guide the learner. Last, the Test Me mode will allow the learner to complete a system process on his/her own, without any guidance. Based on the learner's performance, a score is generated. This score is then recorded on the learning management system and used by the business unit to determine if the learner is competent to operate on the live system or if further coaching is required.

All courses and learning programmes are managed through the learning management system. The schedule of all classroom-based training is made available on the LMS. The LMS allows learners to register themselves or for managers to register their staff for any relevant classroom or online learning courses. The LMS is the central repository for all learning and development reporting.

4.6 SUMMARY

This chapter documented the research environment in which the case study was carried out. It highlighted Discovery as the parent company to the research subject, depicting its position in the marketplace, other role players, its culture and its stance on learning and development. The Learning Technology department was then depicted as the research subject, with key attribute mandates, departmental development, composition and functional application being discussed. The primary objective of this chapter was to provide the reader with insight into the environment under empirical scrutiny. The next chapter documents the research results and findings.

CHAPTER 5: RESULTS

5.1 INTRODUCTION

This chapter reviews the data analysis, based on the information gathered. The data were gathered using a three-phase approach. Phase 1 was the review of documents, Phase 2 was the conducting of the questionnaire and its results and Phase 3 focused on the group sessions.

5.2 DATA-GATHERING METHODOLOGIES

Three methods were used to gather data. These methods comprised reviewing the documents, conducting the questionnaire and then conducting focus group session with the different target groups. The target groups for participation in the questionnaire and focus groups comprised training managers, learning solution designers, facilitators, members from the Learning Technology team and learners from the various business entities. These entities comprised Discovery Health, Discovery Card, Discovery Life, Vitality and PruHealth.



5.3 PHASE 1 – REVIEW AND ANALYSIS OF DOCUMENTS

During this phase, the organisation's annual report, learning strategies, learning technology strategy and the annual training report were reviewed and analysed.

5.3.1 Discovery annual report

Discovery's latest annual report for 2008 provides an overview of the group and all its business entities, the business model, its directors, the chief executive officers for each business entity and its corporate governance. It also contains the chief executives' reports, shareholders' reports and annual financial statements. This provided great insight into the organisation's strategic direction and its core values. A better understanding was gained with regard to the magnitude and scale of Discovery and the context within which it operates.

5.3.2 Discovery learning strategies

Learning strategies or strategic documents from the various learning and development teams within each business entity were analysed. Only Discovery Health is in possession of a learning strategy. In September 2007, Discovery Health adopted a new strategy towards becoming a learning organisation. This learning strategy is based on the Imago System for Organisational Learning and details not only the underlying rationale, but also the implications of the learning strategy from an organisational perspective. The broad framework provided by the Imago System for Organisational Learning has been customised to provide a strategy that is uniquely relevant to Discovery Health, based on the business drivers and current organisational reality.

Before defining the strategy, a learning audit was conducted and revealed that Discovery Health has an exciting opportunity to redirect the enormous energy and investment currently spent on training and to experience real tangible business benefits as a result. For this to happen, the organisation needs to shift from operating primarily within a training paradigm to a learning paradigm. This involves aligning the learning architecture with that of a learning organisation and designing solutions that support performance needs. The key implications of this for Discovery Health involved moving learning infrastructure into the workplace environments and designing learning solutions that empower staff to access the right learning and performance support, when they need it.

The main focus of the strategy is to encourage learners to participate in the learning interventions through collaboration among learners and, hence, to contribute to the learning practice. In this way, Discovery Health believes that the individual learner, the department and the organisation will grow as a whole. The strategy indicates that there is a huge dependency on the use of learning technologies to achieve the outcomes of a learning organisation.

5.3.3 Discovery learning technology strategy

The Learning Technology team's strategy was defined in April 2006. It focuses on the re-implementation of the learning management system, where the main objective is to optimise the functionality provided by the LMS. The LMS that Discovery has purchased is a product called SABA. The strategy also documents the various learning technologies acquired by Discovery, as well as their functionalities. This includes Perception QuestionMark, which provides online assessments and surveys to all employees. Eppiplex is the system simulation development tool that is used to generate online training for business systems. Discovery uses a combination of generic off-the-shelf online courses supplied by SkillSoft and custom online courses that were designed and developed by their internal content team.

The strategy clearly defines the various target audiences that it aims to reach. There is a five-year plan to make the learning technologies available to internal employees, franchises and brokers and the ultimate reach would be its members. It stipulates the benefits that the organisation will enjoy from the use of learning technologies. This includes the reduction in training cost, the availability of more learning courses and the possibility of training more employees within a shorter timeframe. It indicates that the LMS will be able to provide better reports on learning interventions and spend within the organisation and this is crucial for compliance and legislative requirements. Such reports have to be produced annually by Discovery.

5.3.4 Discovery's annual training report – 2008

The final document reviewed was Discovery's annual training report. This report is generated annually and submitted to the Insurance Sector Education and Training Authority as part of the organisation's mandatory compliance reporting. The timeframe is from January to December and it reports on the total number of employees trained, the hours spent on training and the total cost of training. The employee demographics include race, gender, age, job title and disability status of each employee trained. The report indicates that that in 2008, compared to 2007, Discovery trained 18 per cent more unique employees on 165 more course titles and reduced the training time by 51

per cent, which amounted to 98 559 hours. There was a decrease in classroom-based training from 72 per cent in 2007 to 44 per cent in 2008; while online learning doubled to account for 56 per cent of all training, compared to only 28 per cent of Discovery's training mix in 2007. The report further indicates that Discovery was able to train more employees on more courses in a shorter space of time, saving the organisation an estimate of R25,3 million. It confirms that this achievement was made possible through the implementation and optimisation of the organisation's learning technologies.

5.3.5 Document findings

After analysing the above documents, it was evident that learning strategy documents did not exist for most of the business entities. These entities include Discovery Card, Discovery Life, Vitality and PruHealth. As such, the design of their interventions uses a reactive approach to training and does not address the departments' objective for people development and, hence, there is no synergy with the organisation's strategic goals.

Discovery Health has a well-defined, comprehensive strategy to become a learning organisation. Its objectives are congruent to that of the organisation's strategic objectives. It uses learning technologies and is in line with Stetsenko's framework (2008) of the transformative stance of learning and the need for social collaboration within learning interventions.

The learning technology strategy details the technology applications that Discovery has in place in order to support and foster learning. It also specifies the target audience that it would like to reach over a five-year period and the benefits that all of these technologies can offer to both the organisation and the learners. The annual training report shows off increased figures in the number of people that the organisation trained over a 12 month period, with massive rand savings.

It was then concluded that, based on all the documents reviewed, it was up to the training department within Discovery to design learning interventions, based on

Stetsenko's framework (2008), that will use technologies to deliver courses and assessments to the learners. Such interventions must encourage the social collaboration of all learners to ensure that they contribute to the learning practice which, in turn, will result in the development of the individual learner, department and organisation as a whole.

5.4 PHASE 2 – SURVEY RESULTS AND ANALYSIS

Figures 5.1 to 5.6 illustrate the demographic information of the 82 respondents who participated in this research.

- *Which department are you currently working in?*

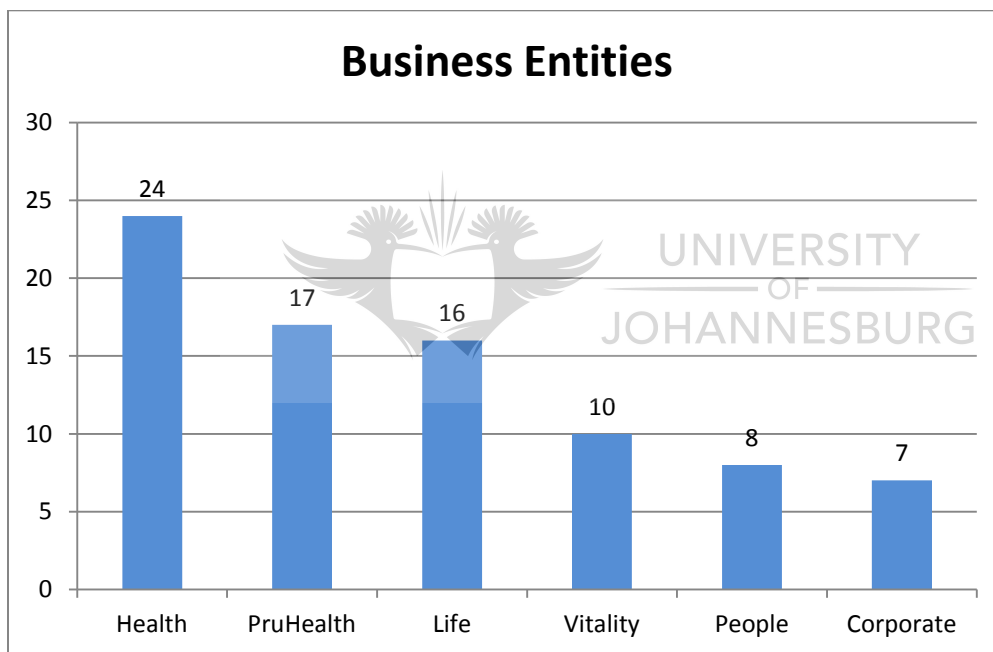


Figure 5.1: The number of participants from the various business entities

Figure 5.1 indicates the various business units from which the 82 employees who participated in this research came. The departments People and Corporate offer a shared service to all other business entities. The training team responsible for leadership development is centrally situated within the People department, while the Learning Technology team is centrally situated within the Corporate department.

- ***In what capacity are you completing this survey?***

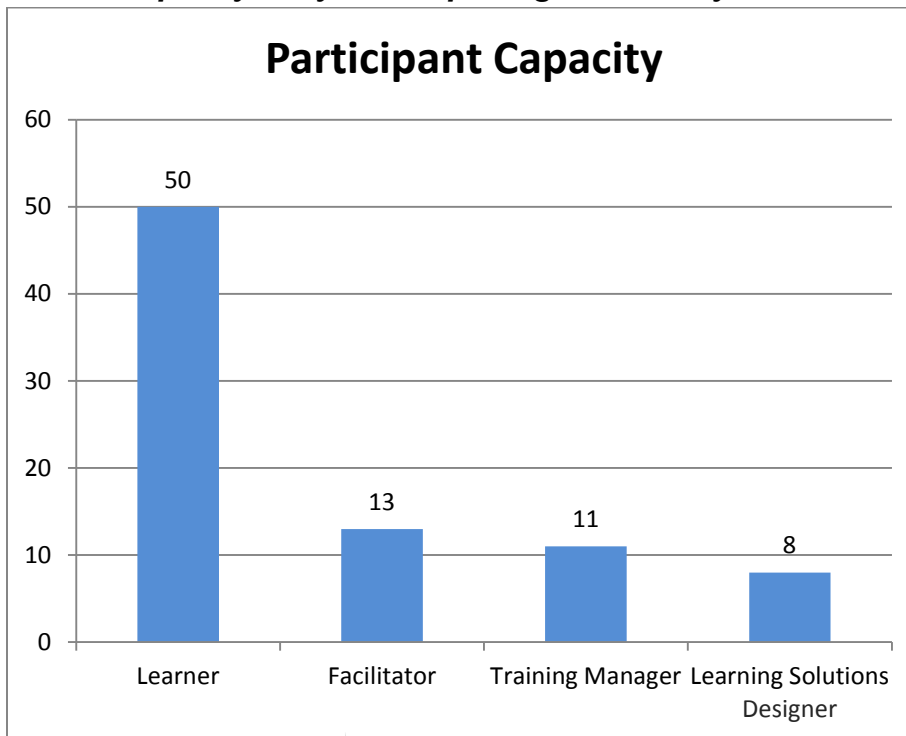


Figure 5.2: The number of participants in their various capacities

The 82 participants completed this research in various capacities, as indicated by Figure 5.2. The role of the training manager is to ensure that learning interventions are planned, designed and successfully executed within each of the business units. The learning solution designers only focus on crafting learning solutions. This includes the design and development of curricula, assessments and course material. They also decide on the delivery methodology of each learning intervention, which includes classroom-based training, an online solution through the use of the various learning technologies or a blended learning approach. They are also responsible for training the facilitators. The facilitators' sole responsibility is to ensure the successful execution of the learning intervention. Members of the Learning Technology team completed this survey in the capacity of training managers and learning solution designers.

