

**KEY HUMAN FACTORS IN THE E-READINESS OF ACADEMIC EMPLOYEES AT
HIGHER EDUCATION INSTITUTIONS**

by

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**submitted in accordance with the requirements for the degree of
DOCTOR OF LITERATURE AND PHILOSOPHY**

in the subject of

PUBLIC ADMINISTRATION

at the

UNIVERSITY OF SOUTH AFRICA

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JUNE 2011

SUMMARY

Within the context of technological development, the needs and preferences of the 21st century student (Generation Y), the changing higher education environment, the increasing use of technology in teaching and learning, and the significant role of online learning facilitators in e-learning, the e-readiness of academic employees became imperative. Thus, considering the importance of academic employees' e-readiness, the primary objective of the study aims to determine the role of key human factors in their e-readiness, with specific focus on personal work profile patterns, preferred learning style and pace and style of technology adoption. The research problem therefore is how to determine the role of these key human factors in the e-readiness of academic employees.

In this respect the study argues that the e-readiness assessment of academic employees must be included in the human resource performance appraisal process. The purpose of this research is to develop a framework for assessing the e-readiness of academic employees during their performance appraisals, as well as determining and assessing the role of key human factors in their e-readiness in order to draft an e-profile which will provide guidance in terms of structuring unique training and development approaches for each e-profile. Once academic employees' e-readiness has been assessed during their performance appraisals, they can be plotted on the framework. The outcome of their e-readiness assessments will reveal their e-profiles, which will portray insight into the presence or absence of particular e-readiness indicators, outlined in an e-readiness construct. Subsequently, a personal development plan can be drafted, making provision for uniquely structured training and development interventions, best suited for each academic employee's e-profile. The most suitable motivating factors for each employee will also be considered during the drafting of the personal development plan.

The empirical research by means of a self-administered questionnaire and a focus group discussion revealed two prominent e-profiles indicating various levels of e-readiness, namely an *early adopter-pragmatist-compliance* e-profile and an *early majority-theorist-steadiness* e-profile. The findings made it evident that the traits portrayed by a person belonging to a certain technology adoption category show

similarities to traits portrayed by particular learning styles and personal work profile patterns. Certain profiles could be identified, based on trends and similarities pertaining to interpersonal traits. The findings further revealed that with an increase in age and teaching experience of respondents (which also imply an increase in age), the willingness to be assessed on e-readiness declined.

It was also determined that the human resource performance management policies and practices at the North-West University (NWU) (which is used as case study), do not make provision for the inclusion of e-readiness in performance appraisals of academic employees. Further it became evident that training and development interventions should not only focus on the technical skill of e-learning, but follow a broader teaching and learning approach, also including the philosophy of e-learning and the use and adaptation of teaching and learning strategies to obtain optimal learner learning. The findings of the study thus supported the need for a framework, providing guidance in this regard.

Presently, neither the literature of human resource performance appraisal nor the literature of e-readiness or e-learning makes provision for assessing the e-readiness of academic employees. The study thus contributes to the scholarly discourse and knowledge in the field of public human resource management, as sub-field of Public Administration, by developing a theoretical framework (that currently does not exist), consisting of three matrixes for this purpose to determine the role of the key human factors in the e-readiness of academic employees.

Key terms:

E-readiness; e-learning; assessment; evaluation; human resource performance appraisal; academic employees; online learning facilitators; higher education institutions; human factors; technology adoption; learning style; personal work profile pattern

ACKNOWLEDGEMENTS

I wish to express my gratitude to:

My Heavenly Father for His grace and love, my Saviour Jesus Christ for His wisdom and Lordship, and the Holy Spirit for insight and guidance without which this thesis would not have been possible.

My parents Giel and Annetjie for their unconditional and unselfish love, support, prayers, wisdom and encouragement. *Pappa, Mamma*, there are no words that can do justice to my love and gratitude for you. The outstanding example you have set have given me guidance in many ways. Thank you for teaching me about the love of God, compassion, commitment, ethics, service ethos, humility and those things that have eternal value. I hope to always make you proud, therefore this thesis is dedicated to you.

My grandmother for her interest and prayers. *Ouma Sannie*, your interest in my studies at the ripe age of 90 is precious. Thank you for continuously praying for me!

My friend Christa for her support and interest. Friend, thank you for your friendship, prayers and the words of encouragement at the times when they were most needed.

My promoters, Proff Kobus Wessels and Shepherd Malefane, for your astute leadership. Kobus, Shepherd, I am grateful for the opportunity to have done this thesis under your guidance.

The Partners@Work Programme at the Tshwane University of Technology (TUT). Not only have I obtained valuable skills, but I cherish the broader knowledge and friendships I have gained during this time. In particular I wish to thank Dr Hermien Johannes, my e-learning mentor. Hermien, thank you for your advice and for the human factor you brought into the learning process.

My former research professor, Prof Valiant Clapper, for introducing me to the world of e-learning. Val, thank you for your encouragement and for believing in me.

My managers, Proff Johan Zaaiman and André Duvenhage for their support and for granting me the opportunity to take study leave.

My librarian, Isabel Blom. Isabel, you are an angel! Thank you for all your assistance. In particular I want to thank you for your efficiency and willingness to help.

Colleagues at the North-West University who participated in the focus group discussion and the completion of the questionnaire. In particular I wish to thank my colleagues at the School for Social and Government Studies. Your input has provided valuable data for this study.

North-West University staff in specialist positions who have been interviewed. Thank you for granting me the opportunity to interview you and for sharing your expert knowledge.

“And whatever you do, do it heartily, as to the Lord and not to men, knowing that from the Lord you will receive the reward of the inheritance; for you serve the Lord Christ.” (Col. 3:23-24)

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DECLARATION OF OWN WORK

Student number: **3108-324-2**

I declare that **KEY HUMAN FACTORS IN THE E-READINESS OF ACADEMIC EMPLOYEES AT HIGHER EDUCATION INSTITUTIONS** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

SIGNATURE

(L Vermeulen)

DATE

CHAPTER 1

GENERAL INTRODUCTION

1.1 BACKGROUND TO THE STUDY

Societies globally have adopted new strategies and techniques to keep abreast with technological development and to use such to achieve their competitive advantage (De Moraes, Melo, Oliviera & Cabral 2010:225; Moolman & Blignaut 2008:168–169; Adams 2005:12–13; cf Thompson & Strickland 2003:172). Governments, businesses and educational institutions are inter alia making use of technology to enhance the quality of products and services they offer to clients (Bates 2010; cf Archibugi & Pietrobelli 2003:862; 865–868; IBM 2006:2–5). Policies and strategies are subsequently formulated to regulate the use of technology (UN 2006; UN 2010; Dada 2006:2). South Africa is no exception since various legislation and a number of policies have been formulated and promulgated in recognition of technology as a key enhancer in modernisation and globalisation (DPSA 2001:4; SA 2004:i). Technology is used as tool to enhance service delivery (e-government), increase public participation (e-governance), provide for better accessibility and convenience of services to inhabitants/customers (DPSA 2001:4) and can be applied to enhance the teaching and learning experience of learners and facilitators (e-learning) (SA 2004a:6;8;14). The White Paper on e-Education (2004b:8) emphasises the responsibility of education systems to provide in public expectations pertaining to quality education for economic growth and social development. As in other areas of social and economic development, technology has the possibility to increase the quality of education and training (SA 2004:8; Pandor 2007). The South African government is therefore supporting the use of technology to enhance and support teaching and learning in the 21st century (SA 2004:8; SA Government 2010; USAID 2005:6).

The technological revolution of the 21st century presents higher education institutions (HEIs) with one of the biggest adaptation challenges in its history (Amirault & Visser 2009:62; Smyre 2006; Tadmore 2006:287; Carnesale 2000:3–4;7). Higher education institutions should either adjust to this innovative reality or

they will be in danger of losing their standing as principal educational institutions (Amirault & Visser 2009:62; Bates 2010). Several decades ago HEIs perhaps still had the luxury of examining, debating, and arguing the advantages and disadvantages of advanced technology in teaching and learning, but today, in the 21st century, the inevitable progress of technology into a meaningful, ever-present and sustained reality (Bennet 2002:2; cf Albright & Nworie 2008:15) has largely cancelled out such debate and arguments in support of and not in favour of the notion (Amirault & Visser 2009:66).

The majority of HEIs in Europe, the United Kingdom, Australia and New Zealand realised the need to include technology in teaching and learning to provide for the need of learners globally (Elgort 2005:182; EC 2005:7; Rossiter 2006:iii; Kanuka 2006:1; Kwache 2007:395; Wong & Fitzsimmons 2008:1121; Harasim 2000:42). In many instances the use of e-learning at South African HEIs have also become increasingly important (Le Roux 2009; Njenga & Fourie 2010:199; Mutula 2003:1), not only for creating new teaching and learning opportunities by means of greater knowledge sharing than traditional classroom teaching and learning and control over time, place and pace of study, but also in providing access to resources beyond the borders of those traditionally available in university libraries, interactive learning, simulations, podcasts, and communication tools (JISC 2009:8; Stone 2008:526; SA 2004b:i).

Learners at HEIs are exposed to e-learning through inter alia ICT subjects; the use of a Learning Management System (LMS) such as inter alia *WebCT/Blackboard*, *Sakai* and *Moodle*; multimedia; or through other methods of digital learning such as mobile learning. For the purpose of this study the e-learning focus will predominantly be on web-based teaching and learning. Typically, with web-based teaching and learning a LMS will be used as platform for learning. The LMS could be an established system such as those mentioned in this paragraph or a newly designed and developed LMS, customised for a particular HEI's needs.

The Potchefstroom campus of the North-West University (NWU), which serves as case study for this study, uses a LMS called *eFundi* as e-platform. *eFundi* is supported by the LMS *Sakai*, but customised to serve the specific needs of the

NWU. Web-based teaching and learning is, however, not restricted to the use of an LMS¹ and other e-learning tools and media (such as podcasts, blogs, wikis, etc) can be used in conjunction with the e-platform and can be uploaded to the platform or accessed by means of hyperlinks from the platform (Sakai 2009).

The NWU also introduced e-learning as teaching and learning delivery mode and it is subsequently specified and supported in various University policies and other official documents:

- Through its *mission statement* the NWU, aims to “Develop, educate and empower through innovative and high quality teaching-learning, produce well-rounded graduates who are able to think laterally and critically in their service to the country and its people” (NWU 2010f), which can be accomplished through the use of *inter alia* e-learning.
- The *Institutional plan, 2010–2012*, of the NWU supports the achievement of the aforementioned mission statement (NWU 2009b:4;6;7–8) as it states that the University aims to be the leading HEI in terms of moving from E-learning to I-learning (*Innovative learning*) as a future prospect (NWU 2009b:4). The NWU thus places a significant emphasis on innovation in teaching and learning, which implies that the NWU should excel at e-learning if it wishes to take the lead in innovation in the higher education environment (NWU 2009b:4; NWU 2010d). The NWU should therefore strengthen the quality of teaching and learning by *inter alia* enhanced e-learning (NWU 2009b:5).
- The NWU *Teaching and learning policy* (2007a:2), states that academic programmes at the University are “delivered by means of a blended mode, which can include a combination of face-to-face contact between lecturer and student, distance learning and/or e-learning”.
- The *Teaching and learning framework* (2009a:11), which makes provision for the use of e-learning in academic programmes, e-learning training for academic employees, hereafter referred to as academics, and a helpdesk for e-learning support to both employees and students.

¹ The concept *e-platform* is used in the study when referring to a Learning Management System (LMS).

- The NWU *Quality policy* (2007b:1) aims to establish conditions for assuring and improving the quality of the NWU's core business, including inter alia teaching, learning.

According to the Joint Information Systems Committee (JISC) (2009:6–8) of the Higher Education Funding Council of England e-learning is no longer a distance learning or remote learning tool, or a specialist area, but it has become part of the broader aim of enhancing teaching and learning through the use of suitable technology (cf Birkbeck 2005:1). As seen by Oliver (2004) in Johannes (2007:87) e-learning should be viewed as a mainstream activity and not something separate from or in addition to other modes of learning. The focus of e-learning has thus become part of a broader debate on the enhancement of learning by more effective and comprehensive use of digital technologies (JISC 2009:8) and is therefore not intended to replace the teacher, but to use technology to increase the focus on pedagogic skills (JISC 2009:5). This notion is supported by the White Paper on e-Education (2004b:14), which provides for e-learning to go beyond the mere exchange of information to provide a variety of learning activities that meet educational objectives. Teaching and learning with technology entails more than providing a technological edge to education and should employ ICT skills to access, analyse, evaluate, integrate, and present information; to create knowledge and new information by adapting to and functioning in a knowledge society by using suitable technology and communicate information; by constructing information; and by mastering communication and collaboration skills (SA 2004b:14).

The online learning facilitator, which decides which technologies to use and how it should be used, plays a significant role in this process (JISC 2009:8; Achimugu Oluwagbemi & Oluwaranti 2010:27). Online learning facilitators need to be aware of the various tools and media that are available and how to select and use those that will best serve the learning purpose (JISC 2009:8; Takalani 2008:1–2). E-learning as blended approach to teaching and learning, with the skilful and suitable incorporation of technology with face-to-face classroom teaching (Cardwell & Madigan 2004:26–27; University of Calgary sa:1; Dziuban, Moskal & Hartman 2005:4; cf Graham, 2004:3), is a significant element of 21st century teaching and learning practice (JISC 2009:9). When planning and designing learning, online learning facilitators must

ensure that they make use of the appropriate learning strategies and technology that will have the biggest impact on the way students learn. (JISC 2009:6–8.)

According to the *E-learning facilitation toolkit* of the United Kingdom National College for School Leadership (UKNCSL) online learning facilitators plan, design, evaluate and develop online communities (UKNCSL 2006). Online learning facilitators encourage and enable groups of learners to share learning in a friendly environment (Conceição-Runlee & Daley 2005; cf Sutton 2004). Online learning facilitators should therefore possess the ability to let learners feel comfortable about participating in online discussions and sharing information (UKNCSL 2006; Sutton 2004; Hrastinski 2008). Salmon (2003:4) explains that the primary role of an online learning facilitator is to promote human interaction and communication through knowledge construction and modelling, as well as transferring of skills and knowledge (cf Thanasingam & Soong 2007:1003–1004; AFLF 2003:2). The task of acting as an online learning facilitator therefore not only requires a combination of fresh insights and technical skill, it also calls for understanding and appreciating the management of online learning and group working, thus focusing on the human aspects and variables of learning as well (Salmon 2003:4).

Although students are familiar and comfortable with technology, JISC (2009:7) further explains that they lack the “critical and evaluative skills” required to construe information from online resources. This shortcoming highlights the need to support students in developing digital literacy skills (JISC 2010; cf Eshet-Alkalai 2004); thus further emphasising the importance of the online learning facilitator’s skill to the effectiveness of learning (JISC 2009:7; Achimugu et al 2010:27), emphasising the need for e-readiness of academics in order to become skilled online learning facilitators. It is evident that more than technical skill is required of online learning facilitators, which indicates that academics should also be e-ready in terms of how to best use e-learning tools and how to use teaching and learning strategies online to optimise learning.

From the preceding paragraphs it is clear that the use of technology in teaching and learning brought about changed work environments and changed job requirements for academics at HEIs (cf OECD 2004). The changed job requirement compels job

incumbents, in this case academics, to adapt to new job requirements. All job incumbents did not necessarily change with the new job requirements associated with their jobs and therefore did not necessarily embrace the use of technology in teaching and learning for several reasons. Research (Proctor & Doukakis 2003:268; Robbins 2003:559–560) shows that employees usually resist change in the workplace due to various reasons such as inter alia, fear of the unknown, habits (comfort zones), inadequate information and communication, threats to status, fear of failure and lack of perceived benefits. It is, however, important that academics adapt to changing job requirements in order for the university to remain relevant in times of change (Amirault & Visser 2009:62) and to be able to optimally service the 21st century student, predominantly belonging to Generation Y (HEMIS 2010; Halse & Mallinson 2008:1). The changed job requirements therefore call for the e-readiness of academics to successfully take on the use of e-learning as a learning enhancing tool.

From a human resource management point of view it can be argued that it is important to enhance the e-readiness of academics through training and development to ensure employees are well-skilled and capable to fulfil the new job requirements. This view is supported by the NWU *Teaching and learning framework* (NWU 2009a:16), which focuses on teaching and learning development initiatives, including the use of technology in teaching and learning. It is also supported by the *Performance management policy* (NWU 2005a:2,9), emphasising the need for personal development plans (PDPs). Further, from a line management viewpoint it is necessary to enhance the e-readiness of academics as well-skilled and competent employees are more likely to perform optimally. Lastly, from an institutional management viewpoint it is necessary to enhance the e-readiness of academics to ensure quality service delivery and world class education to students. This view is supported by the mission of the University, stating that the NWU aims to offer “innovative and high quality teaching and learning” (NWU 2010f), as well as the NWU’s *Institutional plan, 2010–2012*, stating that the University wants to continuously enhance the quality of teaching-learning and advance student preparedness to increase access (NWU 2009b:7).

It is thus evident that University policies are in support of providing students with the best possible education and learning experiences. However, an academic that is not e-ready will not be able to use e-learning optimally as learning tool. This lack of e-readiness can most probably be attributed to a number of factors such as challenging technology, a lack of sufficient computer literacy, inadequate technology-related training, an inability to make the paradigm shift from traditional classroom teaching and learning to e-learning, a lack of understanding the use and purpose of e-learning, an increased workload, fear of the unknown and a threat to the comfort zone, to name a few (cf Bozarth 2006:2–4; cf Kottolli 2008:1). It can be assumed that institutional managers would want to effectively manage the changed job requirement to ultimately enhance productivity and organisational performance. It is therefore necessary to explore the barriers to e-readiness with the aim of providing solutions in this regard.

In order to enhance the e-readiness of academics, it is necessary to assess their level of e-readiness against particular criteria. The study therefore argues for the inclusion of the assessment of the e-readiness of academics during human resource performance appraisals. The study also explores the reasons for a lack of e-readiness and determines what is regarded as an acceptable level of e-readiness. Furthermore, the relation between key human factors and e-readiness is explained. For the purpose of this study key human factors such as personal work profile patterns (the DISC factors of Thomas International), preferred learning styles (as outlined by Honey & Mumford 1986) and employees' pace and style of technology adoption (as outlined by Zemsky & Massey 2004) are considered. The impact of these human factors on the e-readiness of an academic is determined in the study.

It is further argued that these human factors impact on an employee's e-profile and should thus be assessed to determine an employee's level of e-readiness. A personal development plan will subsequently be drafted for each employee. For this assessment and development purpose a theoretical framework is developed where employees can be plotted according to their personal work profile patterns, preferred learning styles and pace and style of technology adoption. The framework will thus make provision to identify uniquely structured training and development interventions that should be introduced through the employee development process. It will also

make provision for which motivational strategies should be applied to enhance e-readiness and performance of academics. It will further be determined how career management programmes can enhance the e-readiness of academics.

In addition to the requirement of e-readiness, academics need to realise that the same teaching and learning strategies applied for traditional classroom learning cannot be used for online learning. The use and implementation of e-learning as a changed job requirement calls for academics at HEIs to acquire not only new skills to teach online, but also how to use online resources and tools to enhance the learning experience and facilitate communication for learning to take place (JISC 2009:7). Communication in the online environment is different from face-to-face communication, as it can be both synchronous and asynchronous and is not time dependant (Huang 2002:28; Miller 2005:1). The importance of communication and support from online learning facilitators as a significant factor to their online learning experience is constantly highlighted by students (Sutton 2004; Alexander 2001:242).

Furthermore, the profile of the current day student has changed from that of a traditional student. The average tertiary student is between 18 and 25 years old with the vast majority between 18 and 22 years (HEMIS 2010) and can be categorised as Generation Y. Generation Y refers to people born between 1980 and 2000 (Naidoo 2005). This age category refers to Generation Y in the United States of America; in the South African context these students are mostly regarded as born from 1990 onwards (Steyn, Badenhorst & Kamper 2010:177;185; cf Msimang 2008).

Generation Y was born in an era of technological and sociological change (Kezi 2009:1). This generation prefers learning to be fun, relaxed and interactive and therefore a traditional teaching and learning approach does not appeal to them (Gleeson 2003:4; Price 2009:3; cf Naidoo 2005). According to Halse and Mallinson (2008:1) students belonging to Generation Y portray particular characteristics which impact on their interaction with others and their environment, how they connect and learn, as well as the assortment of technologies they use to do so. They are characterised by a high level of technical literacy (Gen Y Report 2010:24; Song, Singleton, Hill & Koh 2004:59). Some of the technologies often used by this generation include live virtual classrooms, podcasts, blogs, social networks and

collaborative editing (Halse & Mallison 2008:1). Considering these characteristics and technologies the generation prefer can guide facilitators to adapt or customise teaching and learning approaches to enhance learning (Halse & Mallinson 2008:1; cf Song et al 2004:59).

In an interview with the Section Head: Information Technology Support at the NWU, Potchefstroom campus, it was revealed that the majority of online learning facilitators make use of only the basic applications of e-learning, namely the communications tools (*messages* and *announcements*) and information tools (providing *resources*, and a *schedule*), but do not use technologies such as *podcasts*, *blogs*, *forums*, *wikis* and *social networks* which are the typical technologies that appeal to this generation of students and therefore the e-learning platform is not used innovatively to enhance the learning experience (Le Roux 2009). The Section Head: Information Technology Support also indicated that in many instances academics make use of the e-learning platform because it is expected of them by their line managers, but that it is not used in a manner that facilitate learning to take place (Le Roux 2009). E-learning interventions are therefore usually not interactively and creatively applied, which can easily cause disinterest and boredom with the Generation Y learners. This situation further stresses the need for an adjustment of teaching and learning strategies to use e-learning as a learning enhancing tool, which can be handled through training and development.

The vast majority of students at the Potchefstroom campus of the North-West University (NWU), used as a case study for the empirical research component of the study, belong to Generation Y (NWU 2010e). It can be argued that full time residential students from this generation will embrace a blended approach of learning where technology is incorporated in the learning experience. It is therefore evident that academics at HEIs cannot ad infinitum continue to use traditional classroom teaching and learning strategies and need to incorporate e-learning in their teaching and learning strategies.

Furthermore, Rautenbach (2007:16) indicates that teaching and learning has changed. Outcomes based education (OBE) principles call for a changed role of both the learner and the facilitator where learners must have more independence and

must control their own learning events (Rautenbach 2007:16; Butler 2004:11; Gunderman, Williamson, Frank, Heitkamp & Kipfer 2003:16). The facilitator is no longer a traditional teacher (someone who provides knowledge), but a facilitator of learning (someone who enables learners) (Rautenbach 2007:16). Ramsden (2003:xii) is of the opinion that the first step to become a good facilitator is to understand learners' experiences of learning. Milliken and Barnes (2002:225) indicate that this implies that teaching and learning strategies may have to be adapted to focus on the enhancement of learners' learning. The application of new technology can be brought into play to improve both the teaching and learning experience (Milliken & Barnes 2002:226; SA 2004:8).

According to research done by various experts on teaching and learning (Ramsden 2003:106; Elgort 2005:184; Milliken & Barnes 2002:225; Smith 2003) people form their personal theories regarding teaching and learning early on in their lives and rarely change them when they become academics themselves. More authors on teaching and learning (Thomas & Pederson 2003:319; Smith 2000; Efaw 2005), support this notion by stating that academics usually teach in the manner in which they are taught and their principles, approaches, attitudes, and practices are likely to be connected to prior experiences. Robertson (2004) in Elgort (2005:184) further states that academics use technology only if these tools are aligned with their own philosophy of teaching and learning. Thus, from the research done by these authors it can be deduced that an academic's preference for and use of a teaching and learning strategy will influence the academics' use of technology in teaching and learning.

1.2 RATIONALE FOR THE STUDY

The preceding section indicated the global technological change and advancement and the subsequent growth and importance of e-learning. The academic as online learning facilitator plays an important role in this regard which necessitates e-ready academics to use and apply technology tools and media optimally to enhance learning. It is thus necessary to address the lack of e-readiness amongst academics for inter alia the following reasons:

- The inevitable progress of technology urged universities to adapt to these innovations in a competitive higher education environment and to ensure the use of technology in teaching and learning (Bennet 2002:2; cf Albright & Nworie 2008:15; Amirault & Visser 2009:66).
- The NWU's mission promotes the development, education and empowerment of university graduates through "innovative and high quality teaching-learning" that enables them to take responsibility and service their country through creative and critical thinking and solutions (NWU 2010f). E-learning can support in the development of higher order thinking skills (SA 2004:14) and expose learners to the global community and abundant resources (JISC 2009:8; Stone 2008:526; SA 2004:i).
- Traditional classroom teaching and learning does not appeal to the current university learner belonging to Generation Y (Halse & Mallinson 2008:2). Since the vast majority of current learners of HEIs can be categorised as Generation Y (cf HEMIS 2010), academics should be skilled and equipped to train them. This also entails that academics need to adjust teaching and learning strategies to accommodate learners' needs and preferences (Van der Watt 2009:11; Milliken & Barnes 2002:226).
- The two types of learners, those who perfectly fit the Generation Y profile, and those who are either not e-ready or do not have access to e-learning, is a reality experienced in the higher education environment. The income inequality in South Africa affects affordability and access to various social resources including ICT services (Oyedemi 2009:153), and therefore all students did not necessarily have constant access to technology throughout their childhood. Thus, some learners will need guidance and direction, not only in terms of subject-related problems, but also in terms of technology-related problems and the use of it to optimally learn. In many instances adult learners are not e-ready and will need guidance from an online learning facilitator.
- An online learning facilitator needs to constantly act as motivator to learners. E-learning does not entail using the e-platform as a distribution mechanism but to use it interactively in which communication, facilitation and online socialisation are essential (Sutton 2004; Alexander 2001:242; cf Salmon 2002:20–23).

- An online learning facilitator has to “act the part” and demand respect in terms of not only subject matter, but also computer literacy and technical competence.

Presently, neither the literature of human resource performance appraisal nor the literature of e-readiness or e-learning makes provision for particularly assessing the e-readiness of academics. Furthermore, the e-readiness of academics is currently not included in their performance appraisals at the NWU as it is not yet compulsory for employees to use in their teaching and learning (De Wit 2010). However, this may soon change as it becomes increasingly clear that this is the method favoured by the 21st century students and that the university needs to adapt to the technological developments if it does not want to lose its students (De Wit 2010).

Previous research on e-readiness indicates that various e-readiness assessments have been done in the past decade. Specific tools for the assessment of e-readiness have been developed. The purpose of such assessments is to provide benchmarks and to guide the e-readiness development process (Bridges.org 2005a:1). These assessment tools were primarily used to assess e-readiness of countries (especially developing countries), governments, companies (eg banking; property) and to a limited extent HEIs (EIU 2007:1–3; Bridges.org 2005b:1–10; Mutula 2006; Machado 2007:73–74; McConnell International 2001:1–23; Maugis, Choucri, Madnick, Siegel, Gillett, Haghseta, Zhu & Best 2005:313–342; Choucri, Maugis, Madnick, Siegel, Gillet, O’Donnel, Best, Zhu & Haghseta 2003; Ifinedo 2005; SchoolNet Africa 2007; ShoolNet Africa 2008; Bridges.org 2005a:1–4; Brendan 2006:276).

The Economist Intelligence Unit (EIU) has assessed the world’s leading economies since 2000 on their capacity to absorb ICT and use it for economic and societal benefit. The quality of a country’s ICT infrastructure and the capability of its consumers, businesses and governments to use ICT to their benefit are measured (EIU 2009:1). All the current e-readiness assessment tools focus primarily on facilities, connectivity, accessibility, hardware, software, the digital divide, technological status, policies and regulations (Machado 2007:73–75). The person using the technology is only mentioned as role-player, but very few assessment tools exist to assess the e-readiness of the users of technology and currently no

assessment tool is available to assess the e-readiness of online learning facilitators at HEIs.

Machado (2007:72–82) refers to an e-readiness assessment tool that has been developed specifically for HEIs as result of a focus group study. The particular assessment tool focuses on e-readiness factors such as the ability of HEIs in terms of accessibility, connectivity, technological status, policies, and the capacity of organisational stakeholders. The tool tested the “feelings” of participants towards implementation of e-learning of which the outcomes were positive. During this assessment, the need for abilities at administrative level, instructor level and learner level was identified. However, it does not assess the readiness of the e-user per se.

In 2009 the EIU has for the first time included “consumer and business adoption” as one of the categories in their e-readiness rankings. This refers to the use of the internet by consumers, use of online public services by citizens and the use of online public services by businesses (EIU 2009:4). However, it still does not make provision for the users of technology in HEIs. Due to a lack in contributions in literature on an e-readiness assessment tool for assessing the e-readiness of academics, a framework will be developed for this purpose.

Previous research on academics as online learning facilitators include studies on the role of the online learning facilitator, profiles of the online learning facilitator, skills and competencies needed for online learning facilitators, behavioural requirements and characteristics/personality traits of online learning facilitators (Adendorff 2004; Van Ryneveld 2005; Johannes 2007:13–14). This study will take cognisance of results obtained from the abovementioned studies, but will place the focus on the e-readiness of academics as online learning facilitators. Further, key human factors impacting on the e-readiness of academics will be considered. It will be determined how these key human factors regarding personal work profile patterns, preferred learning style and style and pace of technology adoption influence an employee’s e-readiness and how these factors are interrelated to each other. In order to determine the e-readiness of an online learning facilitator it is first and foremost necessary to determine what is required from an academic to be e-ready. In this regard an e-readiness construct has been developed.

The issue, whether the academic's job specification (indicating the competencies to perform the job successfully) needs to be adjusted, will be raised. It will thus implicate that the matter of an e-ready academic should already be addressed in the recruitment and selection phases. One can furthermore pose the question whether e-learning should become a critical evaluation area and be part of the performance appraisal of an academic. After a performance evaluation it could amongst others be determined whether an incumbent needs further training and development and if a personal development plan should consequently be drafted.

1.3. STATEMENT OF THE RESEARCH PROBLEM

The global technological developments and advancement has led to the increased use of technology in teaching and learning. All academics have however, not made the paradigm shift from traditional classroom teaching and learning to teaching and learning with technology and are thus resisting the changed job requirement (Le Roux 2009; Focus group 2010d). From a public human resource performance appraisal perspective it is expected from academics to be skilled and ready to include technology in teaching and learning to optimally enhance student learning and thus training and development for this purpose should be made available (UNESCO 2008:1; 5; 9–11; Andrew & Durand 2001:9).

Training and development needs are usually identified during a performance appraisal (Kuvaas 2006:504) and it is therefore necessary to include e-readiness assessment during the performance appraisals of academics. Certain key human factors, impacting on the e-readiness of an academic, such as personal work profile pattern, preferred learning style and the pace and style of technology adoption, should therefore be assessed during performance appraisals. The research problem therefore is how to determine the role of these key human factors in the e-readiness of academics. Once the role of the key human factors in the e-readiness of academics have been established, a framework that makes provision for the e-readiness assessment of academics and for the structuring of unique training and development interventions to enhance their levels of e-readiness can be developed.

1.4 RESEARCH OBJECTIVES

In addressing the research problem, particular objectives were set to be obtained.

The primary objective of the study aims to:

- determine the role of key human factors in the e-readiness of academics, with specific focus on personal work profile patterns, preferred learning style and pace and style of technology adoption

The secondary objectives of the study aim to:

- determine the role of human resource performance appraisal in assessing the e-readiness of academics
- determine the role of motivation in employee performance and its relevance to enhancing the e-readiness of academics
- determine the role of employee training and development in enhancing the e-readiness of academics
- determine the reasons for resistance to e-learning and a lack of e-readiness of academics
- determine the indicators for e-readiness of academics by creating an e-readiness construct
- develop a framework assessing the e-readiness of academics during performance appraisals to determine their level of e-readiness and subsequent training and development needs that will be specified in a personal development plan

1.5 RESEARCH QUESTIONS

In addressing the research problem, particular questions were set to be obtained.

The primary question of the study aims to discern:

- how can the role of key human factors in the e-readiness of academics, with specific focus on personal work profile patterns, preferred learning style and pace and style of technology adoption be determined? (chapter 4, 7 and 8)

The secondary questions of the study aim to discern:

- what is the role of human resource performance appraisal in assessing the e-readiness of academics? (chapter 2)
- what is the role of motivation in employee performance and its relevance to enhancing the e-readiness of academics? (chapter 2)
- what is the role of employee training and development in enhancing the e-readiness of academics? (chapter 3)
- what are the reasons for resistance to e-learning and a lack of e-readiness of academics? (chapter 5)
- how can the indicators for e-readiness of academics be determined by the construction of an e-readiness construct? (chapter 5)
- can a framework be developed for the e-readiness assessment of academics during performance appraisals to determine their level of e-readiness and subsequent training and development needs that will be specified in a personal development plan? (chapter 7)

1.6 THE RESEARCH DESIGN AND METHODOLOGY

The research design of this study is outlined in the following paragraphs.

1.6.1 Research purpose

The purpose of this research is to develop a framework for assessing the e-readiness of academics during their performance appraisals, as well as determining and assessing the role of key human factors in their e-readiness in order to draft an e-profile which will provide guidance in terms of structuring unique training and development approaches for each e-profile. The performance appraisals will be followed by a personal development plan of each employee, including these uniquely structured training and development interventions, determined by the e-profile of the academic. The most suitable motivating factors for each employee will also be considered during the drafting of the personal development plan. The study contributes to the scholarly discourse and knowledge in the field of public human

resource management, as sub-field of Public Administration, by developing a theoretical framework (that currently does not exist), consisting of three matrixes for this purpose.

1.6.2 The approach

The study follows an explanatory approach. Explanatory research aims to provide explanations of phenomena (Durrheim 2009:44). The study focuses on the assessment of the e-readiness of academics and seeks to induce an explanatory value by analysing the reasons for a lack of e-readiness and suggesting particular methods to address the lack of e-readiness.

1.6.3 Unit of analysis

An e-readiness construct is used as the unit of analysis. A construct is defined as “attributes that have been conceptualised and defined in language, and which have been theoretically elaborated in terms of how they are related to other constructs” (Durrheim & Painter 2009:142). For example, the attributes of people that a researcher wishes to assess is seen as a methodological arranged set of ideas, or in other words as constructs (Durrheim & Painter 2009:142). Babbie (2008:135) describes constructs as “theoretical creations that are based on observations but that cannot be observed directly or indirectly”.

An e-readiness construct therefore consists of a systematically arranged set of indicators that serve as standards to determine the e-readiness of academics. This arranged set of ideas can be compared to other constructs, in this case key human factors of academics. The e-readiness construct can be regarded as valid as it produced the occurrence of a trend between the e-readiness indicators of the construct and the key human factors of academics. The e-readiness construct assisted the researcher to understand the contributing factors to the e-readiness of academics, as well as factors that cause resistance to e-learning. Thus recommendations on how to enhance the e-readiness of academics could be made.

1.6.4 Data sources (units of observation)

The primary unit of observation in this study is permanent academics at the Potchefstroom campus of the NWU. Additional literature sources that will be consulted include scholarly work (books, scientific journal articles, theses, dissertations and conference papers), official documents (legislation and policies relating to e-learning and human resource performance appraisal) as well as internet sources.

1.6.5 Data collection

The above mentioned data sources will be utilised by means of a variety of methods and techniques, namely a review of scholarship, the interpretive reading of official documents, and the application of qualitative and quantitative data collection techniques by means of semi-structured questionnaires, a focus group discussion and interviews.

1.6.5.1 Review of scholarly literature

In order to contribute to the scholarly knowledge in a field, it is necessary to be knowledgeable on the current state of knowledge and its limitations (Snieder & Larner 2009:133). The review of scholarly literature for this study enabled the researcher to identify a gap in the literature on both human resource performance appraisal and e-learning with regard to e-readiness of academics at HEIs.

The review of scholarly literature informed the data collection of the most significant variables of the study: public human resource performance appraisal and the consequent employee development process; career management and career development; the key human factors included in this study, namely personal profile patterns, preferred learning style and technology adoption pace and style; e-learning and e-readiness. The literature review also assisted in data collection pertaining to the most likely motivating factors of academics and their preferences of and reactions to goal-setting.

The review of scholarly literature includes the critical reading of books, scholarly articles, conference papers, dissertations and thesis. Relevant information will be applied to this study.

1.6.5.2 Reading of official documents

Legislation, policies, official government reports and databases pertaining to the field of human resource management, in particular human resource performance appraisal and employee development, education and e-learning were reviewed. Official documents of the NWU were consulted and referred to in the study, particularly with reference to policy on human resource performance appraisal and teaching and learning.

1.6.5.3 Semi-structured questionnaire

In order to obtain data from the primary unit of observation (academics at the Potchefstroom campus of the NWU), a semi-structured questionnaire, specifically a self-administered questionnaire² (see Annexure C), was designed and distributed via electronic mail to 300 permanent academics at the Potchefstroom campus of the NWU. A self-administered questionnaire can only be used if the population is sufficiently literate (Babbie & Mouton 2004:258).

The questionnaire comprised of closed and open-ended questions. Closed questions were used to determine respondents' work style patterns, preferred learning styles, pace and style of technology adoption, motivating factors, goal-setting preferences, preferences pertaining to the use of e-learning and opinions on e-learning training and development interventions. The feedback provided for comparative data analysis on these aspects and certain conclusions and trends could be drawn from the quantitative data.

Open-ended questions were also directed at the e-learning training and development of academics, as well as their views on the inclusion of e-readiness assessment in

² A self-administered questionnaire can be described as a questionnaire that respondents complete themselves (Babbie 2008:286).

performance appraisals. Responses to the open-ended questions provided insight into respondents' perceptions on e-learning, e-readiness assessment and e-learning training and development, and could be related to respondents' e-learning profiles.

The questionnaire was not designed to do a professional psychological analysis of personal work profile patterns, preferred learning style and pace and style of technology adoption of academics. Particular questions have, however, been asked to give an indication of an employee's personal profile pattern, learning style preference and pace and style of technology adoption.