- **What is your current age?**

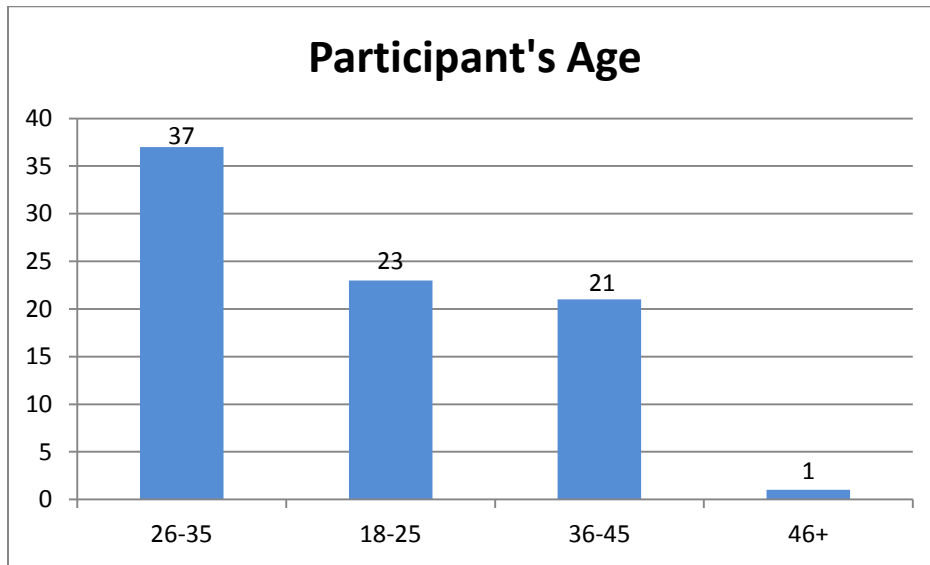
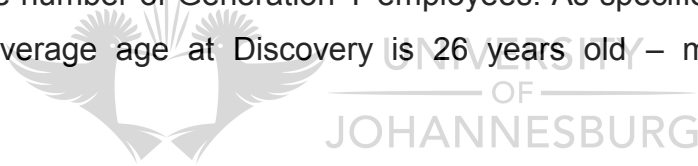


Figure 5.3: The age groups and number of participants within each age group

As indicated by Figure 5.3, the number of participants in the age groups 18 to 25 and 26 to 35 indicates a large number of Generation Y employees. As specified in the group induction programme, the average age at Discovery is 26 years old – making it a fairly young workforce.



- **What is your race group?**

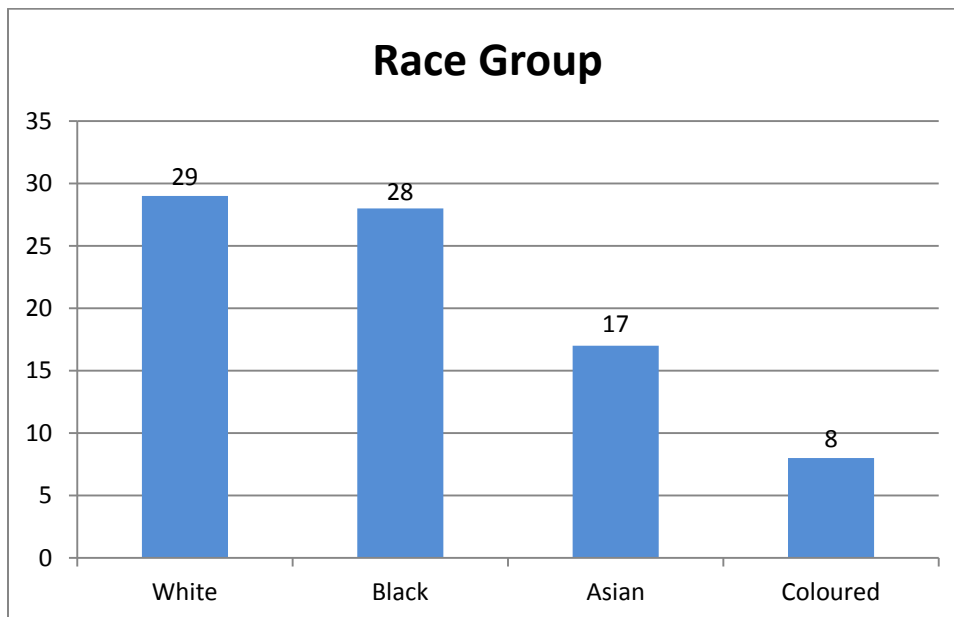


Figure 5.4: The number of participants in each race group

Figure 5.4 gives an indication of the race groups to which the 82 participants belong. The number of participants from each race group is fairly representative of the total employee population at Discovery.

- ***Please specify your gender.***

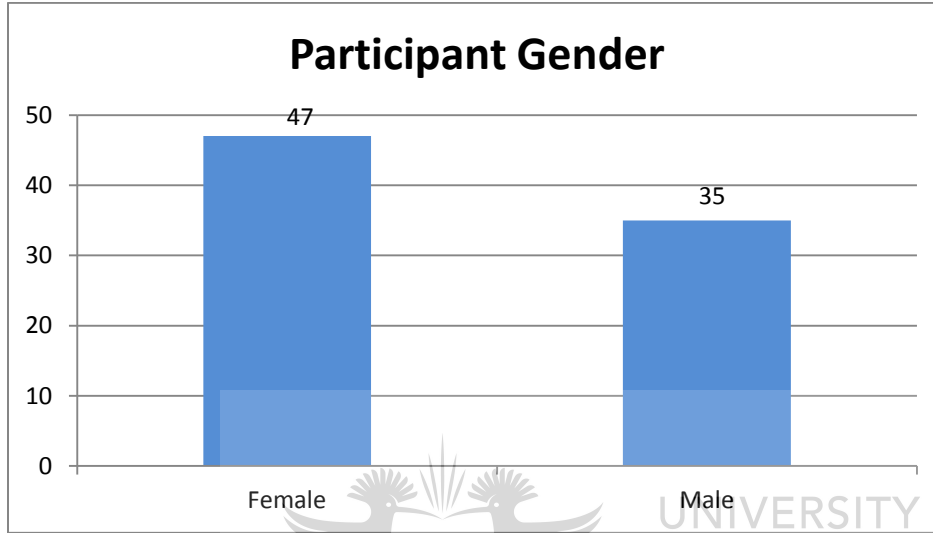


Figure 5.5: The number of participants per gender

As seen in Figure 5.5, there were more females who participated in the survey than males and this is representative of the employee population. As specified in the group induction programme, there are more female employees than males at Discovery.

- *What is your highest qualification?*

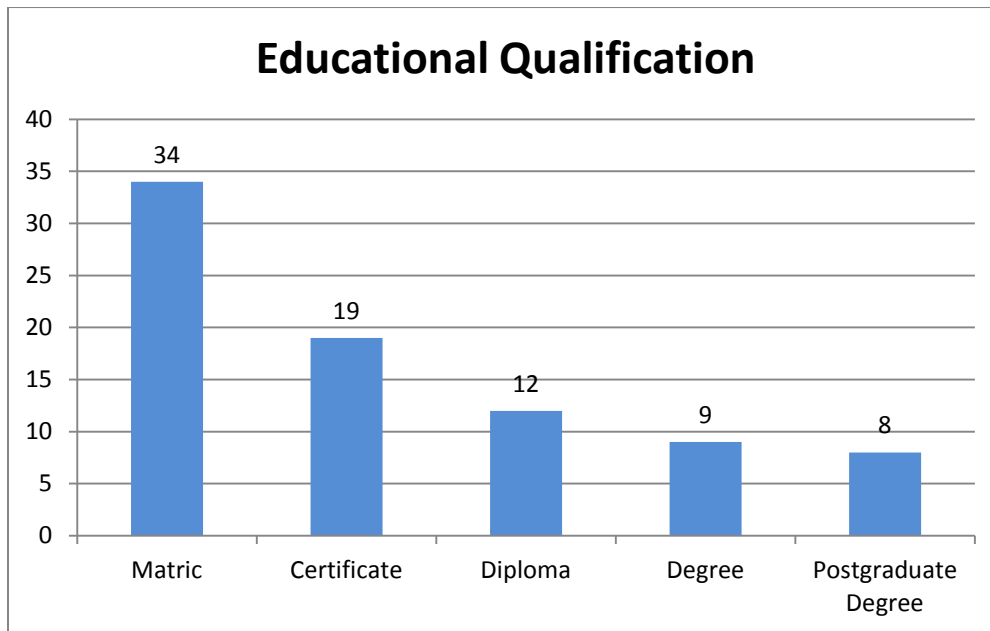


Figure 5.6: The highest qualification for participants

All participants had a good literacy level, as indicated by Figure 5.6. This implies that they had a good understanding of the survey questions and provided accurate and meaningful responses.

Figures 5.7 to 5.14 illustrate the responses of the participants for the 27 statements in the survey instrument. Participants had to rate each statement on a scale of 1 to 5, where 1 was least important and 5 was most important. They had to rate the importance of each statement for the current learning practice and the future learning practice.

The 27 statements were then grouped into the nine original dimensions provided by Stetsenko (2008). These dimensions comprised the key definition of learning; keywords; what the learning stresses; the ideal stance of learning; the role of the facilitator; the nature of knowing; timelines to be considered; who develops through the learning intervention; and the key goals of learning. Each dimension had a statement that best described learning at the acquisition, participation and contribution levels. Participants had to rate the level of importance for each statement in their current and future learning

practice. For the purpose of data analysis, the training managers, learning solution designers and facilitators were grouped together and referred to as the Training Department.

The first analysis looked at how the Training Department rated the learning practices in their current and future states and then compared the ratings of the two states. This comprised the three levels of learning: acquisition, participation and contribution.