1.6.5.4 Focus group discussion

The purpose of conducting the focus group³ discussion was to determine academics' perceptions about e-learning and e-readiness in the higher education environment, as well as their perceptions about students' expectations in this regard and the role that academics should play in terms of learning through e-learning. This was done through posing open-ended questions to participants (Annexure F), followed by their discussions.

The focus group participants were selected from a pool of permanent academics at the Potchefstroom campus of the NWU (the unit of observation). A total of 10 participants consisting of lecturers, senior lecturers, associate professors and professors from two faculties (the Faculties of Arts and Natural Sciences), participated in the focus group discussion.

1.6.5.5 Interviews

Semi-structured interviews, with the use of open-ended questions, were conducted with various experts to obtain specialist information on particular variables of the study. The following specialists were interviewed for data collection:

³ A focus group is a group of individuals who have a similar type of experience in common, but is usually not necessarily part of the same social group (Kelly 2009:304). Therefore, with a focus group the researcher gets access to inter-subjective experience, namely a group of people's mutual experience (Kelly 2009:304).

- The Director: Human Resource Management, Institutional Office, NWU.
- The Section Head: Information Technology Support, Academic Support Services, NWU, Potchefstroom Campus.
- The Head: Writing Laboratory, Centre for Academic and Professional Language Practice, NWU, Potchefstroom Campus.
- The Head: Student Learning and Reading Development, Centre for Academic and Professional Language Practice, NWU, Potchefstroom Campus.
- The Manager: Reading Laboratory, Centre for Academic and Professional Language Practice, NWU, Potchefstroom Campus.
- A Subject Specialist: Computer Science and Information Systems, NWU, Potchefstroom Campus.
- Information Technology Laboratory Manager, NWU, Potchefstroom Campus.

1.6.5.6 Sampling techniques

Academics at the Potchefstroom campus of the NWU were used as unit of observation. The researcher ensured that a sample representative of the academics of the Potchefstroom campus of the NWU was chosen. A second consideration with sampling is the size of the sample (Durrheim 2009:49). The sample size must be large enough to make deductions and assumptions about the population (Durrheim 2009:39). In some instances, as was the case with this study, the sample size was determined by practical considerations (Durrheim 2009:49), that is the availability of academics.

Whereas random probability sampling from the identified unit of observation was used for the questionnaire, purposeful non-probability sampling, convenience sampling and maximum variation sampling was used for the focus group discussion. For the interviews respondents, specialising in particular fields relevant to the primary variables of the study (human resource management; e-learning; ICT and student learning), have been selected.

1.7 ETHICAL CONSIDERATIONS

The following principles of ethical conduct were adhered to in the study:

- *Voluntary participation* – respondents of the questionnaire, participants in the focus group discussion and interviewees participated voluntarily and could withdraw from the study at any time.
- *Informed consent* – participants were made aware of the research purpose and have given their consent to participate in the research.
- *Privacy* – the confidentiality and anonymity of respondents to the questionnaire and participants in the focus group discussion were protected at all times; interviewees consented to be quoted.
- *Plagiarism* – the researcher is aware of policies in this regard and did not make use of another researcher's work and submitted it as her own. The researcher has submitted her own work.

1.8 STUDY TITLE AND RELATED CONCEPTS CLARIFIED

In this section phrases and concepts from the study title is used to clarify their meaning. Concepts that relate to the study title concepts are also outlined and clarified.

1.8.1 Key human factors

The study focuses on *key human factors* that impact on the e-readiness of an academic. A human factor in this respect refers to a person attribute, observable in a personal work profile pattern (work behavioural style), a preferred individual learning style and an employee's unique style and pace of technology adoption. The term *key* is used as these human factors stand central to an academic's e-readiness.

Shah and Irani (2010:1) explain that it is necessary to understand and appreciate the factors that affect how employees behave in the work environment to manage them effectively. Employees have different personalities, intelligence, abilities, values,

backgrounds and attitudes which influence their behaviour (Armstrong 2006b:240–244). Xu and Tuttle (2004:22) explain that interpersonal aspects are more important to an employee's success in the workplace than technical skill. An interpersonal aspect that is likely to differ between employees is work style; for instance, some employees approach problem-solving in a cautious, systematic manner, whereas others favour innovative solutions (Xu & Tuttle 2004:22). Employees' work styles therefore influence their behaviour in the workplace.

Pearsall (2001:157) describes *behaviour* as “the way in which one acts or conducts oneself, especially towards others” and *style* as “a manner of doing something” or “in a manner characteristic of” something (Pearsall 2001:1847). Thus a *work behaviour style* refers to the characteristic manner in which an employee acts and conducts him- or herself, especially towards other employees, including managers, in the workplace. For the purpose of this study the DISC-profiles of Thomas International is used as indication of **personal work profile preference** of academics as Thomas International is widely accepted as leading expert in the field of work behavioural style.

Another human factor considered in this study is preferred learning style. **Learning styles** refer to various approaches or techniques of learning and involve educating methods, which seemingly allow learners to learn effectively (Guild 2001; Felder & Henrique 1995:21). *Learning styles* influence the manner in which individuals attach their own meaning to the subject matter or skill being taught (Roy 2006:22). Salmon (2003:110) argues that online teaching and learning must be structured in such a manner that it makes provision for all learning styles as it will enhance an employee's ability to learn (cf Swinton 2006:1). Thus, the study argues that preferred *learning style* should be considered during the e-readiness assessment of academics, as well as with the drafting of their personal development plans. Specific focus is placed on the *learning styles* as outlined by Honey and Mumford (1982) who is regarded as experts in the field of learning style.

The third human factor considered in this study is **style and pace of technology adoption**. For this purpose the various adopter categories as described by Zemsky and Massey (2004) and the technology adoption cycle as illustrated by Rogers

(1962) in his book *Diffusion of innovations*, is considered, namely *Innovator, early adopter, early majority, late majority and laggards* (cf The Computer Language Company 2010). Rogers, as well as Zemsky and Massey, are widely acknowledged as experts in the field of technology adoption.

Alexandrou (2011) describes *technology adoption* as the manner in which people respond to product and service innovations that require them to change their past behaviour. An employee's style and pace of technology adoption therefore refer to the characteristic individual manner in which an employee will respond or adapt to a new technology or innovation (*style*) and how fast or slow the employee will adopt (*pace*). The study argues that style and pace of technology should also be considered with the e-readiness assessment of an academic and the subsequent development process.

1.8.2 E-readiness

The majority of definitions for *e-readiness* refer to readiness of countries, governments and businesses for the use of electronic media (Dada 2006:1; Rautenbach 2007:iv). According to Dada (2006:1) *e-readiness* refers to the extent to which a group of people is prepared and geared to take part in the online world or the potential of an organisation to get involved in e-learning activities.

According to Guglielmino and Guglielmino (2003) in Moolman (2007:65), e-readiness of people can be assessed by evaluating amongst others an individual's technical experience and competency with computers (Schreurs, Sammour & Ehlers 2008:267; Lee-Post 2009:66). In addition to these competencies, a person should have the capability to direct his/her own learning, by means of relevant knowledge, attitudes, skills and habits (Guglielmino & Guglielmino 2003 in Moolman 2007:65). Further, an employee's e-readiness levels may or may not be supported by the readiness of the organisation, therefore institutional management should guide and support e-learning processes for it to be considered a supporting factor to the e-readiness of an employee (Moolman 2007:65). E-readiness assessment is intended to direct development efforts by providing benchmarks for comparisons and measuring progress (Budhiraja & Sachdeva 2010:3).

E-readiness, in the context of e-learning, also entails that the users of technology should possess the necessary capabilities and skills to use e-learning strategies (Moolman & Blignaut 2008:169; Moolman 2007:65). *E-readiness* is not limited to physical readiness (infrastructure, hardware, software), but also consists of the non-physical readiness of an organisation such as psychological readiness (Rautenbach 2007:iv; Hewitt 2003:5). It is thus evident that human factors are related to a person's e-readiness. The focus of this study is on particular human factors that impact on an academic's e-readiness.

For the purpose of this study *e-readiness* refers to the willingness and preparedness of academics to use e-learning in teaching and learning, implying that they have the necessary technical skill, the skill to use and adapt teaching and learning strategies that best suit e-learning, the psychological readiness to use technology in teaching and learning, and the ability to use e-learning to optimally enhance learning. This study explains the role of key human factors such as personal work profile pattern, learning style and pace and style of technology adoption on e-readiness of academics. As the study focuses on the need for academics to be e-ready in order to effectively make use of e-learning, the concept *e-learning* is also clarified.

1.8.3 E-learning

The “e” in *e-learning*, referring to “electronic”, adds a technological edge to the “learning”, but the focus remains on *learning* as the critical element and e-learning can therefore be seen as enhanced learning (JISC 2009:8). *E-learning* is no longer only linked to distance or remote learning, but has become an element in a conscious decision to use the best and most suitable ways to enhance effective learning (JISC 2009:9; Armstrong 2006b:583). *E-learning* enhances *learning* by broadening and complementing classroom teaching and learning, rather than replacing it (Armstrong 2006b:583). The focus of *e-learning* is not on technology, but on *learning*, supported by technology (Armstrong 2006b:583).

As learning is central to the concept of *e-learning*, it is necessary to clarify what is meant when referred to learning. According to Pearsall (2001:1048) *learning* is “the

acquisition of knowledge or skills through experience, practice, study or by being taught". The aim thus is to acquire knowledge and skills. Connor (2007) indicates that learning, from the most basic to complex, is an increase in knowledge, memorising information, obtaining knowledge for practical use, finding meaning from what is taught, and a progression of understanding. Learning is the act, process, or experience of acquiring knowledge or skills (Connor 2007).

E-learning refers to learning that can be accessed by any electronic means (Alessi & Trollip 2001:377; Moolman & Blignaut 2008:169; Takalani 2008:3; cf NZCER 2004:21), therefore, acquiring knowledge and skills through electronic means. The European Commission (2001) defines *e-learning* as "the use of new multimedia technologies and the Internet to improve the quality of learning by facilitating access to resource and services as well as remote exchanges and collaborations." *E-learning* can further be defined as an innovative approach to provide learners with well-designed, learner-centred, interactive, and facilitated learning environments with "anyplace, anytime" access (Kahn 2005:3). It is thus evident that e-learning is focused on *learning*.

In this study the *e-learning* focus is in particular on web-based learning. Whereas *e-learning* make use of a variety of ICT tools, web-based (online) learning refers to learning specifically through the use of the internet/web-based applications (SA 2004:16; Alessi & Trollip 2001:5–7). However, other e-learning tools such as podcasts, blog and wikis can also be connected to or uploaded on an e-learning platform.

1.8.4 Information and communication technology (ICT)

As e-learning encompass the use of ICT tools, it is necessary to define *Information and communication technology* (ICT). According to Webster (2011), *technology* is a method with which a task can be achieved, mainly through the use of technical or practical processes, means, or knowledge. Technology is also defined as the branch of knowledge dealing with applied sciences (Pearsall 2001:1903). *Technology* further refers to the particular aspects of a specific field of undertaking, such as the use of technology in teaching and learning (Webster 2011). The use of technology in

teaching and learning involves the use of electronic media such as *inter alia* computers, the Internet, CD-ROMs and e-platforms (Alessi & Trollip 2001:377).

The computer hardware (personal computers, scanners, digital cameras) and software (database programmes and multimedia programmes) that allow us to access, retrieve, store, organise, manipulate and present information by electronic means can be described as *information technology* (IT) (Pearsall 2001:937). *Communications technology* refers to telecommunications equipment that can be used to access, send and seek information, including phones, faxes, modems and computers (SA 2004:16).

Information and communication technology (ICT) then indicates a combination of IT (hardware and software programmes) and communication technology through which the processing, management and exchange of data, information and knowledge is being made able (SA 2004:16; cf DPSA 2004:7). ICTs are therefore used with a LMS in teaching and learning.

1.8.5 Academic employee

An *academic employee* refers to a person that is appointed to teach or to do research at a public HEI or any other employee selected as such by the council of that HEI (SA 1997:7). Currently universities as HEIs take better responsibility for appointing and managing their academics and is therefore required to develop performance measures, training methods and incentives to ensure academics' professional competencies and teaching expertise (Cano-Hurtado, Carot-Sierra, Fernandés-Prada & Fargueta sa:1). The assessment of teaching is in particular significant to universities, as assuring the excellence in teaching, ensure both the professional competency of their academics and the quality of their teaching and learning (Cano-Hurtado et al sa:1).

In this study the focus is on one of the job requirements of an academic: teaching with technology and in particular the e-readiness to use technology successfully in teaching and learning. Before an *academic* is involved in, and skilled in e-learning, the employee cannot be referred to as an *online learning facilitator*. Once the

academic becomes involved in, and skilled in e-learning, the employee will be referred to as an *online learning facilitator*. In other words, an *academic* should be e-ready to act as *online learning facilitator* with e-learning.

1.8.6 Online learning facilitator

When the concept *online learning facilitator* is defined, the various components of the concept need to be clarified:

Online implicates that the teaching and learning process is connected to and accessible via a computer or computer network (Pearsall 2001:1296). For the purpose of this study online will refer to the teaching and learning process that is web-based, including other e-learning tools and media that is connected to web-based learning or uploaded to an e-learning platform.

As indicated by Pearsall (2001:1048) *learning* is “the acquisition of knowledge or skills through experience, practice, study or by being taught”. *Online learning* involves the use of a computer or electronic device (eg a mobile phone) in some way (to a bigger or lesser extent) to teach or provide learning material (Stockley 2003; AFLF 2003:2). For the purpose of this study *online learning* implies that an online learning facilitator makes use of electronic means in teaching and learning to contribute to and optimise student learning.

Facilitation means making an action or process easier (Pearsall 2001:656), in the case of this study, learning. *Facilitation* is a pedagogical term that refers to student-centred approaches in teaching and learning, as opposed to teacher-driven approaches (ANTA 2003:2; AFLF 2003:2). Online facilitation thus refers to managing the communication of learners online with a view to accomplish learning. This is also often referred to as *online moderation*.

According to Kaner, Lind and Toldi (2007:xv) a *facilitator* can be described as a person who enables groups to work more effectively, to collaborate and achieve synergy. A facilitator furthermore also adds structure and process to group interaction and encourages full participation amongst participants (Kaner et al

2007:xv). In education, facilitators are usually subject experts, but also draw on the knowledge of learners and fill in any gaps (Answers Corporation 2007). In the higher education environment and in the context of teaching and *learning* a facilitator refers to an academic who tutors/teaches/facilitates learners. An *online learning facilitator* then refers to an academic who effectively uses digital means of learning to teach, tutor or guide learners. In chapter 4 the roles and responsibilities of an academic as online learning facilitator will be elaborated upon.

1.8.7 Higher education institutions (HEIs)

A *Higher Education Institution* (HEI) refers to an institution that provides higher education on a full-time, part-time or on a distance basis (SA 1997:8). The institution should be established or considered to be established, and be declared as a public HEI under the Higher Education Act 101 of 1997. The study focuses predominantly on the university as HEI and the NWU, Potchefstroom campus, is used as case study.

HEIs provide education on tertiary level through which learning, an act, process, or experience of acquiring knowledge or skills (Connor 2007), takes place, thus the result of education. According to Knowles, Holton III and Swanson (2005:10) *education* is an action taken on and/or initiated to result in changes in the knowledge, skills and attitudes of individuals, groups or communities. The educator, who is regarded as the change agent, provides incentives, support and reinforcement for learning and plans activities to encourage change (Knowles et al 2005:10; Contento 2011:387; cf Reeve 2009). *Learning* give emphasis to the person in which the change occurs or is likely to occur, and is the “act or process by which behavioural change, knowledge, skills and attitudes are acquired” (Knowles et al 2005:10). A shift has taken place from teaching to learning and at the same time online education became pivotal in the fundamental institutional change of the higher education sector (Matthias, Schneckenberg & Wildt 2001:5).

1.8.8 Student vs learner

HEIs provide education to *students*. According to Warlick (2010) a *student* follows instructions and is compelled to do what is expected by the teacher, whereas a *learner* has a vested interest in learning and is therefore motivated by it and appreciate the value of learning. A *student* is usually compliant, group-disciplined, objective-oriented (Khosrow-Pour 2000:926), whereas a *learner* is determined, self-disciplined, group- and goal-oriented, resourceful, and is “learning to achieve rather than achieving learning” (Warlick 2010). A *student* is someone caught up in the power structures of a very specific social institution, whereas a *learner* is not necessarily involved in formal education (cf Anon 2008). A *learner* can be viewed as a state of mind, a *student* can be viewed as a social position (Anon 2008). Rossiter (2006:40) explains that the change in terminology from *student* to *learner* is due to the fact that the concept *student* is associated with “dependency or reliance on an institution (or a discipline, profession or teacher)”, whereas the concept *learner* implies added commitment on the part of the individual to the gaining of knowledge, skills and understanding in the learning process.

According to Floyd (2009) learning is concerning making the paradigm shift from subject-oriented education to person-oriented learning. With learner-centred education both students and teachers together identify the *what* and the *how* questions to learning. “Continuing education leads us to *know* something different; lifelong learning assumes that we will *be* someone different as a result of the process” (Floyd 2009). The concept of lifelong learning should be embraced to ensure continuous development and considering that organisations have to function in the knowledge economy of the 21st century (Amirault & Visser 2009:66; World Bank 2003:xiii; cf Markkula 2006:2–3).

Therefore, whereas academics teach *students*, who *learn* during the teaching and learning experience, it is ideal that *students* should adapt a *learner* attitude and embrace the concept of lifelong learning. For the purpose of this study, however, academics themselves should become *learners* in the process of enhancing their e-readiness. In the study the concept *learner* is preferred and used.

1.8.9 Assessment

According to Pearsall (2001:100–101) to *assess* is to “evaluate or estimate the nature, ability or quality” of something or someone and *an assessment* is the “action of assessing someone or something”. In this study the “someone” to be assessed refers to the academic and the “something” to be assessed refers to the e-readiness of the academic. *Assessment* of an employee’s skill and capacity to fulfil job requirements (*performance assessment*) is done through a performance appraisal (cf Weiner, Graham, Schinka & Naglieri 2003:321). Therefore the concept human resource performance appraisal is defined in the next section.

1.8.10 Human resource performance appraisal

Human resource performance appraisal is a structured method through which an employee’s job-related activities and outcomes are measured and evaluated to determine how the employee is presently performing on the job, why the employee is performing at the particular level and how the employee’s performance can be enhanced to benefit all stakeholders, namely, the employee, the organisation and society at large (Schuler 1981:211; Aswathappa 2005:227). Performance appraisal thus refers to the assessment of employees’ performance (evaluative part), as well as their potential for further development (developmental part) (Rademan & De Vos 2001:54; cf Grobler, Wörnich, Carrell, Elbert & Hatfield 2002:260;266). This study focuses on both components of performance appraisal: academics will be assessed to determine their level of e-readiness (evaluative part) and the assessment will be followed up with a development plan and development interventions (developmental part).

1.8.11 Human resource management

Human resource management (HRM) refers to the organisational function, facilitating the most effective use of people with the aim to obtain organisational goals and objectives (Ivancevich 2004:4). Human resource management can also be explained as the process of developing, applying and evaluating policies, procedures, methods and programmes relating to the individual in the organisation

(Kleiman 2011). Armstrong (2006b:3) defines human resource management as “a strategic and coherent approach to the management of an organisation’s most valuable assets – the people working there who individually and collectively contribute to achievement of its objectives”.