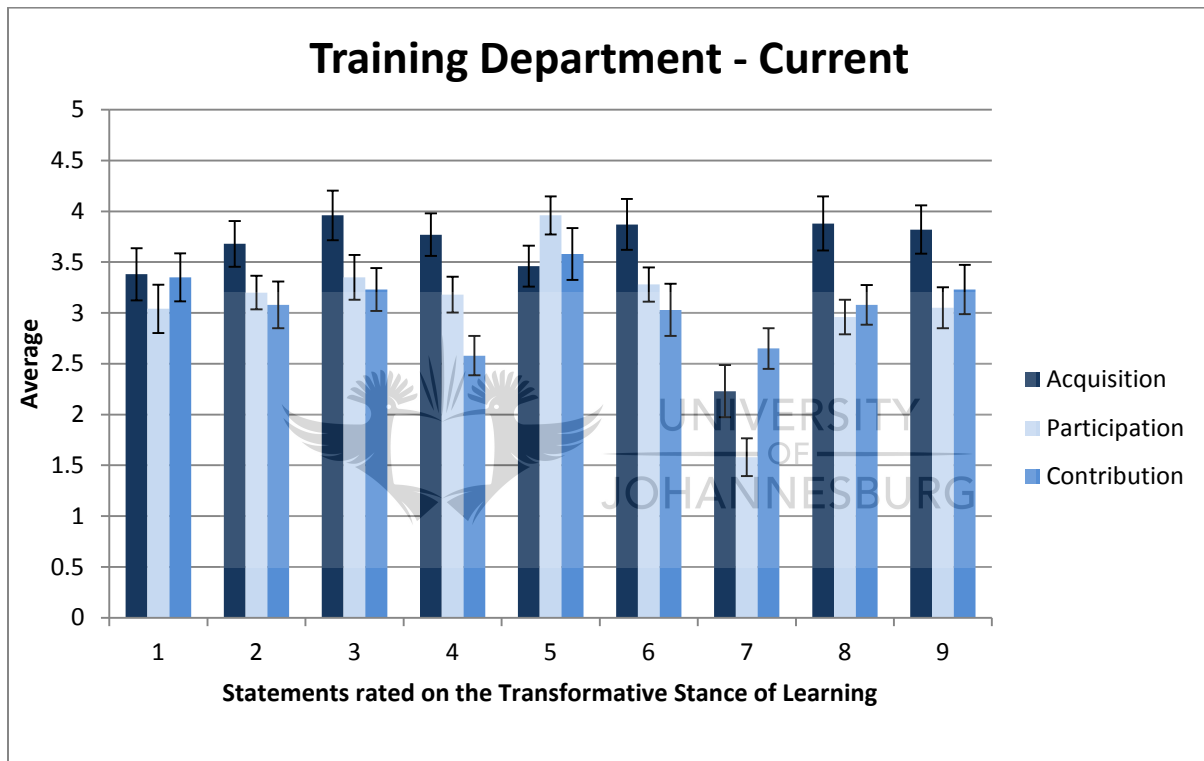


Figure: 5.7 How the Training Department rated the current importance of learning (Bars = standard error)

Statements 2, 3, 4, 6, 8 and 9 have a significant difference ($p < 0,05$) between the acquisition, participation and contribution levels. Figure 5.7 indicates that for six out of the nine statements, from the current perspective, the Training Department placed the highest importance on the acquisition of learning as stated by Stetsenko's framework (2008). At this level, the Training Department designs learning interventions that focus on the individual mind and what goes into it: hence, the ideal stance is individualised

learning, where the learner is the only one who develops through the learning intervention. They define learning as processing information and obtaining knowledge. The keywords used to describe learning are knowledge, concepts, meaning, fact, content, acquisition, internalisation, transmission, attainment and accumulation. The role of the facilitator is to deliver, convey, inculcate and clarify information, where the nature of knowing is possessing facts and skills. The timelines considered for learning are carrying past experiences into the present and the future is irrelevant. The key goals of learning are knowledge of facts and skills.

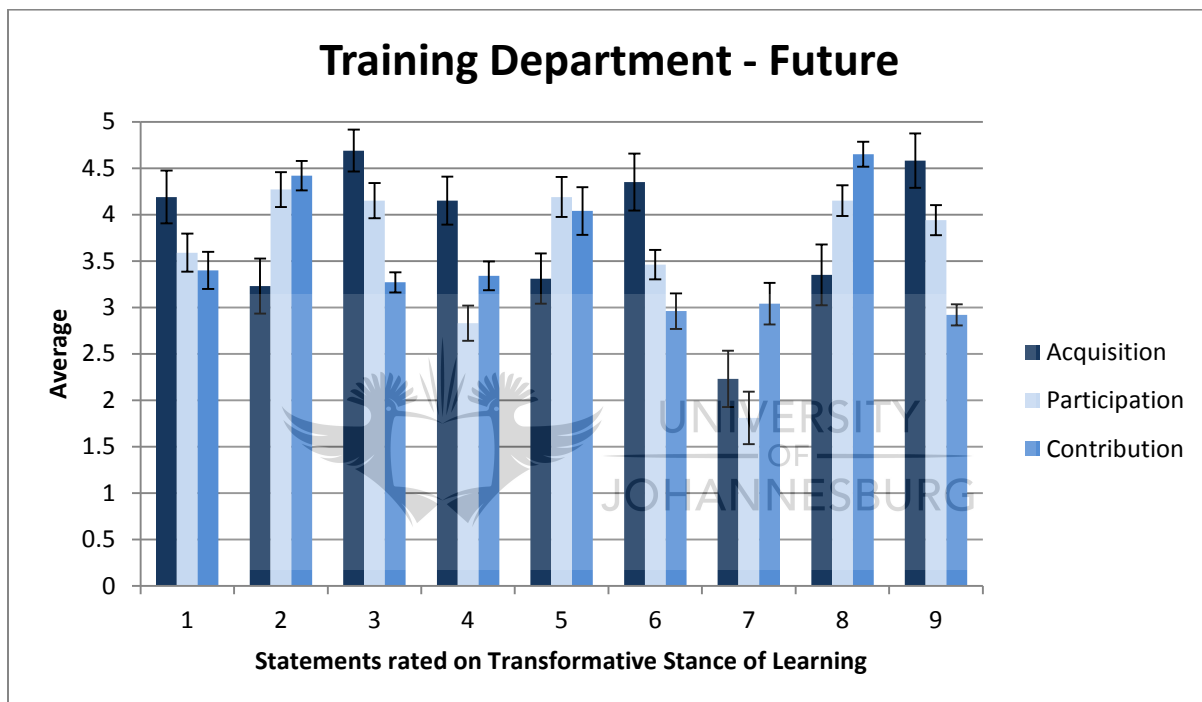


Figure 5.8: How the Training Department rated the future importance of learning (Bars = standard error)

It can be concluded that all nine statements indicate a significant difference between the acquisition, participation and contribution levels. Five out of the nine statements indicate a significant difference in the acquisition level ($p < 0,05$). Figure 5.8 indicates that, in the future, the Training Department will place the highest importance on the acquisition of learning as stated by Stetsenko's framework (2008). Hence, there is no shift in focus from the current to the future in terms of what learning should focus on. This implies that their main focus in the future will be on the distribution of learning as defined by

Stetsenko (2008). While learning technology has been implemented to change the learning methodology, the Training Department remains focused on the old paradigm of learning design and delivery.

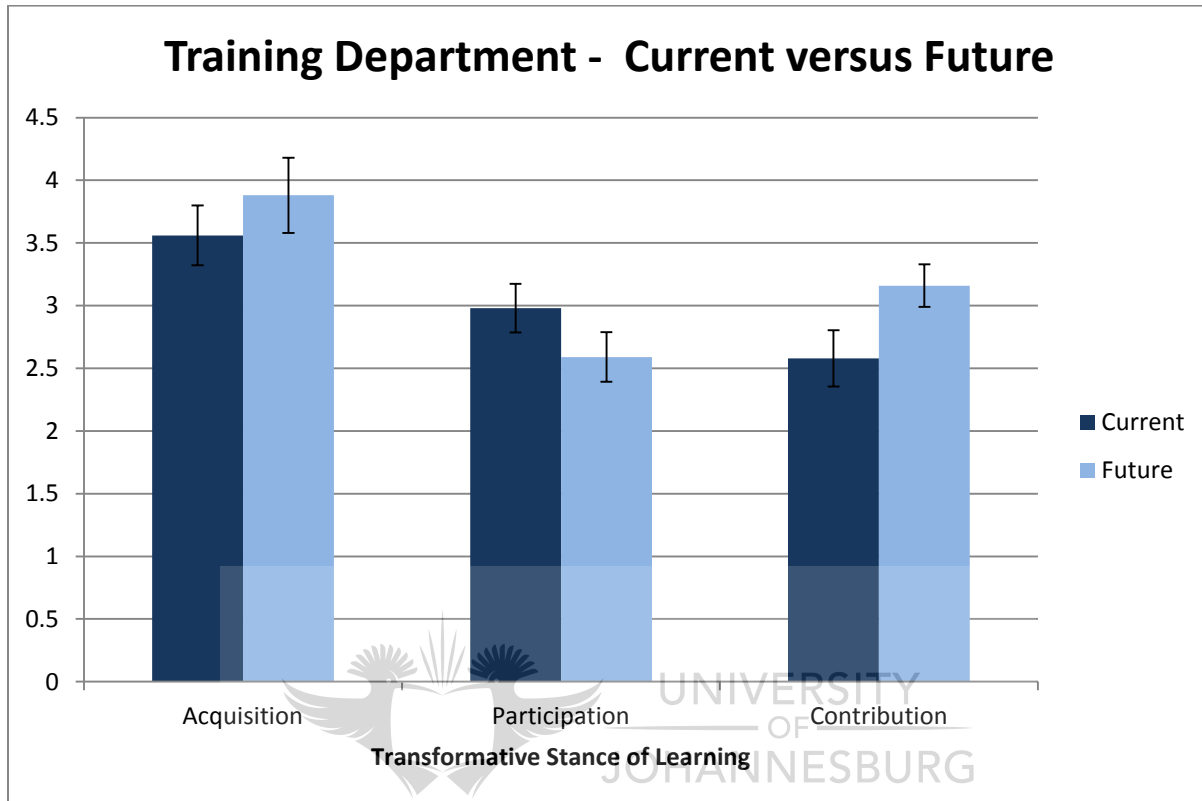


Figure 5.9: The difference between the current and future importance as viewed by the Training Department (Bars = standard error)

Figure 5.9 compares the importance of learning at the acquisition, participation and contribution levels of learning, as rated by the Training Department, for its current and future views. It clearly indicates an increase in importance on two levels of learning, namely, acquisition and contribution levels, with the significant increase only at a contribution level. However, when all three levels are compared with the current and future views, the highest importance still remains on the acquisition level of learning. This indicates that the Training Department does not support Stetsenko's (2008) argument that for learning to add the greatest value, it must be designed and delivered at a contribution level, where learners are able to collaborate sociably and contribute to their learning.

The second analysis looked at how the learners rated the learning practices in their current and future states and then compared the ratings of the two states. This comprised the three levels of learning: acquisition, participation and contribution.

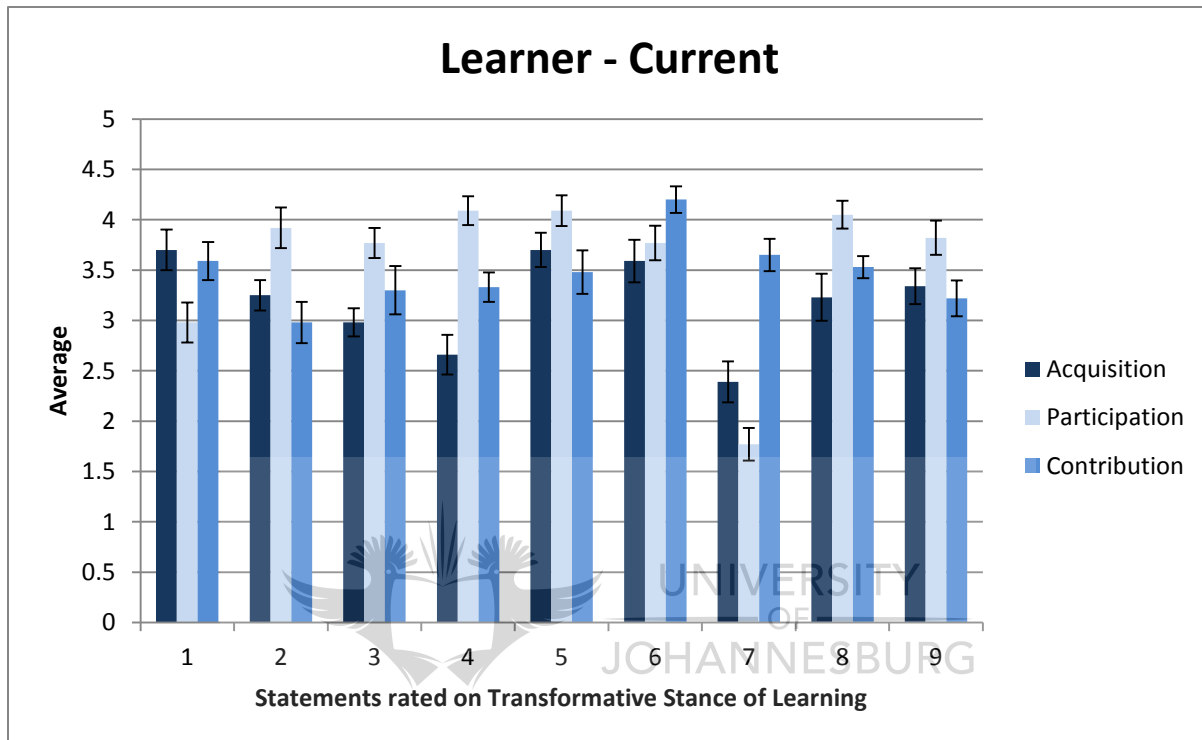


Figure 5.10: How the learners rate the current importance of learning (Bars = standard error)