It is therefore evident that the primary aim of HRM is to ensure that an institution obtain success through its human resources (employees). According to Erasmus, Swanepoel, Schenk, Van der Westhuizen & Wessels (2005:4) public HRM is part of management, including all the functions, practices, strategies, principles, operations, decisions, activities, processes, procedures, etcetera which relate to the people in the institution.

For the purpose of this study, HRM will refer to the typical HR functions, policies, strategies, structures, procedures and interventions that can be executed and implemented at higher education institutions with the aim to enhance both institutional and individual productivity, with the eventual objective of improving overall effectiveness and providing a quality service to the student. It will be determined therefore which role HRM can play in improving the skills and capacity of academics in order to ensure organisational success and effectiveness, particularly pertaining to e-learning and e-readiness.

1.9 LAYOUT OF CHAPTERS

The next chapters of the study will discuss the following:

In **chapter 2** a literature review of public human resource performance appraisal and its role and place in addressing the e-readiness of academics at HEIs is provided. Current human resource performance appraisal practices and policies of the NWU are also reviewed with a view to determine the possibility and shortcomings for including the e-readiness assessment of academics in the performance appraisal process. Employee performance is directly or indirectly related to motivation, therefore the role and importance of employee motivation is explained and brought in relation to the e-readiness of academics. The significance of motivating factors such as incentives, goal-setting, intrinsic and extrinsic motivation and self-determination

are outlined. Specific attention is also given to the role of self-determination in the motivation towards technology adoption.

Chapter 3 discusses employee development. As human resource performance appraisal entails a developmental component, attention is given to the role of employee development in increasing the e-readiness of academics. Further the rationale for including e-learning training in employee development, career management programmes and talent management programmes receives attention. Attention is also given to current employee development and career management practices at the NWU with a view to make provision or the e-readiness assessment of academics. The chapter also reviews the uniqueness of the academic as an adult learner and the role of the line manager in employee development.

In **chapter 4** the key human factors that impacts on academics' e-readiness, are outlined and explained, namely personal work profile patterns, preferred learning style and pace and style of technology adoption. The interrelatedness of these human factors and how they contribute to an employee's e-profile is also determined and explained.

Chapter 5 reviews the 21st century higher education environment and the typical HEI student. The chapter also determines the role and purpose of e-learning in this environment and in relation to the 21st century student. Further it is explains what e-readiness encompasses, Enabling factors to e-readiness are outlined and discussed and indicators of the e-readiness of academics are established and included in an e-readiness construct. Since a lack of e-readiness usually causes resistance to e-learning, various barriers to e-learning are discussed and its relation to the e-readiness of academics is indicated.

Chapter 6 profiles the NWU, Potchefstroom campus, in terms of its policies and practices pertaining to performance management, employee and career development, as well as the 21st century undergraduate student.

In **chapter 7** research results obtained from the questionnaire, focus group discussion and interviews are discussed and interpreted. A framework which can be

used to assess the e-readiness of academics during performance appraisals is developed. The impact of key human factors in the e-readiness assessment of academics is considered and included in the development and implementation of the framework.

Finally, in **chapter 8** a summary of the study is provided, particular conclusions are drawn and recommendations are made regarding the e-readiness assessment of academics during performance appraisals with a view to optimise student learning through the use of e-learning.

The next chapter (chapter 2) discusses and explains the role of human resource performance appraisal, employee development and motivation in the e-readiness of academics.

CHAPTER 2

HUMAN RESOURCE PERFORMANCE APPRAISAL AND EMPLOYEE MOTIVATION

2.1 INTRODUCTION

From the discussion in chapter 1 it is eminent that the 21st century technological advancements and the current student profile (Generation Y), compels HEIs to adapt to technological development to remain competitive and to use generation-relevant educational tools. The use of e-learning to enhance learning requires academics to be equipped with the necessary skills to act as online learning facilitators. Thus, the e-readiness of academics is imperative in terms of not only technical and social skills, but also to use effective online teaching and learning strategies and to ensure that learning is optimised. However, when academics experience a lack of e-readiness it will influence the effectiveness with which they fulfil this job requirement – their online teaching duties. Thus, the need for training and development interventions is eminent.

For academics to be competent in discharging their role as facilitator in the learning environment, in particular using e-learning as a learning tool, their competency to use e-learning needs to be assessed. This study therefore argues that, due to the changed job requirements, and highlighting the importance of the role of the online learning facilitator in e-learning, academics need to be assessed on their e-readiness during performance appraisals. The chapter reviews the literature on human resource performance appraisal to determine its role and place in the e-readiness assessment of academics.

A significant factor that managers should take cognisance of, in terms of employee performance and development, particularly with changing job requirements, is employee motivation. When employees resist change, such as the incorporation of technology in teaching and learning, it might be associated with a lack of motivation. The chapter therefore reviews the scholarly literature on the importance and

relevance of employee motivation in the performance of academics pertaining to e-learning.

2.2 HUMAN RESOURCE PERFORMANCE APPRAISAL FOR E-READINESS ASSESSMENT

Human resource performance appraisal is a HRM practice (Kundu, Malhan & Kumar 2007:75). As alluded to in section 1.8.11 of the previous chapter: HRM is “a strategic and coherent approach to the management of an organisation’s most valuable assets – the people working there who individually and collectively contribute to achievement of its objectives” (Armstrong 2006a:1). It is evident that the primary aim of HRM is to ensure that an organisation obtains success through its human resources. This implies that the human resources in an organisation should perform to an acceptable level in order to ensure fulfilment of organisational objectives. The performance of employees should therefore be assessed on a regular basis to determine whether it is on an acceptable level or whether training interventions are needed to develop employees towards an acceptable level of performance. This is done through human resource performance appraisal. Before the concept of *human resource performance appraisal* is defined, it is necessary to first determine where performance appraisal fits into the broader performance management structure of an organisation.

2.2.1 Human resource performance management

According to Amos (2009:8) *performance management* can be described as a strategy that is set in the context of an organisation’s HR policies, culture, approach and infrastructure and which relates to all activities of the organisation. Amos (2009:9) further explains that the performance management process entails a continuous cycle of planning, acting, monitoring and reviewing, and again planning to complete the cycle. This cycle links logically with the performance appraisal process (Amos 2009:9). The organisational milieu will dictate the nature of the performance strategy and can differ from organisation to organisation (Amos 2009:8; cf Thomson & Mabey 2001:189–190).

Performance management can also be defined as a “strategic and integrated approach to delivering sustained success to organisations by improving the performance of the people who work for them and by developing the capabilities of teams and individual contributors” (Armstrong 2006a:142). Armstrong (2006b:495) further defines performance management as an organised process by which organisational performance is enhanced through increasing the performance of individual employees and teams. A pre-decided structure of premeditated goals, standards and competency requirements provides for better results and it focuses employees on doing the correct things through goal clarification and is own and steered by line management (Armstrong 2006b:495). It is thus evident that goals are being set for performance management and that employees are assessed against certain predetermined standards.

Further, in their *Strategic human resource planning: guideline and toolkit*, 2008, the Department of Public Service and Administration (DPSA) explains that a performance management system stems from an organisation’s vision and objectives (DPSA 2008:7; DPSA 2002:2–3; cf Thomson & Mabey 2001:189–190; McNamara sa). The performance targets of individuals, against which they will be assessed during a performance appraisal, are therefore set within the framework of organisational objectives and an organisational strategy (Amos 2009:9). Therefore, individual objectives and organisational objectives should be aligned (Armstrong 2006b:496; PSC 2010:x;5; Nickols 2007:12). The mission of the NWU refers to the aim of providing world class education to students and to “educate and empower (them) through innovative and high quality teaching-learning” (NWU 2010f). It is thus evident that the University’s mission statement supports innovative methods of teaching and learning, of which e-learning is one. As indicated in the previous chapter, with e-learning the focus should be place on enhanced learning and the use of technology in teaching and learning should thus be applied to optimise learning. When academics are skilled and capable to do so, they will contribute to the university’s vision and objectives through their individual performance.

According to the *Toolkit for the management of poor performance in the public service*, drafted by the Public Service Commission (PSC), performance management is intended to be a process that assists organisations in instituting a climate that is

favourable to motivating employees towards the development and achievement of high standards of performance (PSC 2007:5), thus emphasising the importance of motivation in employee performance. In this study it is argued that the key human factors of academics will determine how they should ideally be motivated to adapt to the changed job demand and to increase their performance. Section 2.3 elaborates on employee motivation.

Various authors (Landes 2009:28; Deci & Ryan 2000:227; Cardno 1995:118; Resnick 2007; Momberg 2004:36; Rademan & De Vos 2001:54; PSC 2010:x;5; Moller, Ryan & Deci 2006:105–106;110; Armstrong 2006b: 495–529; Armstrong & Baron 1998:568 in Amos 2009:9; Nickols 2007:12–13; Li & Butler 2004:38) indicate that particular aspects are typical of the performance management process and should be practiced and implemented to ensure the success of performance management. They outline the following aspects relating to performance management and performance appraisal: A meaningful rationale and benefits; well-defined processes; aptitude, skills and knowledge; clear goals, expectations and responsibilities; support structures and guidance systems for academics; patience and reinforcement, feedback, career management; objective assessment and legal protection. The importance of practicing and implementing of these aspects are explained in the following paragraphs:

- **A meaningful rationale and benefits**

For employees to perform, they need a rationale as for why certain activities/responsibilities are expected of them (Landes 2006:28; Moller et al 2006:105–106;110; Deci & Ryan 2000:227). The importance of providing employees with a rationale is cardinal to employee motivation and ultimately performance, particularly when confronted with a changed job requirement, as is the case with academics at HEIs with the inclusion of technology in teaching and learning.

The rationale should include information on who benefits from the new job demand (Landes 2006:28). First and foremost the academic needs to understand how the new job demand will benefit teaching and learning. Further, the organisation (the HEI) and society (the learners and the future work places) will also benefit from

employee development for the new job requirement and the eventual implementation of the new job requirement, e-learning, and should thus also be included in the rationale provided to the employee (Cardno 1995:118; cf Maurer Pierce & Shore 2002:432; Adam 2010). The importance for providing a rationale to employees is thus discussed in sections 2.3.1 and 2.3.2 as part of goal-setting for performance.

- **Well-defined performance management processes**

Landes (2006:28) explains that a well-defined performance management process simplifies the tasks that employees are expected to perform, particularly those tasks they do not perform on a regular basis. Well-defined processes give direction for the sound implementation of the tasks employees are assigned to perform (Resnick 2007). Therefore, these processes are vital, whether they are developed with support from management, or whether employees create them on their own (Landes 2006:28; Resnick 2007). These well-defined processes can also assist academics, to clearly understand the role and purpose of e-learning in teaching and learning, what is expected of them and how it should be accomplished. One can argue that a well-designed process is likely to contribute positively towards employee motivation.

- **Aptitude, skills and knowledge**

Whereas aptitude is an intrinsic quality (Moolman & Blignaut 2008:171), skills and knowledge are obtained (Landes 2006:28). When it comes to *aptitude*, it's important that there is a job-person fit (Landes 2006:28; Johannes 2007:135; Momberg 2004:36). One can argue that an employee with an aptitude for technology or an understanding of the constructivist teaching and learning approach, as outlined in chapter 3, will easily fit the position of online learning facilitator, but academics who do not possess this aptitude may not be e-ready to effectively fulfil online teaching tasks.

As for *skills and knowledge*, it is necessary to conduct an assessment in order to determine whether employees' skills and knowledge need to be improved through training and development (Landes 2006:28). Subsequently, suitable development

plans can be set up for each employee (Rademan & De Vos 2001:54). Development plans should support both organisational and individual needs (PSC 2010:x;5; Landes 2006:289). The drafting of development plans to enhance a skill, more specifically a skill to effectively use technology in teaching and learning, is the very purpose of assessing the e-readiness of academics at HEIs.

- **Clear goals, expectations and responsibilities**

The likelihood of achieving desired outcomes will be increased when goals and expectations are well-defined (Li & Butler 2004:38; Resnick 2007). Armstrong and Baron (1998:568) in Amos (2009:9) agree that employees will do their best to achieve objectives if they know what is expected of them. One can argue that this calls for setting clear and unambiguous goals. Well-defined and clear goals and expectations will also enhance communication between managers and subordinates (Landes 2006:29).

Nickols (2007:12) asserts that the alignment of individual goals with organisational goals should be ensured (Amstrong 2006b:498; PSC 2010:x;5; Gilley, Egglund & Gilley 2002:60). Section 2.3.2 outlines the importance of goal-setting in motivating employees with a view to enhance performance.

In order to minimise resistance to change, it is advisable that management provides an understandable explanation as to which route the organisation wishes to take (Moller et al 2006:105–106;110; Landes 2006:29). Employees should be informed as to what is expected of them and what their individual responsibilities are (Armstrong 2006b:499; Landes 2009:29). This will increase the probability for employees to meet management's expectations (cf Gagné, Koestner & Zuckerman 2000:1843).

- **Support structures and guidance systems for academics**

Employees are more likely to perform if they get the necessary support to achieve goals (Landes 2006:29). Support mechanisms in the workplace might include resources such as funding, people, communication tools, the right working

environment, management endorsement, organisational processes, systems, and clearing barriers, to name a few (McNamara sa; Armstrong & Baron 1998:568 in Amos 2009:9). It is thus important that HEIs determine whether employees are being provided with the necessary support to fulfil their e-learning duties, whether it is training and development, equipment, motivation, recognition, or any other form of support.

According to Landes (2006:29) managers need to communicate with employees to give direction (Gitman & McDaniel 2008:187; Hansson 2009) by firstly providing information; secondly, providing a communication system to regularly let them know if they are on target or not; and thirdly, by creating a fixed control mechanism or process to take corrective action if necessary, and to hold employees accountable for their actions. However, if the only tool for holding people accountable is punishment and criticism, a manager will not get the best performance out of employees (Landes 2006:29). Therefore, the performance appraisal process should be used as a mechanism to encourage employees to perform better and to give guidance as to how performance can be improved (Landes 2006:29; Armstrong 2006b:496). It can be argued that putting these support structures and guidance systems for academics in place, will positively impact on employee motivation and ultimately on individual as well as organisational performance.

- **Patience and reinforcement**

Patience with an employee's performance curve and reinforcement of performance goals usually pay-off in the long run (Landes 2006:29; Vroom 1964:13). Research has shown that old habits die hard and employees find it difficult to move out of their comfort zones (Proctor & Doukakis 2003:268; Robbins 2003:559–560), thus it requires patience of line managers to steer employees towards performance with changed job requirements. As indicated in previous sections, resistance to change will be eminent during periods of change, such as the changed job requirements for academics, which may negatively impact on employees' performance. Therefore, regular reinforcement, repetition and communication of new job requirements are required for employees to become comfortable with change (Landes 2006:28–29).

Skinner's (1969) reinforcement theory refers to the relationship between the desired behaviour (eg performance) and a motivational tool (eg merit pay) and it is based on the philosophy and techniques of organisational behaviour modification (Stajkovic & Luthans 1997 in Perry, Mesch & Paarlberg 2006:505). "Organizational behaviour modification is a framework within which employee behaviours are identified, measured, and analyzed in terms of their functional consequences (i.e., existing reinforcements) and an intervention is developed using principles of reinforcement" (Luthans & Kreitner 1975; Stajkovic & Luthans 1997 in Perry et al 2006:505). Thus, a financial incentive can be used to motivate an employee towards performance by using the incentive as motivational tool. Section 2.3.1 discusses financial and non-financial incentives and rewards and also addresses reinforcement for employee motivation towards increased performance.

- **Feedback**

During the performance appraisal process employees are given feedback regarding their performance (Armstrong 2006b:521; Dresser & Associates 2008:9). Feedback typically leads to a decrease in errors and waste, improved efficiency, enhanced service delivery and quality, as well as increased employee motivation, commitment and a sense of ownership (Nickols 2007:12).

Feedback, to academics when appraised on a new job demand such as e-learning is of significant value. It can be argued that the feedback to the employee should be coupled with the discussion of a development plan and a motivational strategy. Further, providing a rationale for the consequent development and the end-result is imperative as it can support in increasing the employee's goal commitment (Li & Butler 2004:38; Locke & Latham 1990). The importance of feedback is also emphasised in section 2.3.2 as part of the goal-setting process.

- **Career management**

As the human resource performance appraisal process includes opportunity for training and development, it provides for discussion on career progression

opportunities (Nickols 2007:13; PSC 2000:iv;6; PSC 2010:5; Gilley et al 2002:60–62). As indicated, the developmental part of performance appraisal is relevant to this study, particularly to academics that are not e-ready. Career development can positively contribute in this regard and the e-readiness development of an academic can be included in a career management programme (De Wit 2010). The role of career management in this respect is discussed in chapter 3.

- **Objective assessment**

Nickols (2007:13) stresses the importance of uniform processes and criteria in the performance appraisal process to ensure objectivity as it is in any circumstance necessary to appraise an employee objectively (Mote 2011; Dresser & Associates 2008:7). Objectivity forms the basis for fair, valid and legally defensible rewards (financial and non-financial) pertaining to performance (Nickols 2007:13).

Employees that experience a lack of e-readiness, who will have to obtain a new skill, may easily be overwhelmed and resistant to the outcomes of the performance appraisal. Therefore, with the performance appraisal of an academic's e-readiness it is imperative to keep the appraisal, as well as the development plan objective with a view on the organisational objectives. The proposed framework for the e-readiness assessment of academics will further contribute to the objectivity of the performance appraisal (see chapter 7).

- **Legal protection**

Performance appraisals offer legal protection against employee lawsuits for discrimination and unfair dismissal (Nickols 2007:13). The following core elements pertaining to performance management are emphasised by Landes (2006:29): Clear goals, expectations and responsibilities, support from management, a meaningful rationale, a well-defined performance process, guidance, feedback and development. In this regard a HEI can be safeguarded if need be, since proof can be shown of a performance appraisal that found an employee to not be e-ready and therefore justifies the required training and/or development expected of the

employee. It can be argued that the practice and implementation of the aspects outlined above will ensure a sound performance management process at HEIs.

2.2.2 Human resource performance appraisal

The performance appraisal targets of individuals are set within the performance management framework of organisational objectives and an organisational strategy (Amos 2009:9). The significance of human resource performance appraisal in the e-readiness assessment of academics necessitates a clear understanding of this process. According to Schuler (1981:211) *human resource performance appraisal* is “a formal structured system of measuring and evaluating an employee’s job-related behaviours and outcomes to discover how and why the employee is presently performing on the job and how the employee can perform more effectively in future so that the employee, the organisation and society all benefit” (cf Aswathappa 2005:227).

In accordance with Amos’ (2009:9) statement in the previous section, Thomson and Mabey (2001:189–190) also contend that that a performance appraisal takes place to determine whether an employee’s performance coincides of what is expected in terms of the organisational framework, objectives and strategies. Employee evaluation during a performance appraisal process allows for changes and improvements in employee performance which in return may lead to a development plan (Thomson & Mabey 2001:189–190). Training, development and rewards are identified during a performance appraisal (Kuvaas 2006:504). Performance appraisal thus encompasses the assessment of employees’ performance (evaluative part), as well as their potential for further development (Rademan & De Vos 2001:54; cf Grobler et al 2002:260; 266).

The concept and practice of development, indicated in the previous paragraph, is in particular relevant to this study, since the aim is to determine the level of e-readiness of an academic through performance appraisal to determine the need for and the extent of development required to improve the level of e-readiness. As alluded to in the previous section, also relevant to this study is that the academic, the organisation (the HEI) and society (the learners and the future work places) should all benefit

from employee development (Cardno 1995:118; Maurer et al 2002:432; Adam 2010). It can be argued that ultimately the increased e-readiness of an academic will not only enhance the skills and productivity of the employee, but will also benefit the learner which will receive an improved service, more opportunity to enhanced learning, and anytime, anywhere type of access to study material, tutoring and resources through e-learning. Further it enables the institution at large to provide quality world class teaching and learning through incorporating technology

Performance appraisal can be used for a wide range of purposes (Ivancevich 2004:257–258; Rees & Porter 2003:280; Steyn & Van Niekerk 2002:277; Redman & Wilkinson 2001:57; Amos 2009:1): To clarify and define performance expectations; to provide career counselling; succession planning; to improve individual, team and organisational performance; to identify training and development needs; to facilitate communications and involvement; recognition for effective work; to allocate financial rewards; to determine promotion; to motivate and control employees; to achieve cultural change; human resource and employment planning; legal compliance; and HRM research.

Of the abovementioned purposes of performance appraisal, most relevant to this study, in terms of the e-readiness of academics and the introduction of a new job requirement such as e-learning, are the following:

- **The identification of training and development needs**

It remain the responsibility of line managers to ensure that their subordinates are well-trained and have the competence to provide quality teaching and learning to students (Bartridge 2004b:1). Line managers at HEIs should, through the assessment of e-readiness during the performance appraisal, determine the training and development needs pertaining to e-learning. Line managers are further also responsible to see to it that employees' performance goals are aligned to organisational goals. Not only should training needs be identified, but time and opportunity for training should also be granted. Training and development of academics towards increased e-readiness are discussed in chapter 3.

- **The facilitation of communications and involvement**

According to Rademan and De Vos (2001:54), performance appraisal is regarded as one of the most significant tools of communication between managers and subordinates since it can either enhance or diminish the effects of other HRM activities such as training and development, talent management and retention. Landes (2006:29) supports the notion of Rademan and De Vos, indicating that the manner in which performance appraisals are practiced and communicated, will either positively or negatively impact on other HRM activities in the organisation. These authors' notions also hold truth for the performance appraisals of academics at HEIs as poor communication of the purpose and expectations of performance appraisals between line managers and academics are likely to stem academics negative towards their jobs. This negativity may very well result in training and development interventions, not having the desired results and even losing these employees to other organisations. It is thus of the utmost importance that performance expectations in terms of e-learning are clearly and regularly communicated to academics.

As indicated in the preceding section, clear goals and expectations will also enhance communication between managers and subordinates (Landes 2006:29). Cook and Jagers (2005:9) support this notion by indicating that managers who communicate well with employees gain insight into employees' feelings. When employees are well-informed, they are likely to increase their performance since they realise the significance of their contribution to the organisation's performance and objectives (Cook & Jagers 2005:9; Moller et al 2006:105–106; 110).

Further, research has found that employees are more positively inclined to the performance appraisal system when it provides opportunity for involvement and satisfy their needs (Latham & Locke 1979:68; Nykodym 1996:2; 4). When objectives and plans are talked about candidly, employees respond more favourably to the system (Gagné et al 2000:1843; Nykodym 1996:2;4; Landes 2007:29). It is imperative for managers and employees to mutually agree on the intended purpose, process and functions pertaining to performance appraisal.

- **Motivation and control of employees**

As motivation is regarded by researchers in this field (Saari & Judge 2004:396–397; Gilbert, De Winne & Sels 2010:5) as one of the most significant roles of line managers, it can be rightfully expected that this role takes precedence in the endeavour of changed job requirements, and in particular, if e-readiness assessment is introduced to the performance appraisals of academics. It is further important that academics understand their role in e-learning and be able to motivate themselves in terms of personal growth and development (Nickols 2007:12). It is also vital that employees interpret the worth and integrity of their jobs to successfully perform their e-learning duties. Section 2.3 elaborates on employee motivation.

- **Financial or other rewards as incentive**

Research (Corporate Leadership Council 2003:3) on best practice in terms of employee performance, employee retention, career management and talent management reveals that rewards and incentives play a significant role in enhancing these human resource management practices (UNDP 2006:4). The study does not focus specifically on rewards and incentives, but does make mention of it as it can be linked to employees' performance and motivation. In the discussion on motivation in section 2.3.1, reference will be made to the role of rewards and incentives.

Whereas the theoretical requirements and the purposes of performance appraisal, as outlined in scholarly literature, have been discussed above, chapter 6 discusses how these performance appraisal requirements and purposes are realised at the NWU. Chapter 6 therefore outlines the current performance management policies and practices followed by the NWU and also seek to determine whether these current policies and practices make provision for the assessment of the e-readiness of academics.

From the descriptions and objectives of performance management and performance appraisal in the preceding sections, two prominent aspects relevant to this study came forth: employee motivation and employee development. It is evident that

employee development plays a significant role in the eventual performance of an employee. It is also clear that the human resource performance appraisal process does not consist of an evaluative part only, but also a developmental part. When academics are not e-ready to fulfil their roles as online learning facilitators, e-learning training and development become imperative. Chapter 3 therefore determines the role of training and development in increasing the e-readiness of academics.

As alluded to several times in the preceding sections, a significant aspect relating to employee performance is motivation. The next section explores the role of employee motivation in employee performance as well as the role of motivation for employees to embrace the new job demand of e-learning and use it optimally for enhanced learning.

2.3 THE ROLE OF EMPLOYEE MOTIVATION TOWARDS INCREASED PERFORMANCE

Research has shown that motivation has a significant impact, positively or negatively, on an employee's performance (Shadare & Hammed 2009:7–8; Oyedele 2010; Shadare & Hammed 2009:8; cf Cooke & Meyer 2007:1–2; Bruce & Pepitone 1999:118). Therefore, in an organisation's endeavour to increase employees' performance it is necessary to understand what specifically motivates employees to optimally perform. Motivation can be described as "the psychological feature that arouses an organism to action toward a desired goal; the reason for the action; that which gives purpose" and can include providing an incentive (Princeton University 2009). Robbins (2009:144) defines motivation as "the processes that accounts for an individual's intensity, direction and persistence of effort toward attaining a goal. Motivation can also be described as the reason or reasons for engaging in a particular behaviour, especially human behaviour (Pearsall 2001:1206; Shadare & Hammed 2009:8) or "the general desire or willingness of someone to do something" (Pearsall 2001:1206). For the purpose of this study the focus will be on employee motivation, namely the reason/s for employee engagement in particular activities, determined by their behaviour towards these activities (specifically the use of technology in teaching and learning).

Increasing the e-readiness of academics through employee development to become skilled online learning facilitators will fail if no reason or motivation exists for employees to become involved (Jordan 2006:1; Roper 2007; cf Chyung 2007:3). This section will therefore focus on a number of aspects identified in literature that proved to be successful in terms of employee motivation towards enhanced performance. For the purpose of this study it should also be kept in mind that line managers not only have to motivate employees in terms of performance, but they will also have to motivate academics to embrace a new job demand for which they are perhaps not ready or have reservations about. This makes it a challenging task for line managers. The literature study will therefore indicate which motivational strategies are most effective towards enhancing employee performance, particularly for employees who resist change. The following aspects will receive attention: financial and non-financial incentives and rewards; goal-setting; intrinsic motivation and extrinsic motivation and self-determination theory. The relation between motivation and technology adoption is also discussed by means of self-determination theory.

2.3.1 Financial and non-financial incentives and rewards

Callaghan, Brownlee, Brtek & Tosi (2003:2518–2519) indicate that incentives have both a direct and indirect effect on task performance (cf Stolovitch, Clark & Condy 2002:2). Incentives are, however, usually linked to goals, either implicitly or explicitly (Callaghan et al 2003:2518). When piece-rate incentives (a rate which an employee is paid for each item produced) (Encarta 2009) are used in combination with assigned goals, it leads to higher self-set goals (Jackson 2007:25; Stolovitch et al 2002:2–3). According to expectancy theory employees are motivated to perform when they believe their effort will lead to obtaining an appreciated reward/incentive (Shadare & Hammed 2009:10; Armstrong 2006b:259). Appropriate allocation of rewards is therefore likely to increase employee motivation and performance and will therefore also add to the successful achievement of organisational goals (Zhu 2007:90). Research by Callaghan et al (2003:2518–2519) also indicates that there is

a relationship between incentives and higher self-efficacy as well as higher self-set goals⁴.

A number of incentives can serve as motivators to performance, namely amongst other financial compensation, participation in decision-making, recognition, promotion, job enrichment, behaviour modification, organisational development, goal-setting and self-determination. These motivators can play a role in academics' e-learning performance and can be applied in training and development interventions to increase their e-readiness levels.

Money assists in attracting quality employees and retaining them (Mason & Watts 2009:1; Lee 2007:1–2). Furthermore, money is found to be most effective as motivator when bonuses offered to employees, are made dependent on the achievement of particular goals (Latham & Locke 1979:68; cf Madden 1997:411). Marshall and Harrison (2005:4) confirm this notion and indicate that financial incentives lead to better work performance. The use of financial incentives (merit pay, pay for performance, bonus) in the performance context, typically is based on the principles of reinforcement theory (Perry et al 2006:505). Skinner's (1969) reinforcement theory refers to the relationship between the desired behaviour (eg performance) and a motivational tool (eg merit pay) as explained in section 2.2.1.

Maslow's hierarchy of needs can be taken into consideration with employee motivation, where higher order needs and lower order needs are included in his hierarchy (Maslow 1946:3). Higher order esteem needs refer to the desire to stability, having a high valuation of oneself, self-respect, self-esteem, based on true capability, accomplishment and respect from others (Maslow 1946:33). Maslow (1946:33) places esteem needs in two categories: firstly, the need for strength, success, competence, confidence, autonomy and freedom; and secondly, the desire for status, prestige, recognition, attention, importance and appreciation. Fulfilment of self-esteem results in self-confidence, value, strength, ability, and competence for being constructive (Maslow 1946:34). The other higher order need on Maslow's hierarchy, self-actualisation, refers to the desire for self-fulfilment, the tendency to

⁴ Self-efficacy and goal-setting is discussed in the next section.

become actualised in what one latently is and potentially can be, and to grow to be all one is able of becoming (Maslow 1946:34). Based on Maslow's needs hierarchy, it can be argued that academics, functioning within an intellectual, high performance environment, will favour rewards and incentives such as recognition, promotion and flexi time as they would arguably be driven by Maslow's higher order needs. Higher order needs are also associated with intrinsic motivation (Robbins 2009:145), implying that employees would not need external motivation such as financial incentives to perform.

McDonald, Harrison, Checkland, Campbell and Roland (2007:334) is of the opinion that professional performance is usually intrinsically motivated as professionals perform because they find an activity inherently enjoyable and rewarding; professional performance is usually not due to an external reward. Further, research found that "extremely imposed incentives" can weaken internal motivation (McDonald et al 2007:334). This is of significance as the conventional view of intrinsic motivation is that it is regarded as a significant attribute of excellence in professional practice (McDonald et al 2007:334). The determining factor in this study, however, will be whether an employee's position on the technology adoption cycle, preferred learning style and personal work profile pattern can determine the most effective manner in which to motivate the employee. This notion is explored in chapter 6 and the relation between incentives/rewards, learning styles and pace and adoption to technology will be illustrated in chapter 4. As indicated earlier in this section, a relationship can be observed between incentives and higher self-efficacy as well as higher self-set goals (Callaghan et al 2003:2518–2519). The next section discusses the theory on the influence of goal-setting on employee performance.

2.3.2 Goal-setting

The fathers of the goal-setting theory, Latham and Locke (2006:332), are of the opinion that "there is a linear relationship between the degree of goal difficulty to which a person is committed to attaining and that person's subsequent job performance", provided that the employee has the sufficient knowledge and ability (Locke & Latham 2002:706). Goal-setting therefore has the potential to enhance employee performance. Goal-setting, is not only an effective motivator, but may be

the key method by which the other incentives influence motivation (Latham & Locke 1979:68). Job enrichment will have for instance no effect on productivity unless employees in enriched jobs set higher and more specific goals (Latham & Locke 1979:68). Goal commitment, however, is conditional for goal-setting to result in enhanced performance (Locke, Latham & Erez 1988:23; Locke & Latham 1990:240; Locke & Latham 2002:707; Selden & Brewer 2000:535). It is further pointed out by Locke and Latham (2002:707) that goal commitment is most important when goals are difficult as difficult goals will call for high effort from employees. In this regard line managers should play a role in terms of motivation to encourage employee commitment to their goals by focusing them on the positive outcome and rationale of the development (Landes 2006:28; Moller et al 2006:105–106;110; Deci & Ryan 2000:227).

When employees are provided with a rationale/credible reason for a challenging goal it can assist in increasing goal commitment (Li & Butler 2004:38; Locke & Latham 1990:241). Support for this notion has also been indicated in section 2.2.1 and earlier in this section. A rationale or credible/clear explanation will not only enhance employee motivation, but it will ultimately also increase performance of employees which in return will eventually lead to organisational performance. The likelihood that well-defined goals and expectations lead to achievement of desired outcomes (Li & Butler 2004:38; Resnick 2007) was mentioned in section 2.2.1. This notion is supported by Armstrong & Baron (1998:568) in Amos (2009:9) when they agree that employees will do their best to achieve objectives if they know what is expected of them. One can argue that this calls for setting clear and unambiguous goals. It has also been stated that well-defined and clear goals and expectations will also enhance communication between managers and subordinates (Landes, 2006:29).

Literature reviews (Latham & Locke 2006:232; Li & Butler 2004:37; Callaghan et al 2003:2517; Perry et al 2006:509; Locke & Latham 1990; Wegge & Haslam 2005:400) indicate that **difficult and specific goals** result in higher performance as opposed to *easy* and *general* goals or no goals. Difficult and specific goals lead to increased rewards, greater satisfaction, increased personal effectiveness and a stronger commitment to the organisation (Li & Butler 2004:37; Callaghan et al 2003: 2517; Perry et al 2006:509; Locke & Latham 1990; Wegge & Haslam 2005:400;

Latham & Locke 2006:333). It is evident that employees are more likely to commit to goals and perform when they are *difficult* and *specific*. Managers should therefore ensure and assist employees in setting difficult and specific goals. Many employees, in particular those who lacks e-readiness, will in all probability already perceive a goal pertaining to e-learning as *difficult*. They can, however, be motivated towards goal accomplishment by making the difficult goal (obtaining the skill to effectively make use of technology in teaching and learning) *specific*. It can be argued that the specificity of a goal will also relate to a rationale and explanation as to why the obtainment of the goal is important.

It is evident that, based on goal-setting theory, difficult and specific goals, linked to a rationale provided pertaining to the expected outcome, will lead to enhanced performance. However, Perry et al (2006:509) propose that the associations between goal-setting and performance processes are moderated by many contextual aspects, such as task arrangement and an employee's profile (cf Latham & Locke 2006:332). This statement is in line with what is argued in this study: an academic's motivation towards goal-setting and goal commitment (to increase e-readiness), is related to the employee's e-profile, which is influenced by particular human factors. These human factors are discussed in the next chapter.

It is interesting to note that research on goal commitment has found that the same level of commitment and performance are reached when goals are assigned to employees by managers, as when employees take part in the setting of their goals or set their own goals (Latham 2007:112; Curtis 1994:41; cf Elston & Ginis 2004:500; Feltz, Short & Sullivan 2008:99–100; cf Lycette & Herniman 2008:27; Curtis 1994:41). Furthermore, assigned goals strongly influence personal goals of employees (Latham 2007:112). The only exception, where assigned goals do not contribute to better performance but actually lead to poorer performance, is when the assigned goals are given with brief, abrupt instructions and with the absence of a rationale (Curtis 1994:41; Locke & Latham 1990:241).

The implication of *assigned goals* to academics that is expected to act as online learning facilitators due to changed job requirements, should therefore according to literature, not be a restricting factor to motivation. Therefore, according to theory,

new challenging goals, such as e-learning, which is perceived to be *difficult* and are *assigned* to employees, should in fact enhance employee performance. However, in practice, resistance to new ideas, in various levels, is still experienced with some academics, as will be discussed in chapter 6 of this study. Though, it can be argued that with commitment from both the employee and the manager goal-setting can lead to increased performance. It is also necessary that a rationale is provided by the manager.

In the context of HEIs this implies that it might be necessary to pay more attention to the explanation/rationale behind the use of technology in teaching and learning. Once the employee has been plotted on the technology adoption cycle, it will be easier to understand to which extent it will be necessary to explain the rationale behind the changed job demands. People adopt to change, including technological change at different rates and some (eg *innovators* who are visionary employees) will most likely not need a rationale, but would jump at the opportunity to experiment with a new challenge. It could be accepted that for the majority of employees, however, an explanation need to be provided.

Locke and Latham (1990:241) further point out that *assigned* goals indirectly affect task performance through two psychological processes regarding self-efficacy and self-set goals. *Self-efficacy* refers to people's perception of how well they can perform a particular task and therefore high self-efficacy beliefs result in individuals who apply more effort and increasing determination and perseverance towards task accomplishment (Locke & Latham 1990:241; cf Garavalia & Gredler 2002:221). Self-efficacy does not only refer to the degree to which an employee's effort will pay off, but also to the employee's ability, adaptability, creativity and capacity to perform in the situational context in which he/she is (Locke & Latham 1990:241; cf Garavalia & Gredler 2002:221). Further it is important to note that employees with high self-efficacy set high goals (Latham & Locke 2006:332).

Callaghan et al (2003:2515–2517) explain that *self-set goals* are aims, set up by individuals for their own task accomplishment. A positive relation has been found between self-efficacy and self-set goals (Callaghan et al 2003:2515–2517). When people have high self-efficacy, they will set higher self-set than people with lower

self-efficacy (Locke & Latham 2002:706). People with high self-efficacy are also more committed to assigned goals than people with low self-efficacy (Locke & Latham 2002:706; Locke & Latham 1990:241). Assigned goals, furthermore, also favourably affects self-efficacy and self-set goals (Locke & Latham 1990:241). Therefore, higher assigned goals lead to higher self-set goals and higher self-efficacy. It is further apparent that there is a direct connection between self-efficacy and task performance – individuals with high self-efficacy beliefs perform better, irrespective of the self-set goal level (Callaghan et al 2003:2515–2517). Self-set goals are also linked directly to task performance (Callaghan et al 2003:2515–2517; Madden 1997:412).

Individuals who set effective goals and combine that with suitable learning strategies, as well as sufficiently assess the requirements of learning tasks, tend to perform at higher levels than those who do not (Garavalia & Gredler 2008:221). Challenging goals, irrespective whether it is assigned or self-set goals, are more likely to lead to performance (Locke & Latham 1990:242). One could therefore argue that a new challenging goal, such as acting as online learning facilitator could very likely lead to improved performance if communicated correctly to the employee and/or when the employee is made part of the goal-setting process. When an employee portrays a significant lack of e-readiness, it could be sensible to commence with moderate goals and gradually increase the difficulty level of goals to provide the employee the opportunity to mature into the role of online learning facilitator.