It was found that Statements 2, 3, 4, 7, 8 and 9 indicate a significant difference ($p < 0,05$) between the acquisition, participation and contribution levels. Figure 5.10 indicates that, from the current perspective, the learners placed the highest importance on the participation of learning as stated by Stetsenko's framework (2008). At this level, the learners believe that learning interventions must focus on the evolving bonds between the individual and others and the dialectic nature of learning interaction, where the whole and the parts affect and inform each other. The ideal stance of learning is mutuality and community-building. At this level, learners define learning as participating and becoming a member of the community, where the permanence of "having" gives

way to the constant flux of “doing”. The keywords used to describe learning are apprenticeship, situations, contextuality, cultural embeddedness, discourse, communication, social constructivism and cooperation. The role of the facilitator is that of a mentor, expert participant, preserver of practice or discourse and the nature of knowing is a sense of belonging, participating and communication. The timelines considered for learning are to focus on the presently evolving patterns of participation: the past is irrelevant and the future is not considered. The key goals of learning are the ability to communicate in the language of community and to act according to its norms.

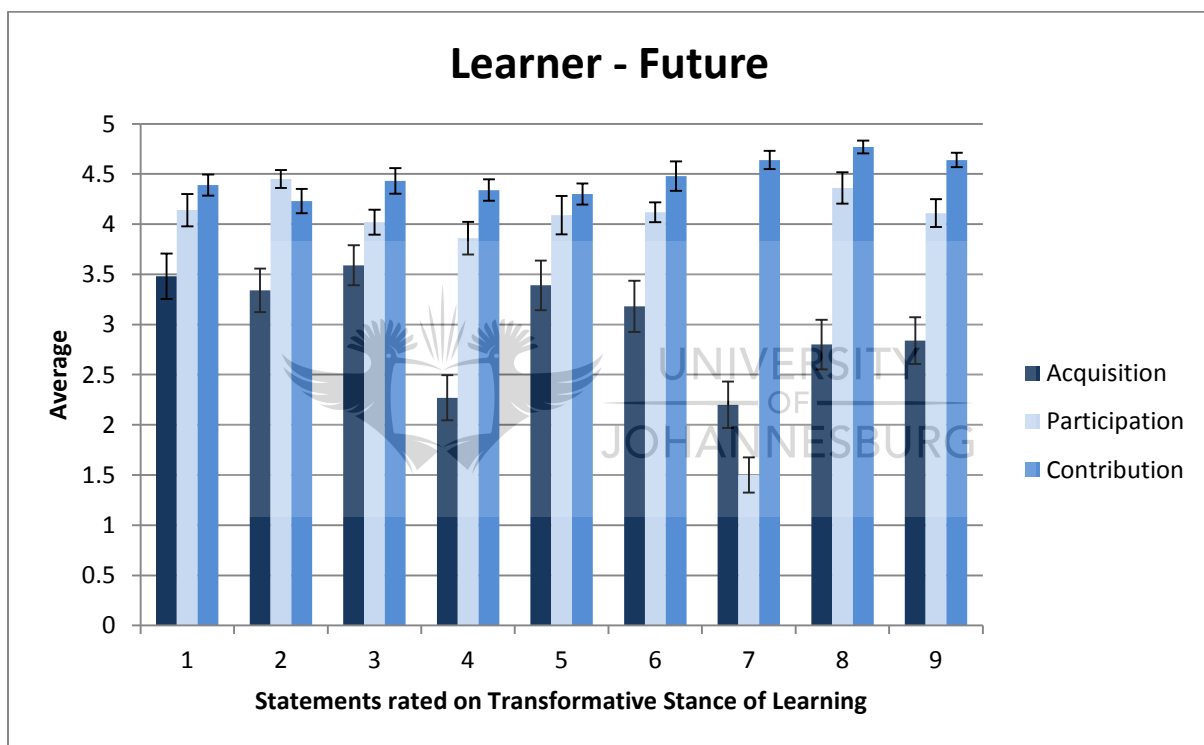


Figure 5.11: How the learners rate the future importance of learning (Bars = standard error)

It can be concluded that all nine statements indicate a significant difference ($p < 0,05$) between the contribution and acquisition levels. Figure 5.11 indicates that, from the future perspective, the learners placed the highest importance on the contribution of learning as stated by Stetsenko’s framework (2008). At the contribution level, the learners believe that learning interventions must focus on the dialectics of continuity and

transformation, tradition and innovation and learning for change. The ideal stance of learning is contribution through self-development and community development. At this level, learners define learning as contributing to the collaborative practices of humanity, while simultaneously transforming them. The keywords used to describe learning are contribution, transformation, history as a collaborative practice, cultural tools, vision and directionality, activism and commitment. The role of the facilitator is that of an activist who is open to collaboration and dialogue and who is an agent of collaborative change. The nature of knowing is collaboratively transforming the past, in view of the present conditions and future goals. Hence, the timelines considered for learning are to interface the past, the present and the future: where the past and present are known through positioning the future. The key goals of learning are knowing the past in order to be able to transform it and placing emphasis on the vision for the future, from which the past can be known.

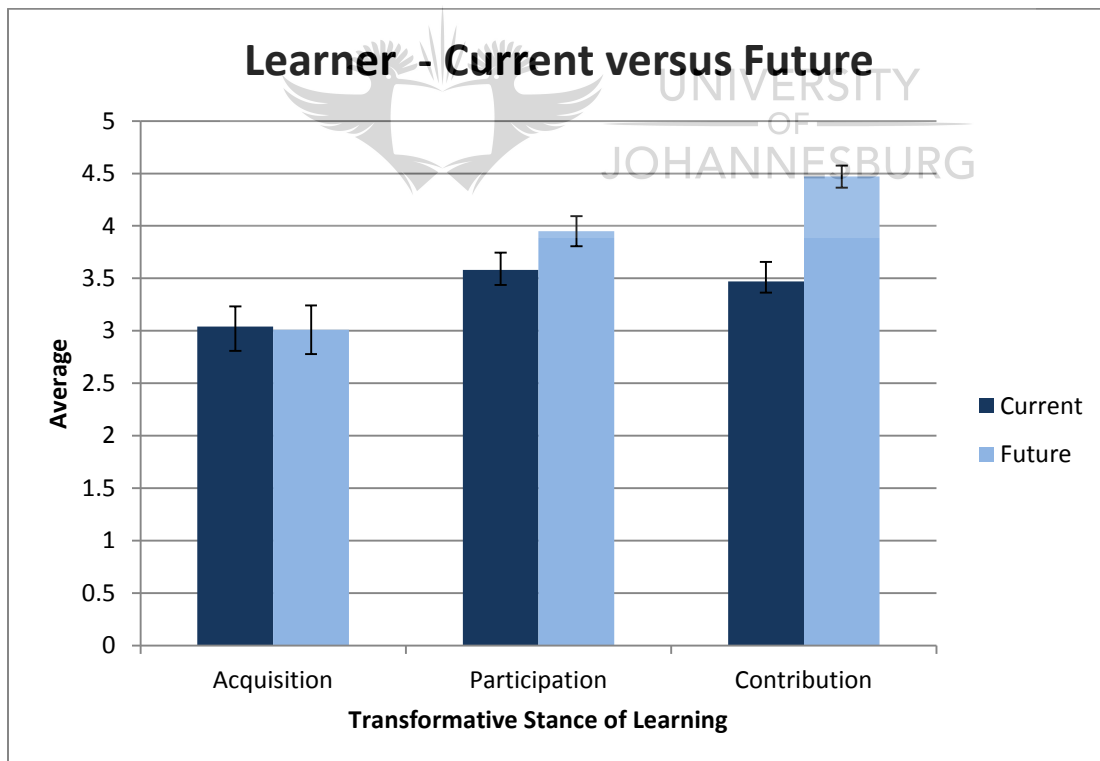


Figure 5.12: The difference between the current and future importance, as viewed by the learners (Bars = standard error)

Figure 5.12 compares the importance of learning at the acquisition, participation and contribution levels of learning, as rated by the learners. It clearly indicates a significant increase in importance on two levels of learning: participation and contribution. In the current view, learners rated the participation level of learning as the most important. In the future view, the level of importance has changed to the contribution level of learning. There was no change in the importance of learning at an acquisition level. This indicates that the learners' view is in line with Stetsenko's framework (2008), which states that for learning to add the greatest value, it must be designed and delivered at a contribution level, where learners are able to collaborate sociably and contribute to their learning. The learners want to be inclusive of the learning process.

The third analysis looked at how the Training Department and learners rated the learning practices in its current and future states. It compared the ratings of each state. This comprised the three levels of learning: acquisition, participation and contribution.

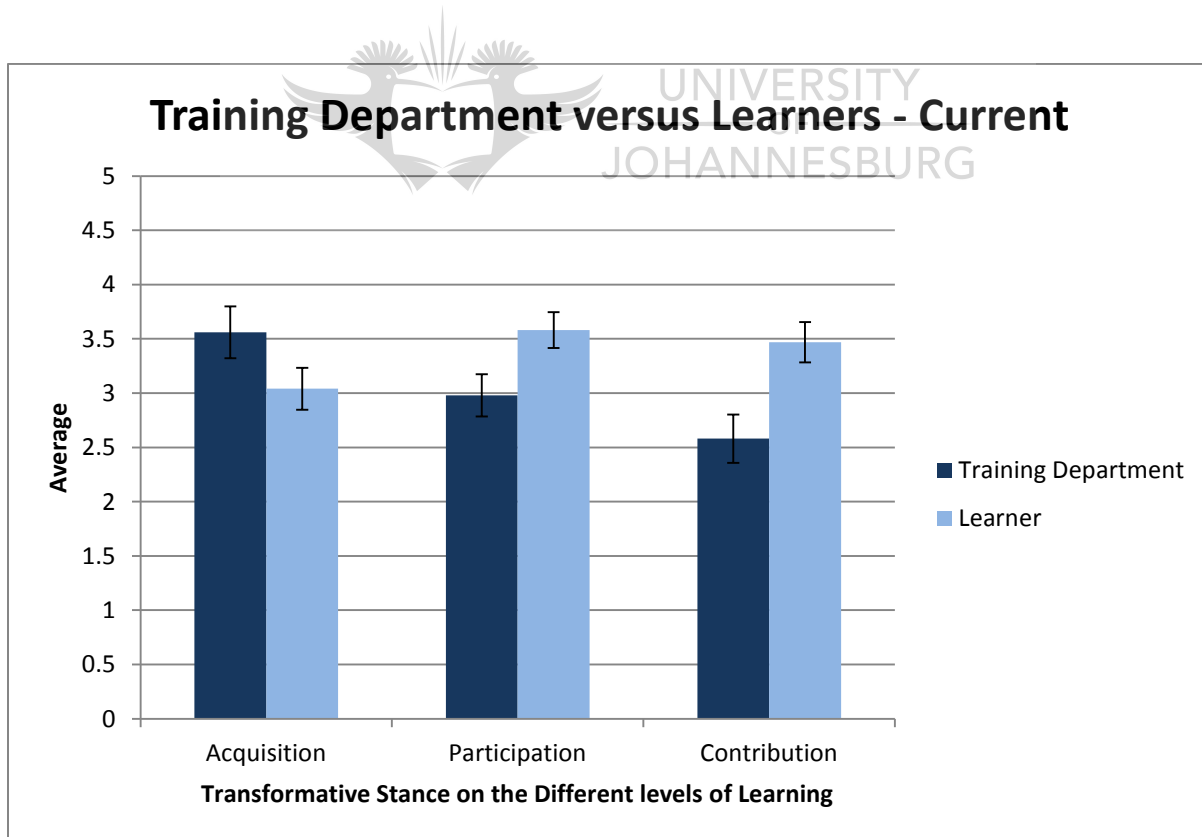


Figure 5.13: How the Training Department and learners rated the current importance of learning (Bars = standard error)