For a long-term effect on performance through goal-setting it is necessary to provide feedback (Wenschlag 2006:3; Locke & Latham 1990:241). Goals will have a minimal or no effect on performance without feedback, as feedback reveals progress in relation to goals (Locke & Latham 2002:708). Feedback does not usually affect the performance levels of employees who are already performing on or above standard (Selden & Brewer 2000:535). However, it considerably impact on the performance levels of under-achievers (Selden & Brewer 2000:535).

Employee performance is, however, also affected by other factors than goal-setting. The next section will focus on the role of intrinsic motivation and self-determination theory in performance.

2.3.3 Intrinsic motivation and extrinsic motivation

According to self-determination theory there are two overarching categories of motivation: intrinsic motivation, as outlined above; and extrinsic motivation (Vansteenkiste, Neyrinck, Niemiec, Soenens, De Witte & Van den Broeck 2007:251; Armstrong 2006b:254). *Intrinsic motivation* originates from within an individual and that influences people to behave in a particular way or to move in a particular direction (Armstrong 2006b:254; Shamir 1996:151). When an individual performs an activity for its own sake and enjoys performing it, intrinsic motivation is awakened (Gagné & Deci 2005:331; Vansteenkiste et al 2007:253). Intrinsic motivation refers to a condition in which an individual feels interest, pleasure and enthusiasm by taking on task-related activities (Gagné & Deci 2005:331; Vansteenkiste et al 2007:253; Ryan & Deci 2000:56). The individual is self-motivated towards task participation and when there is a natural desire to actualise, develop and grow (Vansteenkiste et al 2007:253; Bainbridge sa:1; Gagné & Deci 2005:331; cf Powell 2008:2).

Extrinsic motivation refers to an employee who does an activity to obtain an outcome that is independent from the activity itself, such as receiving a reward or to avoid punishment (Ryan & Deci 2000:55; Moller et al 2006:104; Vansteenkiste et al 2007:251). According to Ryan and Deci (2000:55) extrinsic motivation has traditionally been considered as a pallid and impoverished form of motivation as opposed to intrinsic motivation, even though extrinsic motivation is also powerful. Self-determination theory proposes that there are varied kinds of extrinsic motivation, of which some are indeed impoverished forms of motivation, but others lively, agentic states. Employees can for example perform extrinsically motivated activities with dislike, resistance, and lack of interest or, in which they are externally forced into action. On the other hand, employees can show an attitude of willingness that depicts an inner acceptance and readiness of the importance of a task, which reveals that the extrinsic goal is self-approved and thus adopted with a sense of willpower. (Ryan & Deci 2000:55.)

Professional performance is usually intrinsically motivated and professionals perform because they find an activity inherently enjoyable and rewarding (Ryan & Deci

2000:56). Professional performance is usually not due to an external reward (McDonald et al 2007:334). For a person that is intrinsically motivated the emphasis is on self-administered rewards (Callaghan et al 200:2519). Further, research found that “extremely imposed incentives” can weaken internal motivation (McDonald et al 2007:334; Deci & Ryan 2000:234) as the focus of intrinsic motivation is on the quality of working life (Armstrong 2006b:254). This is of significance as the conventional view of intrinsic motivation is that it is regarded as a significant attribute of excellence in professional practice (McDonald et al 2007:334). It is thus evident that employees’ intrinsic motivation can be negatively influenced by external motivators. This calls for great caution from managers to prevent making this mistake with employees that are intrinsically motivated.

Callaghan et al (2003:2519–2520) explains that for intrinsic motivation to be awakened, it is imperative that a task provides challenges (cf Vansteenkiste et al 2007:253). Intrinsically motivated individuals will seek to master a task and have a need for competence which is fulfilled when the individual meets the challenge and achieves mastery (Callaghan et al 2003:2519–2520; Moller et al 2006:105). Intrinsic motivation relies on self-determination and a direct connection between outcomes such as creativity and innovation and the presence of intrinsic motivation has been revealed (Callaghan et al 2003: 2519–2520; Moller et al 2006:105; cf Vansteenkiste et al 2007:253). As intrinsic motivation is directly connected to self-determination, it is necessary to discuss self-determination and the role it can play in the motivation of academics pertaining to increasing their e-readiness levels.

2.3.4 Self-determination theory

Research of over 30 years on the topic found that intrinsic motivation leads to better perseverance, performance, and fulfilment in a diversity of tasks in various fields (eg education, behavioural health, organisational), as opposed to extrinsic motivation (Baard, Deci & Ryan 2004:2047; Black & Deci 2000; Deci, Connell & Ryan 1989; Williams, Grow, Freedman, Ryan & Deci 1996). According to self-determination theory people have basic psychological needs for *autonomy*, *competence*, and *relatedness* (Deci & Ryan 2000:227; Ryan & Deci 2000:7). Research has found that when these needs are satisfied, people are more likely to persist and exhibits better

qualitative performance on activities (Roca & Gagné 2008:1588). The three psychological needs can be described as follows (Roca & Gagné 2008:1588; cf Guay, Ratelle, Senécal, Larose & Deschênes 2006:237; Pugno 2008:1330–1331; Ntoumanis 2005:450; Liu, Wang, Tan, Koh & Ee 2009:139; Lynch 2010:1):

- *Autonomy* – people’s need to self-organise their actions, to pursue activities without restraint and feel the power of using their own will.
- *Competence* – similar to the concept of self-efficacy – people have a tendency to be effective when they perform an activity and in their general communications with and in their surroundings.
- *Relatedness* – the need of an individual to feel allied to and supported by significant people in their lives, such as a manager, parents, teachers or team-mates.

According to Gagné et al (2000:1843) self-determination should be viewed in the context that human beings have a basic need for autonomy (cf Chirkov, Ryan, Kim & Kaplan 2003:98), therefore autonomy is emphasised in this study. Autonomy support can be described as an interpersonal approach where the significant person/s in an employee’s life offer alternatives/options, consider the person’s viewpoints, provide suitable information and rationales for activities, and encourage the employee to be innovative (Guay et al 2006:238; Markland, Ryan, Tobun & Rollnick 2005:815–816). For this reason, controls such as rewards, deadlines and competition weaken task interest and the quality of performance when an employee is intrinsically motivated (Ryan & Deci 2000:59; Baard et al 2004:2048; Lam & Gurland 2008:1109). When people are coerced into doing something, they usually become less attracted to the task and will perform it only as long as there is some form of supervision (Gagné et al 2000:1843). This notion is supported by various authors (Roca & Gagné 2008:1588; Pugno 2008:1332; Vansteenkiste et al 2007:252–253), indicating that cognitive evaluation theory, which is a sub-theory of self-determination theory, has revealed that external controls (conditional rewards; deadlines; observation; evaluation; coercion) will most likely reduce employee’s intrinsic motivation.

Autonomy support from management has been proven to relate to increased trust in an organisation, satisfaction, engagement and decreased stress (Deci & Ryan 2000:227; Markland et al 2005:816). This notion, once again, emphasise the importance of an employee being involved in the goal-setting process and not coerced. It also stresses the importance of providing a rationale of why a particular task is expected (as indicated in sections 2.2.1 and 2.3.2). Therefore, line managers should take cognisance of the importance of acknowledging negative feelings from employees pertaining to particular tasks and focus on providing a rationale for such a task. If necessary, incentives should be considered to serve as motivation. One can argue that employees with negative feelings towards tasks will need more motivation from superiors than employees who are positively inclined towards their tasks. This may very well be the case with academics that are confronted with a changed job demand such as e-learning. A rationale should be provided for both the use and purpose of e-learning and the subsequent development towards enhanced e-readiness. It can be argued that the rationale should be provided in such a manner and with such motivational skill that the employee wants to embrace the new job demand. This calls for skilled line managers, competent to differentiate between the various motivators for different employees and able to motivate them accordingly. This implies that it may be necessary for line managers to undergo training pertaining to employee motivation as all people do not have the natural skill to motivate.

The most constructive and innovative contribution of self-determination theory is that it, in addition to the abovementioned positive aspects, suggests that extrinsic motivation does not need to be an perpetually controlled form of motivation (Roca & Gagné 2008:1588). Self-determination theory proposes that extrinsic motivation can be internalised and can therefore become autonomously regulated. Internalisation is described as “taking in values, goals, and structures as one’s own, so that a behaviour becomes internally regulated as opposed to regulated by external factors like rewards and punishments” (Roca & Gagné 2008:1588). Self-determination theory denotes that the level of internalisation will determine the extent to which extrinsic motivation is autonomous (Niemic, Lynch, Vansteenkiste, Bernstein, Deci & Ryan 2006:762; Roca & Gagné 2008:1588; cf Chirkov et al 2003:99).

One of the ways in which employees can be assisted to accept change is to introduce participative management programmes which allows for participative decision-making and effective communication. The factors in self-determination theory, posited to assist in this regard, are the following (Gagné et al 2000:1845; Ntoumanis 2005:444):

- Participation in decision-making is parallel to giving some control and choice in how to reach organisational goals.
- Communication and empathy are parallel to providing a rationale and acknowledge feelings.

Managers should consider the abovementioned when assigning new goals pertaining to changed job demands to employees. When employees participate in the decision-making/goal-setting, they might be more inclined to accept the changing work circumstances. It will also be necessary to provide more opportunity and support to the employee to adapt to the changed situation. It can be argued that employees will take ownership if they have internalised the organisation's values, goals and structures as their own, which will positively affect their behaviour, including behaviour towards a new job demand. Again, the importance of a rationale/explanation is emphasised.

In the abovementioned paragraphs, autonomy, as central concept to self-determination, was emphasised. One can argue that a lack of autonomy support may be a significant reason for resistance to the use of technology in teaching and learning. Some academics may experience the new job demand as being forced on them and may feel that they did not have the option of choice. As indicated above, taking part in decision-making and having a choice regarding how to perform a task (gradually introducing it or receiving training as a prerequisite) may enhance the motivation of an academic to perform the task.

Self-determination theory is also related to technology adoption of people. As the motivation of academics to become e-ready is significantly important to this study,

the next section will discuss the role of the Technology Adoption Model (TAM) and self-determination theory in this regard.

2.3.5 Motivation and technology adoption

People as users of technology determine the continuation of the use and purpose of a specific technology by their acceptance thereof, or lack of acceptance (Roca & Gagné 2008:1586). A number of theoretical models can be used to explain and predict technology users' attitudes, acceptance and adoption of technology, of which the most well-known and most-used is the Technology Acceptance Model (TAM) (Roca & Gagné 2008:1586; Malhotra & Galletta 1999:1). According to the TAM the most important determinants of a person's acceptance of the use of technology are *perceived usefulness* – “the degree to which a person believes that using a particular system would enhance his/her job performance” (Davis 1989:320 in Roca & Gagné 2008:1586; cf Adams, Nelson & Todd 1992:227–228; Shen, Lin & Huang 2006:272); and *perceived ease of use* – “the degree to which a person believes that using a particular system would be free of physical and mental effort” (Davis 1989:320 in Roca & Gagné 2008:1587; cf Adams et al 1992:227–228; Shen et al 2006:272).

It is therefore evident that academics will more easily accept the changed job demand (the use of technology in teaching and learning) if they are convinced that it will enhance their job performance, career or the performance of a student (*perceived usefulness*). In other words a rationale/explanation for the importance/relevance of the use of technology should be provided as indicated in (as indicated in sections 2.2.1, 2.3.2 and 2.3.1). It is also evident that academics will be more lenient to using technology in teaching and learning if they believe it will not take too much of a high toll on them (addition to workload; inconvenience; mastering a new skill). This indicates that resistance to the use of e-learning may be experienced by academics that portray a lack of e-readiness or are ignorant towards the role and purpose of e-learning (*perceived ease of use*).

Perceived enjoyment – “the extent to which the activity of using a computer system is perceived to be personally enjoyable in its own right aside from the instrumental

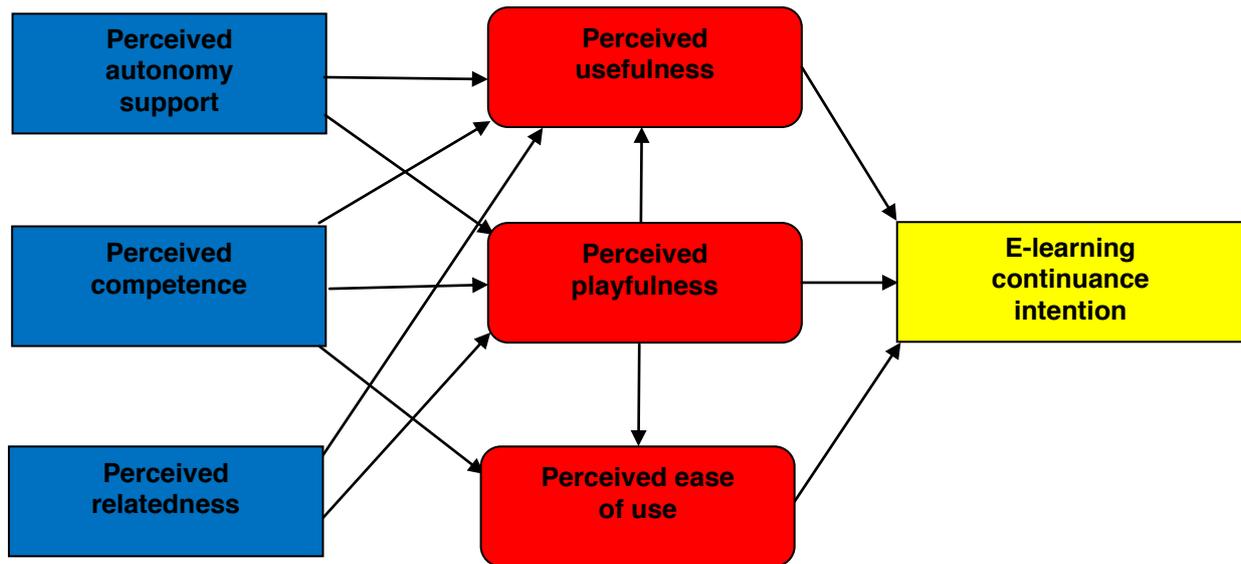
value of the technology” (Sun & Zhang 2006:620; Davis et al 1992 in Roca and Gagné 2008:1587; Dickinger, Arami & Meyer 2008:5) was later included in the TAM as an intrinsic motivation and *perceived usefulness* was classified as an extrinsic motivation. Enjoyment and technology self-efficacy furthermore play significant functions in determining a technology user’s behavioural intent and real usage (Roca & Gagné 2008:1587). Since *perceived usefulness* and *perceived enjoyment* are motivational factors, it can be accepted that antecedent variables (organisational factors such as supervisors support, top management support and work environment) are likely to have an influence on the type of motivation that e-learning users are to be expected to adopt (Roca & Gagné 2008:1587). One can aim to determine how the different types of motivation will influence intentions to continue using e-learning; in other words, one can ask the question whether the abovementioned antecedents influence technology users’ acceptance of technology (Roca & Gagné 2008:1587; Sun & Zhang 2006:620–621).

It can be argued that the *perceived usefulness* of e-learning will play a role in the extent to which academics will resist it. It is most likely that academics will be more inclined to accepting the new job demand if they perceive it to be useful to learners and/or academics. As for *ease of use*, the more technologically skilled academics, the easier they will find the use of the e-learning platform. The position of an employee on the technology adoption cycle (indicating pace and style to technology adoption) will also determine how open an employee will be to realise the perceived usefulness of an e-learning platform. The connection between an employee’s position on the technology adoption cycle and the perceived usefulness of technology will be indicated in the next chapter.

As for *perceived playfulness*, it can be assumed that employees who like to explore new ideas and technologies will find the new job demand of using technology in teaching and learning exciting, irrespective of whether the person is skilled in using an e-learning platform. This type of employee will probably learn by “playing around” in the e-learning platform. The connection between perceived playfulness and an employees’ position on the technology adoption cycle will also be explained in the next chapter.

Self-determination theory, discussed in the previous section, also relates to technology adoption. Perceived autonomy, perceived competence and perceived relatedness (people’s psychological needs, according to self-determination theory) can be seen as determinants of perceived usefulness, perceived playfulness and perceived ease of use. Diagram 2.1 below indicates this connection:

Diagram 2.1: Self-determination theory and the adoption to technology



Source: Roca & Gagné (2008:1585–1604)

With the abovementioned figure Roca and Gagné (2008:1590–1593) illustrate the following:

- **Perceived autonomy support has a positive effect on perceived usefulness and perceived playfulness**

When academics perceive their managers and organisations to be supportive and receive explanations as to the importance of the goals and the necessary resources to carry out their e-learning tasks, they tend to more easily notice the perceived usefulness of the e-learning platform. Autonomy support may also make employees more inclined to “try out” and “play around” within the e-learning platform.

- **Perceived competence has a positive effect on perceived usefulness, perceived playfulness and perceived ease of use of the e-learning platform**

When academics feel competent to operate within an e-learning platform, they will experience it easier to use as opposed to an academic that is not e-ready. Competence will also create the perception of usefulness since the employee realises what the intended purpose of the e-learning platform is. The academic may furthermore be more inclined to “play around” within the system, since their perceived competence make them feeling comfortable and confident in doing so.

- **Perceived relatedness has a positive effect on perceived usefulness and perceived playfulness of the e-learning platform**

Once an academic can relate to the principle and purpose of e-learning and receives the necessary support, it will be easier to realise the usability thereof. Also, if academics can relate to the e-learning platform and its tools they will probably be more inclined to “play around” within it.

- **Perceived usefulness has a positive effect on behavioural intention to use the e-learning platform**

When academics perceive the e-learning platform to be useful, it will positively affect their behaviour towards using the e-learning platform.

- **Perceived ease of use has a positive effect on perceived usefulness and on behavioural intention to use the e-learning platform**

Once academics feel comfortable/confident using the e-learning platform, they will be more likely to realise its usefulness and will furthermore be positively inclined to use the platform and continue using it.

- **Perceived playfulness has a positive effect on perceived usefulness, perceived ease of use and on behavioural intention to use the e-learning platform**

When academics perceive the e-learning platform to be exciting and innovative, they will be more likely to recognise its usefulness and will find it easier to use. They will further be more inclined to continue using it.

In a study done by Roca and Gagné (2008:1605), with employees of four international agencies of the United Nations, results indicate the following:

- Users of technology are more willing and motivated to continue using technology when they experience feelings of autonomy and competence. (Autonomy and competence have an influence on their intrinsic and extrinsic motivation, perceived usefulness and perceived playfulness, which in turn have an effect on their intention to continue using the technology.)
- When employees feel related to and supported (perceived relatedness) by co-workers they will use the technology system simply for the enjoyment they get from it.