In the current and future views, there is a significant difference in importance between the Training Department and the learners. For each case, the learners' opinions were statistically different ($p < 0,05$) from the opinions of those in the Training Department. Figure 5.13 indicates that, from the current perspective, the Training Department placed the highest importance on the acquisition of learning as stated by Stetsenko's framework (2008). At this level, the Training Department designs learning interventions that focus on the individual mind and what goes into it: hence, the ideal stance is individualised learning, where the learner is the only one who develops through the learning intervention. They define learning as processing information and obtaining knowledge. The keywords used to describe learning are knowledge, concepts, meaning, fact, content, acquisition, internalisation, transmission, attainment and accumulation. The role of the facilitator is to deliver, convey, inculcate and clarify information, where the nature of knowing is possessing facts and skills. The timelines considered for learning are carrying past experiences into the present and the future is irrelevant. The key goals of learning are knowledge of facts and skills.

However, according to Figure 5.13, the learners, from their current perspective, placed the highest importance on the participation of learning as stated by Stetsenko's framework (2008). At this level, the learners believe that learning interventions must focus on the evolving bonds between the individual and others and the dialectic nature of learning interaction, where the whole and the parts affect and inform each other. The ideal stance of learning is mutuality and community-building. At this level, learners define learning as participating and becoming a member of the community, where the permanence of "having" gives way to the constant flux of "doing". The keywords used to describe learning are apprenticeship, situations, contextuality, cultural embeddedness, discourse, communication, social constructivism and cooperation. The role of the facilitator is that of a mentor, expert participant, preserver of practice or discourse and the nature of knowing is a sense of belonging, participating and communication. The timelines considered for learning are to focus on the presently evolving patterns of participation: the past is irrelevant and the future is not considered. The key goals of

learning are the ability to communicate in the language of community and act according to its norms.

This clearly indicates that the manner in which the Training Department is designing and delivering learning interventions is not what the learning community is expecting: thus demonstrating a misalignment between both groups. The reason for such misalignment was further explored and probed during the focus group sessions.

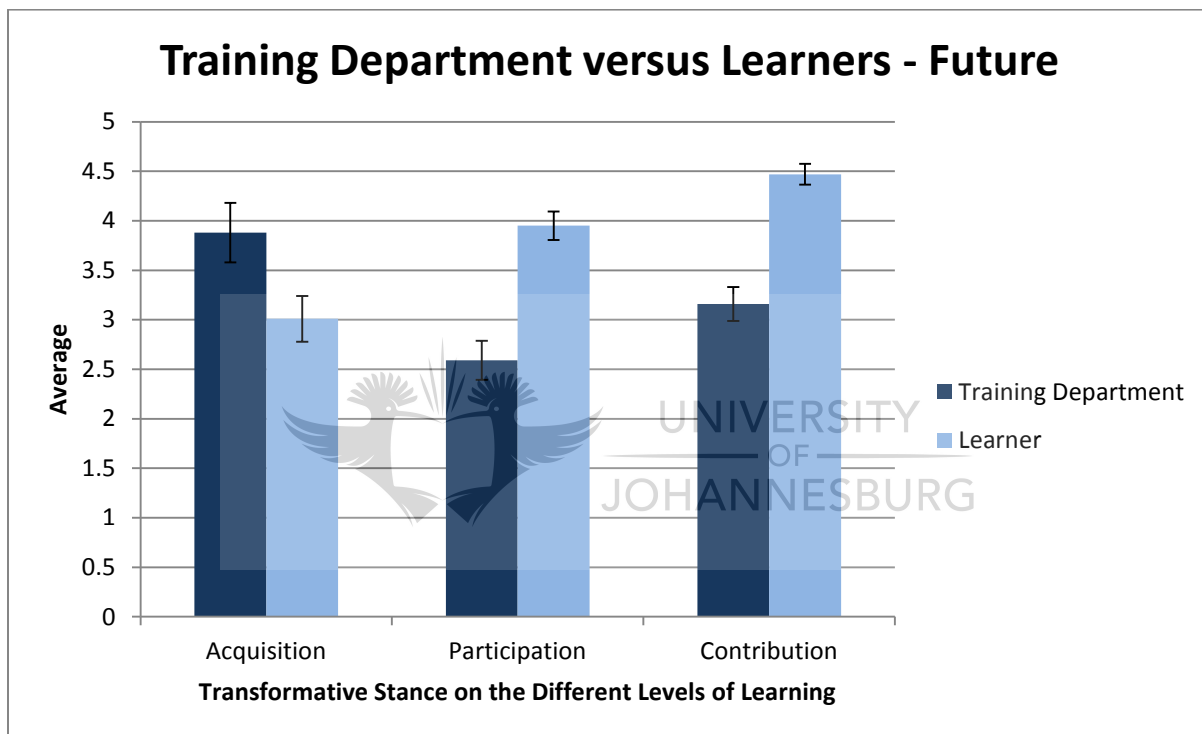
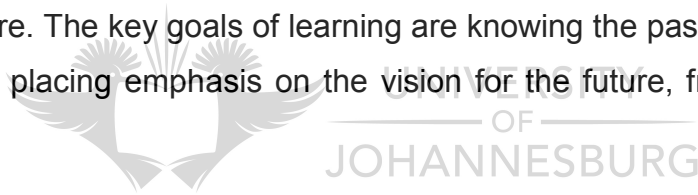


Figure 5.14: How the Training Department and learners rated the future importance of learning (Bars = standard error)

Figure 5.14 indicates that, in the future, the Training Department will place the highest importance on the acquisition of learning as stated by Stetsenko’s framework (2008). There has been no change in the shift in importance on the three levels of learning.

However, according to Figure 5.14, the learners, from their future perspective, placed the highest importance on the contribution of learning as stated by Stetsenko’s framework (2008). Their opinions were also statistically different ($p < 0,05$) from those of

the Training Department. For the learners, there has been a change in the shift in importance at the three levels of learning: from the participation level to the contribution level. At the contribution level, the learners believe that learning interventions must focus on the dialectics of continuity and transformation, tradition and innovation and learning for change. The ideal stance of learning is contribution through self-development and community development. At this level, learners define learning as contributing to the collaborative practices of humanity, while simultaneously transforming them. The keywords used to describe learning are contribution, transformation, history as a collaborative practice, cultural tools, vision and directionality, activism and commitment. The role of the facilitator is that of an activist who is open to collaboration and dialogue and who is an agent of collaborative change. The nature of knowing is collaboratively transforming the past, in view of the present conditions and future goals. Hence, the timelines considered for learning are to interface the past, the present and the future: where the past and present are known through positioning the future. The key goals of learning are knowing the past in order to be able to transform it and placing emphasis on the vision for the future, from which the past can be known.



This clearly indicates that, from their future perspective, both the training groups and learners place the importance of learning on different levels. While the Training Department places importance on the acquisition of learning, the learners place importance on the contribution of learning. The Training Department's view on the importance of learning contradicts that of Stetsenko's framework (2008), while the learners' view on the importance of learning supports Stetsenko's framework. The reason for such differences was further explored and probed during the focus group sessions.

5.5 PHASE 3 – DESIGNING AND CONDUCTING THE FOCUS GROUP SESSIONS

The last phase of data gathering was to conduct focus groups sessions. There were three focus group sessions conducted. Two were conducted in Johannesburg at Discovery's head office in Sandton. One was with members from the Training

Department, while the other was with a group of learners. The third focus group was conducted with members of the Training Department from the Cape Town office. The groups ranged from three to eight members and lasted between 40 minutes to an hour each. More focus group sessions would have been ideal, but it was a challenge to get individuals to participant. Each focus group session was recorded and later transcribed for analysis.

5.5.1 Designing the focus groups questions

The questions asked in the focus group sessions were designed with the aim of getting a better understanding of the differences in learning expectations of both the Training Department and the learners.

The following questions formed the basis of the focus groups and subsequent questions were asked during these sessions:

- What e-learning tools do you currently use?
- How are these tools being used to support learning that is currently offered?
- How would you like to see these tools being used in the future and why?
- What are some of the challenges that you have experienced with the e-learning tools that are currently being used?
- What are the benefits of using these e-learning tools?

5.5.2 Focus group results and analysis

- ***What e-learning tools do you currently use?***

The Training Department and learners listed all the tools currently used to support learning and development within Discovery. These tools include the use of a learning management system (SABA), an online simulation tool (Eppiplex), an online survey and assessment tool (Perception QuestionMark), a SkillSoft catalogue of generic content and the design and development of custom learning content using SABA Publisher.

- ***How are these tools being used to support learning that is currently offered?***

The learning management system is used to advertise the learning catalogue of courses. This includes both online courses and instructor-led courses. Learners are allowed to register online for any learning, while managers can register their staff or have a dashboard view of their staff's learning progress. The Training Department can draw reports on all learning activities at both a course and learner level. Such reports are used to manage access to courses and assessment results. From these results, facilitators can conduct gap analysis and close such gaps with other interventions, such as coaching or mentoring.

The online simulation tool is used to simulate various systems used within Discovery. Eppiplex is used to simulate the training of all internal systems, in order to train new employees or employees returning from a long leave of absence. It is also used to train people in the changes or upgrades being made to existing systems. Perception QuestionMark is an online survey and assessment tool. It is used to conduct learning needs analysis, knowledge assessments and learner satisfaction evaluations after training interventions.

A SkillSoft generic catalogue of courses is used to offer courses that close skills gaps or act as self-development tools. The Learning Technology team has the skills to design and develop custom online learning courses, as required by the Training Department. When the Training Department receives a business request to train employees, it analyses the need and decides what the best methodology is to use to improve the employees' skills. Often, it is a blended learning approach that incorporates online and classroom training. However, the main focus is on the distribution of information and this is due to the short timelines available to design and deliver learning interventions. Often, the Training Department does not have the luxury of time to design a comprehensive solution that supports learning at a contribution level. It would be given a particular time to design, deliver and assess the employees on a new product,

with limited resources. The use of learning technologies has allowed the Training Department to reach larger groups of employees in a shorter timeframe with limited resources – making the distribution of information the main focus. Even though many learning technology tools are currently being used, they are not optimised to reach their full capabilities.

- ***How would you like to see these tools being used in the future and why?***

The learners had a strong focus on the need for collaboration. They would like to interact with other learners and facilitators in an online space. They would prefer to collaborate with others while learning is taking place, as they see this as an opportunity to contribute to the learning process. They had a strong desire for social learning and even the use of mobile devices for the distribution of learning would be welcomed. The Training Department would like to incorporate the use of collaboration among learners for particular courses, if the business timelines allow for it. Seeing as they are responsible for training employees who are geographically dispersed, the collaboration tool would allow learners to connect and contribute to their learning process, as they believe that learning is sharing.

- ***What are some of the challenges that you have experienced with the e-learning tools that are currently being used?***

The Training Department faced the initial challenge of trainers not wanting to embrace technology as an enabler of learning distribution. The Learning Technology team currently faces a shortage of skilled individuals who are able to use and support the various technologies. This includes LMS administrators, instruction designers and developers for online content. The learners are not given adequate time to focus on learning. In some areas, especially in the customer care environment, learners are expected to complete their online learning in their own time, either during lunch breaks or before or after work hours. This was also the case if they had to familiarise themselves with a business learning intervention. They are incentivised for completing a course and for achieving the pass mark for an assessment.

Both the Training Department and learners found bandwidth to be a problem. This was especially the case in the offices situated in Cape Town and Durban. When a project was rolled out, it was often the case that all employees would access the LMS during the last hour, making the system unable to handle the volumes of users. Both groups found that change management was a challenge. The concept of learning technologies was not a problem after it was launched and even though the interest is high among all employees after three years, much more could have been achieved if proper change management was adopted. There is a lack of executive sponsorship, as there is no message from top management as to the importance of learning. The only area that seems to have the support and buy-in from top management with regard to learning is Discovery Health and this is clearly indicated in its learning organisation strategy.

- ***What are the benefits of using these e-learning tools?***

Both groups believe that with learning technologies one is able to manage one's own development. These technologies encourage self-paced learning, as online courses do not have to be completed all at once: hence, increasing retention. The use of learning technologies will certainly save costs for the organisation, as they reduce the learning time as well as facilitators' travel cost to train in the regions such as Cape Town and Durban: hence, reaching more learners in a shorter space of time. Learning technology tools support environmentally friendly initiatives, as there is no need to print learning manuals or assessments, as these can be done online: thus saving paper. It provides the organisation with better reporting capabilities in all learning activities.

During the focus group sessions, there were many keywords used by the Training Department and learners. According to Stetsenko's framework (2008), the tables below indicate the keywords used during the focus groups, which demonstrated the level of learning importance. The shaded blocks indicate when a keyword was used.

Table 5.1: The Training Department's view on the importance of learning

	Acquisition	Participation	Contribution
Key definition	Information processing	Becoming a member of a community	Contributing to the collaborative practices of humanity
Keywords	Knowledge, facts, transmission	Discourse, communication and cooperation	Contribution, transformation, collaborative practices
Focus on	Individual's mind and what goes into it	Evolving bonds between individuals and others	Learning for change
Ideal stance	Individualised learning	Department-building	Organisation and community-building
Role of facilitator	Delivery of information	Mentor, expert participant	Agent of collaborative change
Nature of knowing	Processing facts	Belonging, participating, communicating	Collaboratively transforming the past, in view of present conditions and future goals
Timeline for learning	Carrying past experiences into the present. Future is irrelevant	Focusing on the presently evolving patterns of participation: past is irrelevant and no future	Interfacing the past, the present and the future
Who develops	Individual learner	The department	The organisation, community and humanity
Key goals of learning	Knowledge of facts and skills	Ability to communicate in the language of community	Knowing the past in order to be able to transform it

It can be concluded that the Training Department's main focus is on the acquisition of knowledge and information (Table 5.1). It has placed the highest importance on learning at an acquisition level. Lack of knowledge on how to design learning interventions at a contribution level can be a reason for the misalignment of what learners want and what is being delivered. Due to business demands for quick learning interventions, the department mainly focuses on the distribution of knowledge and is unable to design learning that fosters collaboration and allows learners to contribute to the learning.

process. This can be viewed as another reason for misalignment. However, they have indicated the need to promote collaboration in their future learning interventions, in order to be able to allow learners to contribute to the learning process: as such, functionality exists within the current learning technologies in use. While the Training Department has a basic idea of the functionalities that the learning technologies can offer to promote socially collaborative learning, they do not completely understand their full offering and, hence, exclude them from the learning design.

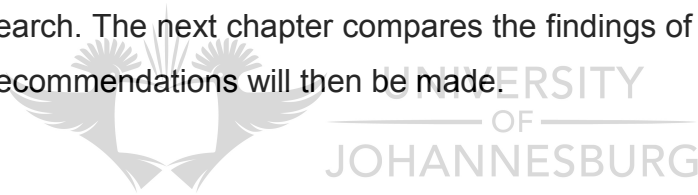
Table 5.2: The learners' view of the importance of learning

	Acquisition	Participation	Contribution
Key definition	Information processing	Becoming a member of a community	Contributing to the collaborative practices of humanity
Keywords	Knowledge, facts, transmission	Discourse, communication and cooperation	Contribution, transformation, collaborative practices
Focus on	Individual's mind and what goes into it	Evolving bonds between individuals and others	Learning for change
Ideal stance	Individualised learning	Department-building	Organisation and community-building
Role of facilitator	Delivery of information	Mentor, expert participant	Agent of collaborative change
Nature of knowing	Processing facts	Belonging, participating, communicating	Collaboratively transforming the past, in view of present conditions and future goals
Timeline for learning	Carrying past experiences into the present. Future is irrelevant	Focusing on the presently evolving patterns of participation: past is irrelevant and no future	Interfacing the past, the present and the future
Who develops	Individual learner	The department	The organisation, community and humanity
Key goals of learning	Knowledge of facts and skills	Ability to communicate in the language of community	Knowing the past in order to be able to transform it

It can be concluded that the learners' main focus is on the need for collaboration during the learning process (Table 5.2). They have placed the highest importance on learning at a contribution level. Even though they believe it is important to acquire the knowledge and facts, they must be able to interact with other learners and facilitators on a particular course or topic. They consider learning to be a shared process and they must be able to practise and demonstrate what has been learned. The learners also believe that it is important to share the mistakes made, as this will prevent others from making the same mistake and this lends itself to learning. They see collaboration among learners as being the quickest way to share learning practices. They believe that the technologies exist to allow them to collaborate remotely, but cannot understand why these technologies do not form part of the learning interventions.

5.6 SUMMARY

This chapter focused on the analysis and representation of the data gathered throughout this research. The next chapter compares the findings of this research to the literature review. Recommendations will then be made.



CHAPTER 6: DISCUSSION AND RECOMMENDATIONS

6.1 INTRODUCTION

This chapter provides a summary of the aims for this study, the empirical findings and the contributions of the research to the existing body of knowledge. Discussions, recommendations and further research possibilities are given.

6.2 AIMS OF THIS STUDY

Stetsenko (2005: 72) postulated that “People not only constantly transform and create their environment; they also create and constantly transform their very lives, constantly changing themselves in fundamental ways and, in the process, gaining self-knowledge. Therefore, human activity – material, practical, and always, by necessity, social collaborative processes aimed at transforming the world and human beings themselves with the help of collectively created tools – is the basic form of life for people.”

The aim of this research was to examine how the Training Department within Discovery uses the learning technology tools to deliver and foster learning among its employees and whether or not such learning solutions meet the expectations of the learners and optimise the functionalities that the learning technology tools have to offer. Further, does the learning department base the use of these technologies on its own ideology or on the basis of the transformative stance of learning practices?

6.3 SUMMARY OF RESULTS

Despite best-of-breed learning technologies being implemented at Discovery, they are not fully optimised in terms of their functionalities: for example, the use of collaboration on the learning management system. However, Discovery is certainly reaping the benefits of having an end-to-end e-learning solution in place. As indicated in the annual training report (which compared the results of 2007 to those of 2008), in 2008 Discovery trained 18 per cent more unique employees on 165 more course titles and reduced the training time by 51 per cent, which amounted to 98 559 hours. It saw a decrease in classroom-based training from 72 per cent in 2007 to 44 per cent in 2008; while online

learning doubled to account for 56 per cent of all training, compared to only 28 per cent of Discovery's training mix in 2007. The report further indicates that Discovery was able to train more employees on more courses in a shorter space of time, saving the organisation an estimate of R25,3 million. It confirms that this achievement was made possible through the implementation and optimisation of the organisation's learning technologies. Reduced training time, training cost and greater learner reach are just a few of the many benefits of e-learning that Discovery has realised and is beginning to enjoy.

One of the major findings of this research is the difference in what learners want from a learning intervention and what the Training Department is delivering. The results from the questionnaire clearly indicate that, when compared to the framework of the transformative stance of learning, learners want to experience learning interventions that are social and collaborative in nature. They want to be able to contribute to the learning process. However, the Training Department is designing and delivering learning interventions that focus on the distribution and acquisition of knowledge. There is clearly a distinct misalignment between what is desired versus what is being delivered.

6.4 DISCUSSION

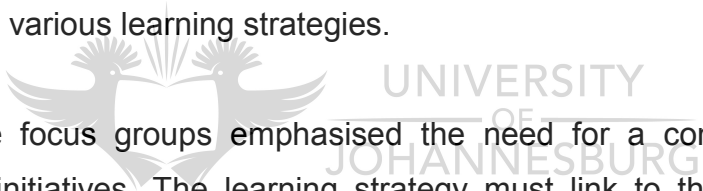
Based on the data analysis and findings of this research, the following conclusions can be made.

6.4.1 Overall learning strategy for the organisation

Dagada and Jakovljevic (2005) explained that having a learning strategy is a critical success factor for the implementation of e-learning. A strategy is imperative, as it gives clear direction to the project at hand. A learning strategy will include how learning programmes are delivered to the people who need them to accomplish business goals. One of the biggest mistakes organisations make is leading with technology before a strategy is established. Too much money is spent, resulting in disappointment and resistance to investing more when the proper time for investment arrives. A strategy, in

line with the CHAT framework, serves the purpose of the division of labour, rules and community.

During the analysis of documents and focus group sessions, it became evident that a single overarching learning strategy for the organisation is absent. Although some business entities have their own training strategies, they are not linked to the organisation's learning goals. The business units without clear strategies or with no strategies at all continue to operate on a day-to-day basis with no end goal in mind. As a result, all learning initiatives within the various business entities are implemented independently of the organisation's business strategy. Within the Discovery Health business entity, a learning strategy exists and all learning interventions are designed to achieve the objectives of this strategy. The Learning Technology team also has a strategy. While these strategies have much in common, they work independently of each other and the organisation's business strategy. Hence, there is a great need for synergy among the various learning strategies.



Participants of the focus groups emphasised the need for a consolidated learning strategy to direct initiatives. The learning strategy must link to the overall business strategy. Once there is a common understanding of the strategic business objectives, the learning and development department needs to unpack these requirements and design interventions to assist the organisation to reach its objectives.

People development forms part of Discovery's core value system and, hence, it is imperative that learning initiatives align with the business strategy and each individual's development plan. There needs to be a cascading approach to the learning strategy. The overarching organisational learning strategy must be adopted and supported by the various business entities, which must then develop a learning strategy specific to the developmental needs of the employees within their business and in line with the organisation's overarching learning strategy. Progress reports on achieving the learning strategy milestones must be fed back to the executive team periodically. This will help strengthen the executive sponsorship of employee development.

6.4.2 Obtaining executive buy-in

The traditional hierarchical culture of Discovery is still not adapting to the knowledge economy: this could prevent attracting and retaining knowledge workers who have become essential in the new knowledge economy and are conducive to future organisational success and growth. Lack of communication within Discovery hampers the ability of knowledge workers to work together successfully. In a collaborative organisation where relationships are built on alignment with strategic goals and objectives, knowledge workers are valued for their commitment to both the task and the relationship with stakeholders. A collaborative culture fosters training and development as important requirements for establishing a well-planned and securely implemented organisational learning strategy.

Leaders should be role models in the transition to a collaborative culture. In this fundamental culture, the vision to transform and collaborate should be continually communicated throughout the organisation. Dagada and Jakovljevic (2005) defined executive sponsorship as a critical success factor for transformation to technology-enabled learning and collaboration. For this reason, it is critical for executives to completely understand the functionalities and value-add realised from investments made in learning technologies. They must support all future learning initiatives and drive social collaboration and learner contribution to best learning practices.