The abovementioned study was one of the first to reveal that positive outcomes (increased learning, enhanced performance, and well-being) of employees are more associated with an autonomy-supportive motivating management style than with a controlling management style (Roca & Gagné 2008:1605; cf Niemiec et al 2006:773; cf Perryer & Jordan 2005:381). The same study revealed that employees' perceptions of the extent to which their organisations and managers support autonomy, will predict the perceived usefulness and perceived playfulness, which subsequently indicate their intentions to use technology (Roca & Gagné 2008:1605). It can be argued that when senior managers and line managers support employee autonomy, it will increase both the intrinsic and extrinsic motivation of technology users' to use the technology. This will be due to the support in terms of training, resources, and motivation, which enable employees to perceive the e-learning platform to be constructive and helpful for the achievement of significant goals and subsequently they take pleasure in using it.

Further, when employees perceive their organisations to be autonomy supportive, it will also have an indirect effect on continuance intention, since technology users will then be inclined to stick with their behaviour of using the e-learning platform (Roca & Gagné 2008:1597). Self-determination studies support this notion through results that have revealed that when circumstances support the autonomy contentment, employees are more likely to uphold their engagement in different types of behaviours (Roca & Gagné 2008:1597; cf Kuvaas 2009:40).

Self-determination theory, in which autonomy is central, makes provision for intrinsic and extrinsic motivation. As with goal-setting, self-determination theory also places a focus on providing employees with a rationale and support for expectations and refraining from coercion. It is apparent that motivation, based on self-determination theory can be applied to not only enhance performance, but to also increase technology adoption of employees. It is clear that if there is a direct connection between autonomy and support, employees are likely to be motivated to try out new technologies/innovations, which makes autonomy support a significant factor for line managers of academics who lacks e-readiness. It is evidently clear that the principles of self-determination theory can be used to support the understanding and development of e-learning principles and use as employees are motivated to perform. Thus, the importance of motivation in employee performance should not be underestimated or neglected.

2.4 CONCLUSION

The new job demand of e-learning necessitated the e-readiness of academics to act as online learning facilitators. As many academics portray a lack of e-readiness and is therefore not ready to take on their online duties, training and development opportunities should be used to skill employees in this regard. However, before training and development can take place, employees' e-readiness needs to be assessed to determine their level of e-readiness and the subsequent personal development plan from which training and development interventions will flow. The study argues for the e-readiness assessment of academics during performance appraisals. The study further argues that key human factors such as personal work

profile patterns, preferred learning style and pace and style of technology adoption should be included in the e-readiness assessments during performance appraisals. The next chapter discusses these key human factors.

Goals for performance should be set. Managers have a responsibility in this regard to ensure that employees' goals are aligned to the organisation's goals and objectives. Managers should also identify training and development needs during performance appraisal and provide opportunity for employees to attend training and development sessions. Aspects such as clear goals, expectations and responsibilities, support from management, a meaningful rationale, a well-defined performance process, guidance, feedback and development as core elements of performance management should be adhered to. These aspects also relate to employee motivation.

A direct relation exists between employee performance and motivation. The significance of motivating factors such as incentives, goal-setting, intrinsic and extrinsic motivation and self-determination has been outlined. It has been indicated that a lack of motivation can contribute to resistance to a new job requirement; therefore necessitating line managers apply motivational strategies. A lack of sufficient employee motivation can contribute to resistance to a new job demand and a decline in performance.

Goal-setting proved to be one of the best motivational strategies as it leads to enhanced performance, provided that employees remain committed to their goals. Both self-set and assigned goals can lead to increased performance and both are positively connected to self-efficacy, which in return leads to increased performance. Further, difficult and specific goals are more likely to lead to performance than easy goals. Goal-setting should be done in conjunction of line managers, providing clear expectations and a rationale for the changed job and how it fits into the organisational strategy and objectives.

As the human resource performance appraisal process comprise of not only the assessment part, but also a developmental part, the next chapter will give attention to employee development. Specific attention is given to the role of employee

development in increasing the level of e-readiness of academics. The role of career management and career management programmes in e-learning training are also discussed.

CHAPTER 3

EMPLOYEE TRAINING AND DEVELOPMENT

3.1 INTRODUCTION

During the human resource performance appraisals stage, as discussed in chapter 2, managers are able to identify employees' training and development needs. These training and development needs require that managers facilitate the interventions through which employees are able to receive such training and development to mitigate identified performance gaps. This chapter outlines and discusses the training and development interventions that precede performance appraisals of academics.

The training and development of academics in the use of e-learning is viewed as a necessity to meet changed job requirements such as the incorporation of technology in teaching and learning. Therefore, this chapter argues that the results of an assessment of the e-readiness of academics should be followed by a personal development plan that makes provision for uniquely structured training and development interventions for each academic, depending on the results of an assessment. This chapter discusses how training and development can be applied to enhance the e-readiness of academics and how it links to career management, career development and talent management to optimally achieve increased levels of e-readiness and subsequent performance with regard to the use of technology in teaching and learning. It further discusses the academic as adult learner and the unique characteristics of adult learners that should be kept in mind with e-learning training and development of academics. The chapter also pays attention to the pivotal role of the line manager in employee training and development.

3.2 EMPLOYEE TRAINING AND DEVELOPMENT

This section explains the meaning and purpose of employee training and development. It further discusses the link between employee development and

employee performance, as well as its role to develop academics for the use of technology in teaching and learning, thus increasing their levels of e-readiness.

3.2.1 Training and development

Training and development within organisations is meant to ensure that employees perform their tasks can effectively and efficiently perform their newly assigned job requirement (Bartridge 2004a:2; Ogreaan, Herciu & Belascu 2009:115). A distinction should however be made between *training* and *development*. *Training* refers to a planned action that is intended to convey information and/or directions to enhance an employee's performance or to assist an employee in attaining a necessary level of knowledge or skill (Armstrong 2006b:535). *Training* is work-based learning with which employees systematically develop knowledge and skills that are, required to perform a specific task or job effectively (Bartridge 2004a:2; Tatum 2010; Bailey, Hughes & Moore 2004:3). *Training* can also be defined as the act of teaching someone a skill or kind of behaviour (Pearsall et al 2001:1966). Therefore *training* has the attainment of skills as an end result.

De Cenzo and Robbins (1999:227) in Babaita (2010:281) describe *training* as a learning experience that has as objective to improve the ability of an individual to perform an assigned task through a relative permanent change. Thus *learning* should take place during training. Kim (1993) in Armstrong (2006b:549) defines *learning* as the process through which an employee's ability to take action and move forward is enlarged. Reynolds et al (2002) in Armstrong (2006b:549) makes a distinction between *learning* and *training*: "Learning is the process by which a person acquires new knowledge, skills and capabilities whereas training is one of several responses an organization can take to promote learning". This paragraph shows that training encourages learning to take place during a training intervention.

According to Armstrong (2006b:535) development is defined as the growth and expansion of an employee's capability and potential, obtained through a *learning* and educational experience. Through the *learning* experience, *development* takes place. *Learning* is a constant process that not only develops current abilities "but also leads to the development of the skills, knowledge and attitudes that prepare people for

enlarged or higher-level responsibilities in the future” (Armstrong 2006b:560). Bacal and Associates (2008) argue that the *development* process encompasses not only *training* but is more inclusive than *training*: When an experienced employee guides or assists a new employee to perform a certain task, it is regarded as employee *development* (cf Comsats 2010: 9; cf McCrimmon 2007); when an employee is continuously coached by a manager, it can also be regarded as employee *development*. *Development* therefore is a broader term that includes training as one of its techniques for encouraging learning in the workplace (Bacal & Associates 2008).

With the *development* process, learning takes place continuously by means of different interventions, of which training is one. The development process entails that more than one training intervention may be necessary and that training should not only be focused on obtaining a technical skill. If needs be, academics should be coached and mentored as to best practices on online teaching and learning to support their *development*. *Training* for a skill to teach online should thus be part of a bigger development programme.

It is thus evident that both *training* and *development* have *learning* as end-result. With *training* the focus is on a planned action to obtain *learning* in the form of a particular work-related skill or competency (Bartridge 2004a:2). The term *competency-based training* can also be used in this regard. *Competency-based training* refers to training to perform a new job demand successfully with the new skills and competencies acquired (Bartridge 2004a:2; Tatum 2010; Bailey et al 2004:3). Academics will therefore receive *competency-based training* to obtain a skill to successfully perform the new job demand of e-learning. Thus, a planned and structured *training* intervention can address the technical skill of e-learning and improve the e-readiness of an academic. Therefore the ability to teach online, in this respect, refers to a competence that academics should obtain through training.

Competence can be defined as a combination of attentiveness, skills, knowledge, attitude, behaviour and approach that makes it possible for an employee to perform a particular job satisfactory to meet the required performance standards (DPSA 2008:6; Vathanopas & Thai-ngam 2007:49; Tatum 2010; Bartridge 2004a:2;

UNESCAP, 2009:5; cf Waterhouse 2008; cf Shellabear 2002:1–2; Wright, Dunford, & Snell 2001:712). To be able to be competent in performing a particular task an employee needs to have the ability to meet, or exceed, the job's requirements (Gallagher 2003). This implies that the employee should produce the necessary outputs of the job at an expected level of quality (Gallagher 2003). Competency is essentially about performance, based on both the employee's behavioural and technical ability (Armstrong 2006b:159). Rankin (2002) in Armstrong (2006b:159) explains that competencies symbolise the language of performance. "They can articulate both the expected outcomes from an individual's efforts and the manner in which these activities are carried out. Because everyone in the organization can learn to speak this language, competencies provide a common, universally understood means of describing expected performance in many different contexts" (Rankin 2002 in Armstrong 2006b:159). This statement also holds truth in the higher education environment where a specific competency, such as the ability of an academic to act as an online learning facilitator, will increase the performance of the academic.

Competency-based training therefore needs to focus on providing and enhancing the knowledge and skills of employees to perform for a particular task (Bartridge 2004a:2; cf Shellabear 2002:1–2) and is used to enhance an employee's present job performance, to prepare employees for changing job requirements and must complement the introduction of new tools or technology in the work environment (Vathanopas & Thai-ngam 2007:47). These competencies are derived from job requirements and which implies that line managers should play a pivotal role in the development and implementation of *competency-based training* interventions (Bartridge 2004a:1).

As argued by Shellabear (2002:4) competency-based training in many organisations has a propensity to focus on providing the job-related skills and knowledge (cf Rycus & Hughes 2000:1). Therefore the focus is placed on job requirements and the employer's expectations, rather than on the learning process itself (Shellabear 2002:4). The focus on job-related skills and knowledge has resulted in competency-based training being criticised for failing to attain competences required to support a *learning organisation* (Shellabear 2002:4). Garvin (1993) in Armstrong (2006b:543)

explains that *learning* is: A critical element in a learning organisation if an organisation wants to continue to exist; that learning at operational, policy and strategic levels have to be conscious, continuous and integrated; and that management is responsible to provide a climate, conducive to all employees to constantly learn.

A *learning organisation* can also be described as an organisation that makes learning possible to all its employees and constantly transforms itself (Pedler et al 1991 in Armstrong 2006b:543; cf Smith 2001). It can therefore be argued that an organisation that transforms and renews itself, through innovations such as the increased use of e-learning, is continuously learning and adapting. Continuous learning in an organisation implies that the individual and organisational capacity will be increased over time. Senge (1990:3) argues that learning organisations are: "...organizations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning to see the whole together". In the context of HEIs both definitions carries weight as the introduction of e-learning as new job requirement compels HEIs to continue to learn, transform and develop new thinking patterns.

It can be argued that in the global knowledge economy organisations cannot afford to not be learning continuously and should embrace the concept of lifelong learning. Given the expectations of the knowledge economy, lifelong learning is important for an employee to manage and be comfortable with change in the workplace (McLeish 2002:5). Basic computer skills and a willingness to retrain and adapt to rapid technological changes are essential requirements in the 21st century's work environment (McLeish 2002:5). The traditional "one time" learning paradigm, for example the attainment of a first degree before entering the work environment, is no longer sufficient for a knowledge workforce (Amirault & Visser 2009:71; Ramsden 2008:8; cf Markkula 2006:15). The World Bank Report on Lifelong Learning in the Global Knowledge Economy (2003:xiii) explains that "the emergence of the global knowledge economy⁵ has put a premium on learning throughout the world". HEIs

⁵ The knowledge economy includes bringing together powerful computers and well-educated people in order to meet the growing demand for knowledge-based goods and services (Brinkley 2006:3).

constantly need to adapt to environmental changes and demands and therefore need to continue learning and transforming themselves. Some of these changes and demands relevant to this study, as well as the role of HEIs in the knowledge economy are outlined in chapter 5.

This section discussed the concepts of training and development with particular reference to the role of both concepts in learning. It has been determined that training, specifically competency-based training, can be provided to academics to learn the technical skill of e-learning and that a continuous development process should take place for academics to constantly grow in the new job demand and become excellent in online teaching and learning. The development process also entails that academics should continuously adjust to new circumstances and learn how to successfully deal with the new job requirements if they want to remain relevant in terms of teaching and learning in the 21st century. Teaching and learning in the 21st century is elaborated upon in chapter 5.

It is clear that more than one training and development intervention will be necessary for academics to remain updated and skilled in terms of online teaching and learning. The next section will pay attention as to how the training and development interventions to enhance the e-readiness of academics can be supported by employee development.

3.2.2 Employee development and employee performance

As discussed in the previous section, development is the growth and expansion of an employee's capability and potential, obtained through a learning experience. This learning experience can take place through various interventions. Therefore, *employee development* encompasses "an integrated set of planned programmes and/or courses, offered over a period of time, usually in various phases and is aimed at assuring that all employees possess the competence required to optimally perform their duties (Jacobs & Washington 2003:344; cf Ogreaan et al 2009:117). Employee development is thus not an activity or event but a process consisting of interrelated programmes/courses/training interventions. Rademan and De Vos (2001:54) point out that employee development should logically flow from an employee's

performance appraisal from which an employee's development needs are identified (cf Grobler et al 2002:260;266) and can be viewed as a joint, continuous effort from both the employee and the organisation to improve the employee's knowledge, skills, and abilities (Wellins, Smith & Erker 2010:2; University of Minnesota sa:1; Brown 2010). Hence employee development is a key aspect of human resource performance appraisal (Lee & Bruvold 2003:983; Heathfield 2010a), as indicated in preceding sections. Although the line manager has certain responsibilities pertaining to employee development, one should keep in mind that the employee also has a responsibility to take ownership of his or her development for growth (Trinka 2009:1). A number of initiatives to be considered by employees in their own development are: seeking a variety of assignments, tackling tough problems, asking for feedback, identifying goals for new skills and abilities and looking for ways to meet those goals (Gilley et al 2002:61; 68; Trinka 2009:1; University of Minnesota sa:1).

For the purpose of this study *employee development* will include competency-based training to obtain knowledge and a particular skill (the ability to use technology in teaching), to enhance an academic's present job performance, prepare the employee for changing job demands (such as the increased use of technology in teaching and learning) in order to become a skilled and competent online learning facilitator, and to introduce new tools or technology in the work environment. It can be argued that employee development should further encompass career development and coaching and mentoring with a purpose of not only learning a new skill, but to also enhance the motivation of the employee for the new job demand, expand the employee's knowledge on teaching and learning strategies and to accomplish organisational goals. Employee development should flow from the performance appraisal of an employee and should be implemented in various phases as part of a development programme.

Lee and Bruvold (2003:98) go on to explain that an investment in employee development encompasses providing employees with new knowledge and skills and enabling employees to expect and be ready for new job requirements (Gilley et al 2002:60; cf Hansen & Hansen 2010). The more an organisation empowers an employee, the more the employee is able to contribute to the achievement of organisational goals (Sieber 2008:4). Employee development is not only an

important aspect of human resource performance appraisal, but also an important component of strategic human resource management. Employee development is important in strategic human resource management in that it has as aim to give priority to developing strategies and actions that will improve the skills and competencies of employees (Carpenter, Bauer & Erdogan 2009; Lee & Bruvold 2003:983). Therefore, employee development should be in line with the strategic goals of the organisation (Mayo 2000:529; Šiugždinienė 2008:33; cf Kaplan & Norton 1998, in Moolman 2007:50).

Employee development can be one of the best investments that an organisation can make, particularly when it is integrated to the organisation's operational strategy (Oberstein & Alleman 2003 in Moolman 2007:50). It is furthermore evident from the literature that employee development is regarded by various authors (cf Oberstein & Alleman 2003 in Moolman 2007:50; McNamara 2010; Papasolomou-Doukakis 2002:62) as an integral contributing part to the success of an organisation. Not only will the employee benefit from the development intervention/s, but the organisation will also benefit in terms of increased productivity and output. Likewise, one can argue that the development of an academic's online teaching skills will benefit not only the employee (increased and more comfortable use of the e-learning platform) and the organisation (increased productivity and output), it will also benefit the learner (the client) with increased service delivery and an enhanced learning experience.

3.2.3 The need for employee development for e-learning

This section provides reasons for the need of employee development for e-learning. As indicated in the previous chapter, HEIs have mostly realised the value of teaching and learning with technology (Elgort 2005:182; EC 2005:7; cf Rossiter 2006:iii; Njenga & Fourie 2010:199; Kanuka 2006:1; Kim & Bonk 2006:22), but still face the challenge of motivating all academics into actively participating in e-learning (Le Roux 2009; Focus Group 2006). In many instances where academics are willing to make use of e-learning, it is not necessarily used as an interactive tool and not to its fullest extent, which limits the benefits of e-learning (Le Roux 2009). One of the ways in which the interactive and optimum use of technology in teaching and learning can

be enhanced is by providing employees with the skills, of not only how to use an e-learning platform, but also how to use it for maximum benefit and results as a learning tool, thus the need for employee development.

In research done by Elgort (2005:184) on e-learning adoption at Australian universities, she points out that it should be taken into account that academics sometimes adapt to e-learning due to a perceived need, such as learner pressure to make use of e-learning. If academics do not realise the need for e-learning themselves, the role of people responsible for employee development is to act as change agents and to assist them in this regard through creating awareness in academics about a wider range of strengths, weaknesses, potentials, and strategies of e-learning and make it possible for them to construct better e-learning environments (Elgort 2005:184).

In a report on research conducted for the University of Bremen, Atwell (2004:61) reveals that employee development and training is essential for e-learning to be successful and sustainable. Twigg (2001:5) points out that as long as traditional approaches of teaching and learning are used online, and learners are treated as if they are all the same, e-learning will make no significant difference. In an article published in the *Journal of Technology and Teacher Education*, Bradshaw (2002) asserts that employee development can be significantly helpful and appears to be a useful strategy for change in education when new programmes or new job demands such as, the incorporation of technology in teaching and learning are introduced. In his research Bradshaw (2002) further points out that it is widely accepted that educators must have increased knowledge and expand their skills and attitudes to teach learners about technology or to successfully integrate technology into their teaching and learning (cf JISC 2009:8). However, employee development strategies are not drafted and implemented in a short period of time, but must rather expand over time (Jacobs & Washington 2003:344), deal with requirements and fears of academics, and positively influence learner learning to obtain a lasting effects (Bradshaw 2002).