During the focus group sessions, participants voiced their frustrations with the lack of executive sponsorship and interest in learning technologies to such an extent that they wondered if the CEO knew that e-learning was the learning methodology adopted by Discovery. Once the approach of e-learning is valued and accepted by the executives, they will assist in promoting this to other employees within the organisation. Rosenberg (2001) stated that executive sponsorship can influence and improve the adoption rate of e-learning within an organisation. Due to the complex organisational structure of Discovery, it is imperative that executive sponsorship of learning initiatives is equal across all business entities. If a top-down approach is applied, it will be easier to foster social learning and collaboration. While much progress has been made to date with the

implementation of various learning technologies within Discovery, it is still imperative that executives completely understand the benefits of these technologies. They should further acknowledge the role that the technologies can play in creating a learning organisation and fostering greater social collaboration among its workforce: thus ensuring that the concept of the knowledge worker is strengthened.

6.4.3 Fostering change management

Bersin and Associates (2005) identified a change in learning culture as being the third biggest challenge that organisations face when implementing e-learning. Such a culture change can result in resistance. Organisations need to identify ways to manage this change and turn resistance into an acceptance process for this new learning style. Sullivan (2002) stressed that the e-learning strategy must include a communication and change management plan. Many organisations do not consider change management until the system is about to “go live”. Often, this is far too late.

Throughout the various focus group sessions held, the lack of change management was constantly mentioned. Even though the new learning technologies have been adopted within certain parts of the organisation, a proper change management process would have ensured greater adoption, with fewer barriers. Change management will assist in preparing the organisation for a change in learning methodology. This shift in paradigm is essential to ensure success.

Due to the complexity of the business, a single change initiative will not suffice. The change initiative should consist of a number of interventions that are all focused on different target groups. Such groups should include the executive team, the Training Department and all employees. The various interventions should have specific objectives: for example, the change initiative targeted at the Training Department should aim to transform its view on learning design and how technology can enhance collaborative learning practices.

It was clear in the findings that even though learning technologies that support collaborative learning practices exist within Discovery, the Training Department still designed learning for the acquisition and distribution of information. This implies that the Training Department has not yet realised the extent and value that the implemented technologies have to offer; nor does it understand how these technologies could transform the manner in which its employees are developed.

While many models exist to assist an organisation with change, I would recommend the ADKAR model (Figure 6.1). The ADKAR model was developed by Prosci Online Learning Centre in 2005, after research with more than 700 companies that were undergoing major change projects (Hiatt, 1998). ADKAR is an acronym for *awareness, desire, knowledge, ability and reinforcement*. This model is intended to be used as a coaching tool in assisting the project facilitator who is serving staff through the change process.

The ADKAR methodology is a phased approach that makes the client aware of the need to change; creates a desire for change; offers insight into the methodology of the change mechanism; empowers the client with the ability to implement new skills and behaviours; and reinforces the retention of change. The power of this approach is that change ownership resides with the client.

Figure 6.1 presents the various phases of the ADKAR model. The phases of change for employees are shown on the left-hand side and the enablers or catalysts for change are shown on the right-hand side. There is a close relationship between each phase: hence, all phases have to be completed to ensure success.

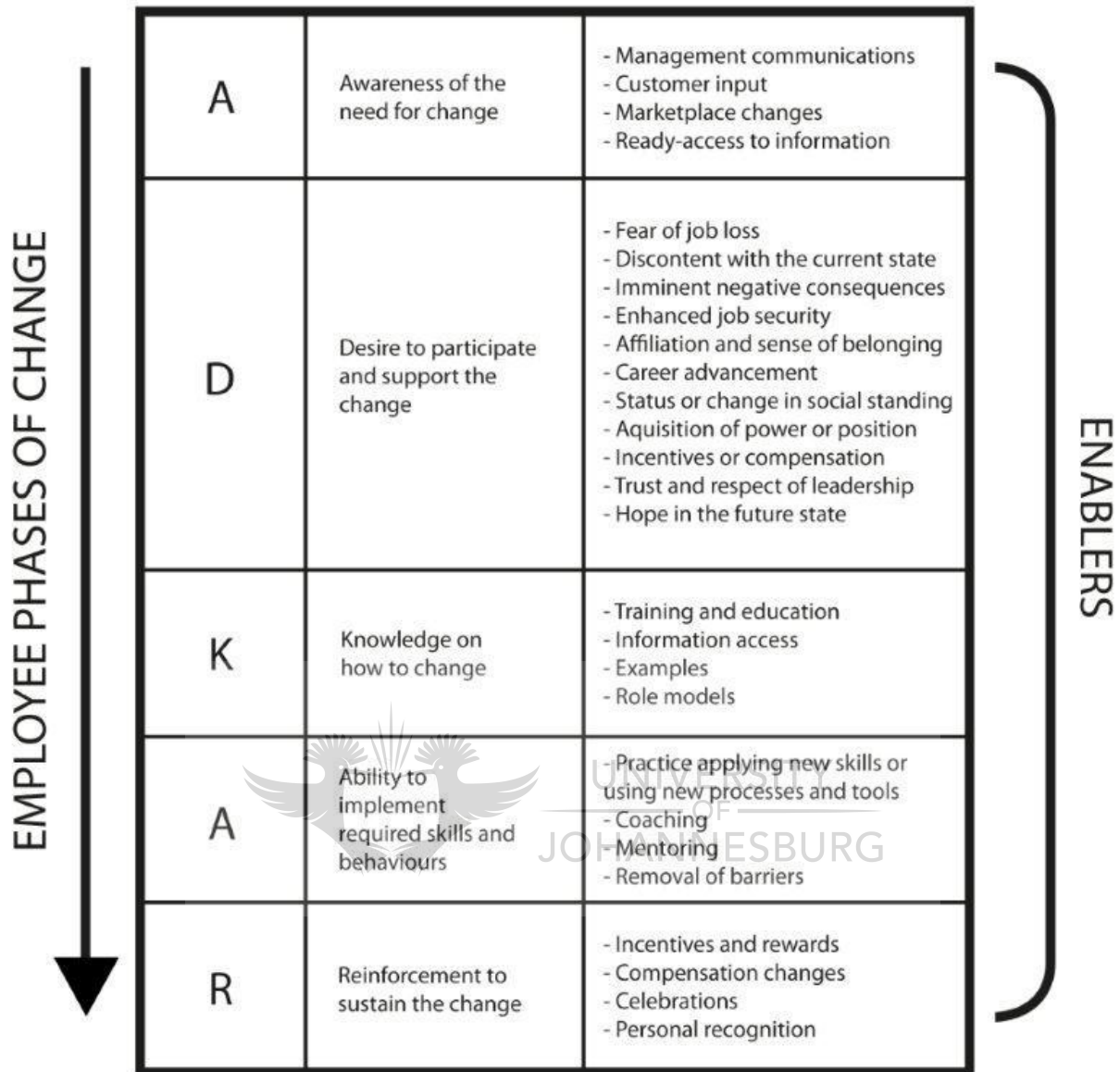


Figure 6.1: The ADKAR model – Depicting employee phases of change (Source: Hiatt, 1998)

6.4.4 Aligning learning solutions with CHAT

As discussed in Chapter 1, Lev Vygotsky’s cultural historic activity theory is the framework adopted by this research as a way of understanding learning technologies (tool-mediated construction) and the way they are used within corporate organisations to foster and promote learning.

The activity diagram of Figure 6.2 can be a useful tool for learning designers when creating a learning intervention. This diagram indicates how the model can be adapted by the learning department when designing a learning intervention for Discovery Health's annual product launch. The level at which learning interventions are designed determines the real value of the learning outcome. Therefore, designers need to ensure that learning experiences provide learners with an opportunity to collaborate with each other and contribute to the learning process.

It is important that learning solution designers take note of the role that learning technology and content plays in nurturing a comprehensive learning practice when they are crafting a learning intervention. Hence, facilitators and learning solution designers must ensure that they use tools and objects to promote socialisation and collaboration within the activity system in order to ensure that the subjects contribute to the learning intervention.



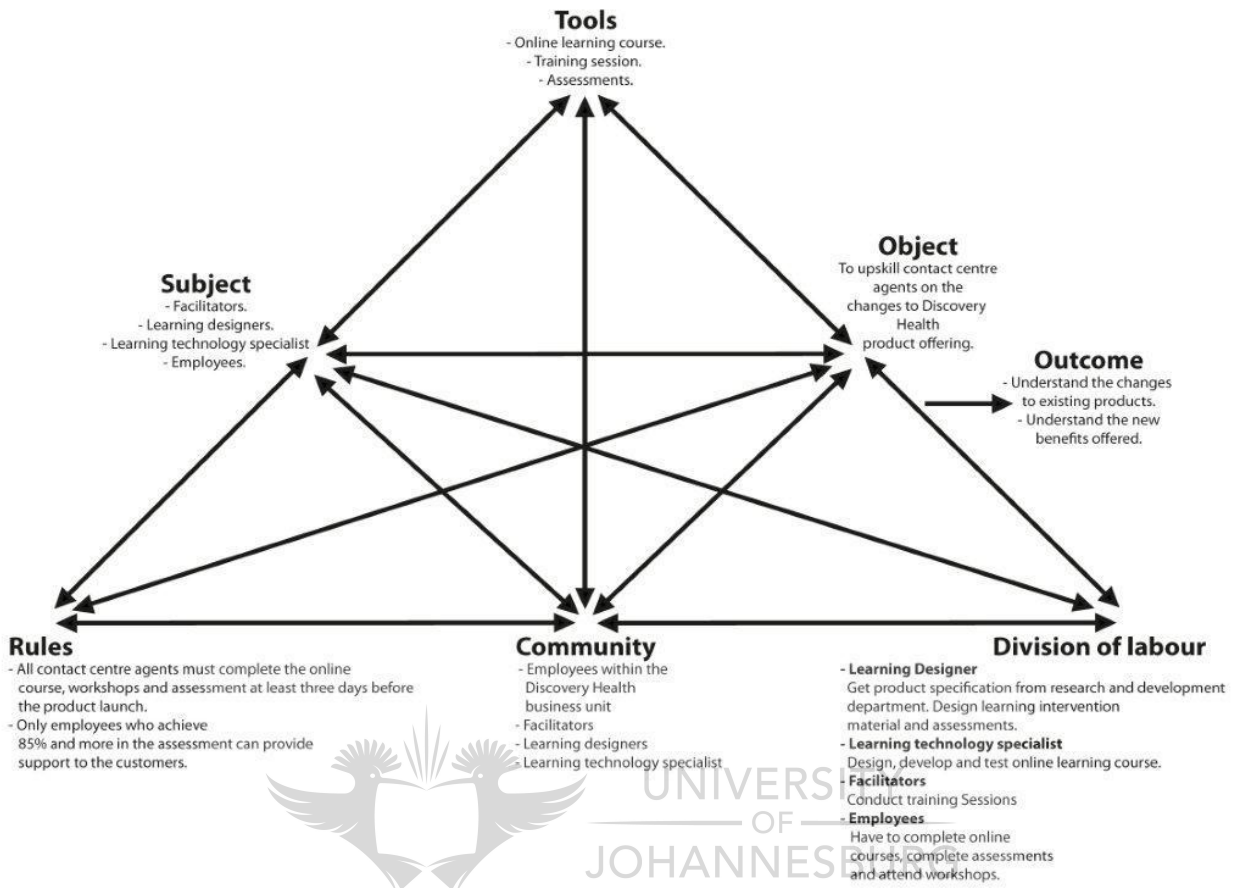


Figure 6.2: Activity diagram for Discovery (Adapted from Engeström (1987))

From the focus group sessions, it can be concluded that the learning interventions designed are not based on any theory or model. As a result, the design reflects an individual's own ideology as opposed to a proven approach. In the absence of a common understanding and goal in mind, there is no standardisation of the learning interventions being designed. In some entities, such as Discovery Health, the learning solution design approach is more advanced than the learning solution designed within the Discovery Vitality business entity. By adopting a single theory upon which all learning solutions are based, Discovery can start to promote standardisation and a common understanding across all training departments.

6.4.5 Using Stetsenko's framework to ensure that learning is designed at a contribution level

Stetsenko (2008) supports Vygotsky's CHAT and believes that tools and objects used within the activity system must encourage collaboration and socialisation among the subjects in order for effective learning to take place. She claimed that in order for an individual's learning and development to be successful, it must take a transformative stance. This stance comprises three levels of learning: acquisition, participation and contribution. She added that learning is not about acquisition or participation, but rather about contribution to collaborative practices among learners which simultaneously transform them and their society.

At the contribution level of learning, the focus of the learning intervention is placed on contributing to collaborative practices of humanity, while simultaneously transforming them. The role of the facilitator is that of an activist who is open to collaboration and dialogue and is an agent of collaborative change. The end result of learning is contribution through self-development and community development. The focus is on interfacing the past, present and future.

It was evident from the questionnaire data analysis that the learning solution designers are designing learning interventions that do not suit the desires of the learners. In current practice, the designers are focusing on learning at an acquisition level, while learners desire learning interventions that include learner participation. In future practices, the learning solution designers remain focused on learning at an acquisition level, while the learners would like to experience learning interventions that foster social collaboration and promote learner contribution to the learning practices. This clearly indicates a misalignment of what is desired versus what is being delivered.

For the Training Department to ensure that it sustains its credibility, it needs to understand the needs of its target audience and adapt a rapid change to the approach it uses to design learning solutions. Thus, it is imperative for the learning solution design team to understand Stetsenko's framework (2008) and to integrate it into their solutions

crafting. A further understanding of how the various learning technologies can assist in delivering learning interventions at a collaborative level is essential.

6.4.6 Establishing communities of practice

Communities of practice (CoPs) are activity systems that include individuals who are united in action and in the meaning that action has for them and for the larger collective (Lave & Wenger, 1991). CoPs are formal and informal networks that span organisational and business entity boundaries. When people participate in problem-solving and share the knowledge necessary to solve problems, it is possible to speak about the generation of knowledge in CoPs (Wenger, 1998). Therefore, CoPs are groups whose members regularly engage in sharing and learning based on common interests and that can improve organisational performance (Lesser & Everest, 2001). They can also provide the opportunity to tap into external links for open motivation.

Operational excellence can be achieved by involving all training departments across Discovery and promote the sharing of ideas, which can increase new opportunities for business re-engineering. Communities of practice should be recognised as an essential component for the exchange of ideas and activities. They are primarily focused on learning and finding solutions to improving current practices. Members of communities of practice are seen as change agents who are at the core of the organisational transformation processes. As the primary agents of change, they are responsible for preparing the organisations to operate successfully in the knowledge era. Organisational learning will be readily recognised as a core asset of the organisation and strategies will be focused on generating knowledge capital through learning and collaboration.

A community of practice could assist all members of the various training departments to align with best practice and to leverage a pool of resources. It could further ensure the standardisation of learning solutions across the various business entities and potentially reduce a duplication of efforts. The advantages of strategic communities are situated in their ability to facilitate the value of the network strategy and to leverage technologies in

order to realise the strategy of embedding a culture that is supportive of socially collaborative learning. CoPs create opportunities to bring different perspectives together – both on the problem definition and on the solution.

6.5 RECOMMENDATIONS

Based on the discussions above, the following recommendations can be made:

- Discovery needs to establish an overarching organisational learning strategy that will guide all learning initiatives among the various business units. A single champion needs to be identified who will be responsible for ensuring that all decentralised training units comply with achieving the objectives of the overarching organisational strategy.
- The Learning Technology team needs to create an awareness initiative to educate the executive management team on the value, purpose and functionality of all the learning technologies purchased. It is further recommended that commitment is received from the executive team to drive learning throughout the organisation. Such learning must encourage social collaboration among all learners.
- An organisation-wide change management initiative should be started. It is important for Discovery to establish a task team to create greater awareness of the learning technologies that exist and of the shift in learning methodologies. A major part of the change initiative should focus on the training departments. The emphasis should be on the change from the traditional learning solutions to designing solutions that the learner desires. This includes a socially collaborative learning platform that promotes individual learner contribution to the learning intervention.
- All members of the training departments within Discovery should familiarise themselves with CHAT and adopt it as a model to design effective learning

interventions. If adopted, the model could foster and promote effective learning practices throughout the organisation.

- All members of the training departments throughout Discovery should familiarise themselves with Stetsenko's framework (2008) for the transformative stance on learning. Once they completely understand and buy into this framework, they must begin to put it into practice. This will ensure that learning solutions will place emphasis on learning at a contribution level, which will drive social collaboration among learners, as indicated by the framework.
- Communities of practice should be established to ensure that best learning practices are standardised and applied across all business units within the organisation. The CoPs can also combine and prevent a duplication of efforts when designing new learning interventions.

6.6 FURTHER RESEARCH POSSIBILITIES

The ultimate strategic goal of any learning intervention would be to develop the organisation's workforce in order to have a positive impact on the bottom line. If the recommendations listed above are implemented, possible further research could be to measure the impact that learning interventions have had on business. While Discovery has made major investments in purchasing and implementing learning technologies, if the training departments use the CHAT model and align with the framework of the transformative stance of learning, it would be appealing to measure the return on investment. The ultimate measure would be to determine the business impact of a learning intervention.

6.7 SUMMARY

Peter Drucker (1993) emphasised that knowledge has become the crucial resource of the economy. He claims credit for coining the notion of a "knowledge worker". What is significant about knowledge workers is that they own the organisation's primary means of production: knowledge. Globalisation has forced the contemporary organisation to

operate at the speed of thought and to operate at international standards. This new era is characterised by resource-based strategies and the realisation that the workplace is being transformed to facilitate a more humanistic approach that drives organisational learning and should therefore give specific attention to the human aspect. The creation of organisational knowledge is a people-based process and, therefore, organisations should adopt a more people-centric approach in the networked economy in order to be effective in establishing and sustaining a future-based knowledge strategy.

Training departments need to take cognisance of this shift in the global economy and change the paradigm in which they design and deliver learning interventions that aim to develop people. Fortunately, there are many learning technologies that can assist training departments to rapidly transform the manner in which they aim to develop the workforce. It has not become a question of whether learning technologies should be used, but rather a question of how learning technologies can best be integrated into learning interventions in order to yield the maximum results. Training departments also need to ensure that when they deliver a learning intervention, it promotes social collaboration among learners – allowing them to contribute to the learning practice rather than focusing on the distribution and consumption of knowledge.

This study presented the opportunity to evaluate critically the learning interventions at Discovery and the use of learning technologies. This study aimed to identify shortcomings in the process and to provide a future path model to management and also endeavoured to suggest a roadmap for generic global organisations in the new knowledge-driven landscape.

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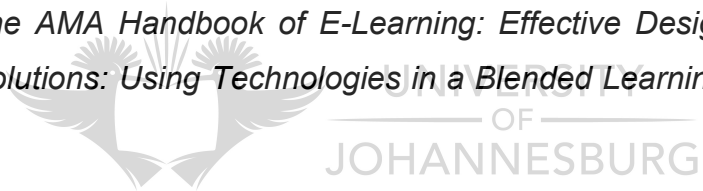
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APPENDIX 1

DISCOVERY LEARNING PRACTICES SURVEY

Which department are you currently working in?

- Health
- Life
- Vitality
- People
- PruHealth
- Corporate

In what capacity are you completing this survey?

- Training Manager
- Training Solutions Designer
- Facilitator
- Learner

What is your current age?

- 18 - 25
- 26 - 35
- 36 - 45
- 50+



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What is your race group?

- Black
- Asian
- White
- Coloured

Please specify your gender.

- Male
- Female

What is your highest qualification?

- Matric
- Certificate
- Diploma
- Degree

Postgraduate

Please rate the current and future importance for each of the statements below using the scale provided, where 1 is least important and 5 being most important.

	Importance in Current Learning Practice					Importance in Future Learning Practice				
	1	2	3	4	5	1	2	3	4	5
During learning emphasis is placed on the learners mind and what goes into it	1	2	3	4	5	1	2	3	4	5
According to your department learning that takes place amongst individuals to support and build the department is the ideal stance of learning.	1	2	3	4	5	1	2	3	4	5
The nature of knowing is described as being able to look at past experiences and adapt these to present and future situations.	1	2	3	4	5	1	2	3	4	5
The key definition of learning is the acquisition and processing of information.	1	2	3	4	5	1	2	3	4	5
When learning the best timeline to consider is carrying out past experiences into the present, the future is irrelevant.	1	2	3	4	5	1	2	3	4	5
The role of the facilitator in the learning process is to be a mentor and an expert participant during the learning process.	1	2	3	4	5	1	2	3	4	5
During learning emphasis is placed on the manner in which learning and sharing of knowledge is occurring amongst learners within your department.	1	2	3	4	5	1	2	3	4	5
The ability to understand and communicate within the key responsibilities of the department are the key goals learning within your department.	1	2	3	4	5	1	2	3	4	5
The department develops through the learning	1	2	3	4	5	1	2	3	4	5

process.										
The key definition of learning is the contribution to the shared learning practices.	1	2	3	4	5	1	2	3	4	5
The role of the facilitator in the learning process is to be an instrument of dialogue thus being an agent of collaborative change.	1	2	3	4	5	1	2	3	4	5
Knowledge, acquisition and accumulation are the keywords that best describe learning in your department.	1	2	3	4	5	1	2	3	4	5
When learning the best timeline to consider is integrating the past and the present while keeping the future in sight.	1	2	3	4	5	1	2	3	4	5
Learners, departments, communities and the organisation as a whole develops through the learning process.	1	2	3	4	5	1	2	3	4	5
The nature of knowing is described as possessing facts and skills as an individual.	1	2	3	4	5	1	2	3	4	5
The key definition of learning is the construction of knowledge in a social setting.	1	2	3	4	5	1	2	3	4	5
According to your department learning that takes place amongst groups of individuals and contribute to both the department and self development is the ideal stance of learning.	1	2	3	4	5	1	2	3	4	5
The key goals of learning within your department is best described as knowing the past in order to be able to learn from it and transform the department. There is an emphasis on the vision for the future of the department.	1	2	3	4	5	1	2	3	4	5
The individual learner develops through the learning process.	1	2	3	4	5	1	2	3	4	5

Conversation, communication and social constructivism are the keywords that best describe learning in your department.	1	2	3	4	5	1	2	3	4	5
The knowledge of facts and skills the learner acquires best describes the key goals of learning in your department.	1	2	3	4	5	1	2	3	4	5
During learning emphasis is placed on learning-for-change, innovation and action.	1	2	3	4	5	1	2	3	4	5
The nature of knowing is described as being able to participate and communicate with fellow learners.	1	2	3	4	5	1	2	3	4	5
The role of the facilitator in the learning process is to deliver and clarify information.	1	2	3	4	5	1	2	3	4	5
Contribution and transformation are the key words that best describe learning in your department.	1	2	3	4	5	1	2	3	4	5
According to your department learning that takes place at an individual level is the ideal stance of learning.	1	2	3	4	5	1	2	3	4	5
When learning the best timeline to consider is focus on the present situation, ignoring the past and the future.	1	2	3	4	5	1	2	3	4	5

Thank you for your participation in this survey.

Venola Singh