According to Elgort (2005:184) another reason why e-learning has not reached its full potential as an educational innovation is that the e-learning innovation is

approached from two aspects: the aspect of technology and the aspect of pedagogy (or teaching and learning). It appears that the adoption of e-learning technologies, in particular LMSs, is in more advanced adoption stages than the teaching and learning innovation (Elgort 2005:184). Rogers (1995:225–226) in Elgort (2005:184), also points out that past experiences can result in misadoption of technology. The use of traditional teaching and learning approaches in the context of e-learning is a good example of a past experience that cause the use of e-learning to be thwarted (Elgort 2005:184). This is why the roots of the problems with e-learning adoption in HEIs can predominantly be related to teaching and learning processes, rather than to the use of technology *per se* (Elgort 2005:184). Further, outcomes-based education (OBE) principles call for a changed role of both the learner and the teacher where learners must have more independence and must control their own learning events (Rautenbach 2007:16). The teacher is no longer a traditional teacher (someone who provides knowledge), but a facilitator of learning (someone who enables learners) (Rautenbach 2007:16). In this regard, employee development programmes can act as change agents in assisting academics to make the mind shift about their beliefs in terms of teaching and teaching practice (Pebble, Hargrave, Leach, Naidoo, Suddaby & Zepke 2005:48).

As mentioned in chapter 1, research done by various experts in the field of teaching and learning (Ramsden 2003:106; Milliken & Barnes 2002:225; Smith 2003; Matei, Bernau, Heyworth, Pohl & Wright 2007:8) revealed that people shape their personal theories regarding teaching and learning early on in their lives and carry it over from generation to generation. Elgort (2005:184) supports this research by stating that these teaching and learning theories are mainly implicit and therefore people do not simply alter them when they become academics themselves. More authors on teaching and learning (Thomas & Pederson 2003:319) add that it is commonly accepted in the educational milieu that a person usually teaches in the manner in which a person is taught and that teachers'/academics' principles, approaches, attitudes, and practices is likely to be connected to prior experiences. Teachers use good teachers' practices and approaches to mould and develop their own images as teachers (Elgort 2005:184; Smith 2001). Furthermore, academics use ICT tools only if these tools are aligned with their own philosophy of teaching and learning (Robertson 2004 in Elgort 2005:184).

Based on her research done on e-learning adoption at Australian universities, Elgort (2005:184) explains that academics also usually continue to teach in the same way they always have, whether their teaching is in the context of e-learning or not. She further found that if an academic therefore believes in the approach of conveying information, he/she will use e-learning to facilitate this manner of learning, and any tools on the e-learning platform that are not aligned with this approach will be either ignored or misrepresented (Elgort 2005:184). The Manager: IT Support at the Potchefstroom campus of the NWU indicated that conveying or distributing of information is one of the most common ways in which academics “practice” e-learning (Le Roux 2009). However, to use technology effectively in teaching and learning, a paradigm shift from traditional teaching and learning is required, in particular with regard to the roles of teacher and learner (Hase & Kenyon 2001:1).

The words of Eble (1988:9) come to mind in this regard: “Learning and teaching are constantly interchanging activities. One learns by teaching; one cannot teach except by constantly learning”. This statement presupposes continuous learning and implies that through the constant process of learning, academics will realise, in order to provide the best possible quality teaching and learning to 21st century learners, they need to adapt their teaching and learning strategies. Traditional teaching and learning methods are unlikely to appeal to Generation Y learners or enhance their learning. Further, the use an e-learning platform as a distribution mechanism (distributing notes, assignments, power point presentations, announcements, etc) and not as an interactive tool (Le Roux 2009), will not be viable in the long term. More creative ways of applying technology in teaching and learning should be introduced. This notion is supported by Kim and Bonk (2006:22) which state that “bored learners are dropping out of online classes while pleading for richer and more engaging online learning experiences”. This situation calls for well-skilled online learning facilitators who are willing to adapt their teaching and learning approaches to accommodate today’s learners. Therefore, for e-learning to realise its potential as educational innovation, academics need to have the ability and skill to construct environments that are useful to facilitate learning (Elgort 2005:184; cf Blake 2009). In this regard the constructivist epistemological approach may be relevant. The constructivist approach is discussed later in this section.

Rossiter (2006:23), an expert in the field of education, identifies another factor that also impacts the effectiveness of e-learning as an educational innovation – the use of e-learning is presently, for the most part, based on traditional views of teaching and learning (cf Kim & Bonk 2006). In these traditional views the dominant pedagogy is a content-centred or teacher-centred approach which is based on the delivery of information to learners (Jonassen 1991:28; Hanley 1994:3; Kinchin 2004:302). Thus, transmission of information takes place without a high level of learner contribution and interactivity (Le Roux 2009). In this respect, technologies that facilitate one-way distribution of information are used (Le Roux 2009). This includes technologies such as download technologies (video or audio) on the internet or intranets, or, alternatively stand-alone electronic technologies such as DVD and CD-ROM (Rossiter 2006:23).

It is thus evident that not only the technical skill of using technology in teaching and learning should be focused on during training, but also on how to use it effectively as an educational tool. Therefore it is necessary to emphasise and indicate the educational use of technology in teaching and learning during employee development and academics should be encouraged to revisit their existing paradigms and theories pertaining to teaching and learning. The fact that most academics are subject experts and not necessarily educational experts (Kanuka 2006:6; Fester 2006:6–7) also supports the notion that employee development for e-learning should include educational principles and theories. Further, the e-readiness of academics is essential in the successful use of e-learning to optimally enhance learner learning. As the primary purpose of e-learning is the best suitable use of technology to maximally increase learner learning (JISC 2009:8), it is vital that academics are skilled in using the most appropriate teaching and learning strategies to accomplish this. The acceptance of a constructivist epistemology in teaching and learning may bring about the necessary change and is thus elaborated on in the next section.

3.2.4 The constructivist epistemology

Constructivism is essentially an epistemology that has affected the way that educators envisaged learning from the early 1990s (Jonassen 2006:43). Dewey (1916) in Huang (2002:29) is of the opinion that "... knowledge is dynamic and is built around the process of discovery". The learning environment is not static, but interaction takes place between learners and their environment (Huang 2002:29; Cubucku 2008:155). Learners understand and construct a reality based on their experiences and interactions with their environment (Gergen sa). Therefore, knowledge is based on lively experience and learners can construct new knowledge, founded in past knowledge (Huang 2002:28–29). It is necessary to determine which experiences from the environment, and which surroundings, are likely to encourage experiences that lead to growth (Huang 2002:29).

According to Cubucku (2008:155), a constructivist epistemological approach to teaching and learning requires academics to alter their regular thinking approach. Should traditional teaching and learning aim to realise a constructivist worldview, different ways of thinking and doing will be required (Cubukcu 2008:155). Gulati (2008:184) points out that constructivism is not a teaching method or a teaching model, but it is a philosophy that can contribute to critical assessment and problematising of existing and growing educational practices. Jonassen (2006:43) supports the premise that constructivism is not a theory of learning, or a model for designing instruction.

Educationalists and theorists have recognised the constructivist approach as essential for developing learner-centred strategies (Gulati 2008:183). Furthermore, emerging online learning literature often refers to learning as a social constructivist experience (Gulati 2008:184), indicating the preference of the constructivist approach in the online learning environment. When learners participate in archetypal e-learning activities such as structured online discussions, collaborative online activities, online assessment, and interactive course material, the constructivism in online pedagogy is supported as they are contributing to and constructing their own knowledge (Mason 1998 in Gulati 2008:184). When considering the profile of the majority of undergraduate learners, belonging to Generation Y, as explained in

chapter 4, it is evident that a constructivist approach will be most useful with this innovative, technologically driven generation.

Similarly, it can be assumed that this is applicable to academics who have to go through a learning experience as well. One can argue that, in addition to following the constructivist approach in their teaching, academics can also embrace this approach when confronted with obtaining skills pertaining to online teaching and learning. The constructivist approach lends itself ideally to the training and development of academics to become online learning facilitators. It is necessary though that academics change their thinking and approach pertaining to teaching and learning. However, in many instances academics are still embracing the traditional, objectivist epistemological approach.

David H Jonassen, a professor in Educational Psychology and widely respected as an expert on constructivist and objectivist epistemology, describes the suppositions of an objectivist approach to learning (Jonassen 1991:28) by stating that objectivists (supporters of the objectivist approach) believe:

- in the existence of consistent, reliable and dependable knowledge about the world
- that learners should gain this knowledge and educators should transmit it
- that learners gain the same understanding from what is transmitted by educators
- that learning consists of understanding that objective reality
- that the role of education is to help learners learn about the real world
- that the goal of designers or educators is to interpret events for them
- that learners are told about the world and are expected to imitate its content and structure in their thinking

According to Hanley (1994:3) the objectivist approach is driven by "talk-and-chalk" and strongly depends on textbooks for the structure of the course (cf Kinchin 2004:302). Objectivists hold the idea that there is a fixed world of knowledge that the

learner must come to know and educators serve as channels through which their thoughts and meanings are transferred to the passive learner (Hanley 1994:3).

Whereas the objectivist approach gives emphasis to observable, external behaviours, steers clear of reference to meaning, representation and thought, constructivism follows a more cognitive approach (Gergen sa). In the constructivism approach educators are coordinators, facilitators, resource advisors, tutors or coaches (Gergen sa). The role of the academic in the constructivist classroom provides a useful vantage point from which to grasp how the theory impacts on practice. According to Murphy (sa) the role of the educator in the constructivist classroom has two important elements. Firstly, an educator should introduce new ideas or cultural tools where necessary and provide the support and guidance for learners to make sense of these for themselves. Secondly, the educator must identify the ways in which the instructional activities are being interpreted to inform further action. Teaching from this perspective is also a learning process for the teacher. (Murphy sa.)

Tu, Shih and Tsai (2008:1143) indicate that people's epistemological beliefs mirror their perceptions about the nature of knowledge and knowing. These perceptions are found to be related to their common learning habits, or their approaches to processing learning tasks (Tu et al 2008:1143). In recent times, educators drew attention to the role of web users' epistemological beliefs in web-based cognitive activities (Hofer 2004 in Tu et al 2008:1143). Users' epistemological beliefs direct their cognitive as well as meta-cognitive activities in web environments. Users with constructivist-oriented epistemological beliefs are inclined to have greater preferences to engage in meta-cognitive thinking in online environments, as opposed to those who do not have constructivist-oriented epistemological beliefs. Furthermore, research (Braten & Stromso 2006 in Tu et al 2008:1143) showed that learners who held less sophisticated epistemological beliefs were less likely to engage in web-based discussions and online communication activities. Therefore, people's epistemological beliefs should be regarded as a key factor when observing their activities on the web. (Tu et al 2008:1143.)

Considering the role of constructivist-oriented epistemological beliefs in an individual's online activities, online engagement, and online meta-cognitive thinking, it is evident why this approach is sensible to follow in the online teaching and learning environment. It can be argued that the changed job requirement, namely the incorporation of teaching and learning with technology, calls for an adaptation strategy to use different pedagogical approaches with the emphasis on effective learning. It is evidently clear that in training academics can become more skilled and knowledgeable regarding teaching and learning strategies. That cannot be addressed in a single training session and will thus have to be part of a broader development programme. In preceding sections it has been argued that the training for the online teaching skill should ideally be part of a formal employee development programme. Employee development programmes usually contribute positively to organisational performance, in view of the fact that it results in a better skilled workforce that can accomplish more than would have been the case without the development opportunities (Wellins, Smith & Erker 2010:2; University of Minnesota sa:1). Research further indicates that employee development is one of the top three employee retention items in organisations (Smith 2010; Bonadio 2010; Mercer 2010; Abraham 2007; cf Šiugždinienė 2008:32). It can therefore be argued that HEIs will most likely benefit maximally from ensuring that academics are well-trained with regard to e-learning – not only will it enhance goal accomplishment, but it is also likely to improve employee retention. In this regard it is necessary to determine whether the Potchefstroom campus of the NWU development programmes for academics are in place. The employee training and development programmes at the North-West University are therefore discussed in chapter 6.

Career management and career management programmes can also enhance employee development (Erasmus et al 2005:303). Therefore, the next section discusses the role of career management in employee training and development and its contribution to enhanced employee performance.

3.3 CAREER MANAGEMENT

This section discusses whether career management programmes, including career development, is a viable option to enhance the e-readiness levels of academics. In

chapter 6 attention is also given to current career management practices and policies at the NWU.

3.3.1 The role of career management in employee development and enhanced performance

Career management is a process in which planning is done for an employee's progression and development in an organisation (PSC 2000:iv), in which the employee's goals, performance potential and preferences are aligned with organisational goals and objectives (PSC 2000:iv; Clark 2010; Gilley et al 2002:60). According to Erasmus et al (2005:297) career management is a continuous process in which employees collect information about themselves and the workplace and come to a particular realisation of their capacity, abilities, interests, values and ideal lifestyle, and, other jobs and organisations. The career management process serves as basis for employees to plan their careers, set career goals and develop and implement a strategy that is designed to realise goals (cf PSC 2000: 5–6; cf Cline & Kisamore 2008:4).

The most common elements in career management are career planning, career pathing and career development (PSC 2000:iv; PALAMA 2010:130). This implies that an employee's career has to be planned, in conjunction with the employer, to plan and create a career path. Career development should be included in the career plan to enhance the employee's progress and growth on the career path. The responsibility for career management lies with the employee (PSC 2000:6–7; Cline & Kisamore 2008:4), with support from the manager through the following responsibilities (PSC 2000:6–7):

- awareness of the employee's career ambitions
- determining the appropriate career path for the employee's ambitions to be attained
- informing the employee of training and development opportunities that can assist in meeting the career aspirations of the employee and at the same time the operational objectives of the organisation

- providing the employee with the opportunity to make use of these training and development opportunities

Although the primary responsibility of career management lies with the employee, it is clear that the line managers also have a responsibility to support the employee in this regard. Sturges, Conway, Guest and Liefoghe (2005:821) point out that individual career management behaviour is influenced by organisational career management assistance (cf Verbruggen, Sels & Forrier 2007:1). Thus, the more assistance an employee receives from the organisation, the more it will be perceived as fulfilment of the psychological contract⁶ (Sturges et al 2005:821; Armstrong 2006b:226). In turn, achievement of the psychological contract is connected to organisational commitment of employees and is related to behaviours at work (cf Armstrong 2006b:226; 228), including amongst others job performance (Sturges et al 2005:821). It therefore point to the following: “first, it shows that both individual and organizational career management behaviors are linked to psychological contract fulfillment; second, career management help is associated with affective commitment and job performance; third, psychological contract fulfillment plays a key role in mediating the relationship between career management help and such attitudes and behaviors; and fourth, organizational commitment may mediate between psychological contract fulfillment and individual career management behavior aimed at furthering the career outside the organization” (Sturges et al 2005:821). It is evident that both the employee and the organisation can benefit if line managers take cognisance of the effect of a psychological contract. The support of the organisation (mostly by the line manager) with career management will clearly support a sense of belonging and ownership and will eventually result in enhanced performance. The correct use of the psychological contract can thus effectively enhance employee motivation.

Managers can also assist in goal-setting (Landes 2006:29; Li & Butler 2004:38). As career management programmes attempt to involve and encourage employees to set their own goals within the parameters of organisational goals, recognise their

⁶ The psychological contract refers to an unarticulated combination of beliefs held by an employees and their employer about what they expect of each other (Armstrong 2006b:225).

strengths and weaknesses, and improve their performance (Erasmus et al 2005:302–303; PSC 2000:iv;5), it also supports them with the identification and facilitation of training needs and opportunities, which is mostly achieved by a process of feedback and discussion as part of the performance management system of an organisation (Gilley et al 2002:57–58; PSC 2000:5).

It is therefore apparent that the career management programme will entail that goals will be set with a view to grow, develop and to obtain a certain level of performance. It is thus important that the employee is actively involved in the goal-setting process. The line manager however, can also be involved in the goal-setting process to ensure compliance with organisational goals, to give guidance and to provide information pertaining to training and development opportunities towards goal accomplishment (Gilley et al 2002:57–58). In section 2.3.2 the goal-setting process, its significance and how it influences employee performance have been explained. In this section attention is also given to the manner in which the goal-setting process should take place which includes the manager's responsibility of providing support, a rationale and motivation to employees and continuously reminding them of the role and place of their individual goals, skills and contributions in the organisational setup. If development and mentorship programmes are in place and managers provide guidance in terms of career management and career development, it can also be valuable to assist and guide employees on correct career pathing (PSC 2010:6).

Greenhaus, Callanan and Godshalk (2010:7) explain that fast changing technology has produced new career paths for employees with an appropriate combination of skills, while less adaptable employees often found themselves out of synch with their employer's future strategies. Technology development has thus raised the skill needs for many jobs (Greenhaus et al 2010:7). The use of technology in teaching and learning has likewise provided new career opportunities and possibilities to academics and should be considered in their career planning. Thus, not only the obtainment of the skill to teach online, but also the improvement of their levels of e-readiness can be addressed through career development within their career management plans. It can be argued that employees who want to make valuable contributions in their workplace and are motivated to support their organisation's

vision, will most likely be enthusiastic about this process. All employees will, however, not be equally enthusiastic about the new job demand to be included in their career development plans and sections 2.3.3 and 2.3.3.1 therefore discusses the role of intrinsic motivation in this regard.

Based on the discussion above, it can be argued that career management programmes will positively contribute to the development of an employee as argued by Sturges et al (2005:821) earlier in the section. The enhancement of an employee's e-readiness can be logically incorporated in and driven through a career management programme, in particular through career development. The next section will focus on career development as essential component of career management.

3.3.2 Career development

Career development is a process through which progression and growth through a sequence of jobs and phases is realised. Each of these phases is characterised by a new set of matters, ideas or tasks, and is involving continually more advanced or diverse activities and resulting in wider or improved skills, greater responsibility and prestige (BNet 2010). Career development can also be defined as "an organized, planned effort comprised of structural activities or processes that result in a mutual career plotting effort between employees and the organisation" (Gilley et al 2002:59). The previous section recorded that career management used to be regarded as the responsibility of the employer, whereas is now it is more seen as the responsibility of the employee. As essential element of career management, the same principle is relevant to career development (BNet 2010; Gilley et al 2002: 61). McLeish (2002:3) further indicates that employees need to become proactive in their learning and development as it will advance them on their career paths. According to Gilley et al (2002:60–61) the following can be accomplished through career development:

- Employees can search and discover future career paths.
- Employees' skills, interests and needs for growth and development can be aligned to the needs of the organisation.

- Managers can improve output and competence, employees' attitudes toward work, and job satisfaction.
- Efficient provision and allocation of employees and greater loyalty among employees can be promoted.

It appears that career development of academics will not benefit only the employee, but also the university as employer. The challenge will in all likelihood be to convince and motivate academics who lack the necessary level of e-readiness to undergo a development programme to become e-ready and to take up online teaching responsibilities. As long as e-learning is not part of the formal job requirements of an academic and reflected in the job description, employees will resist the use of e-learning. The manner in which employees will react to the introduction of e-readiness assessment and the consequent development will to a great extent be determined by key human factors, which are discussed in chapter 4. In conjunction with key human factors career anchors usually are leading elements that direct career choices and may also influence an academic's e-readiness as they are indicative of personal work preferences (cf Gilley et al 2002:61–62). Career anchors include:

- managerial competence (development towards more responsibility)
- technical/functional competence (proper person-job fit)
- security and stability (sustaining motivators such as income, benefits, and recognition)
- pure challenge (innovation, assignments, problem-solving)
- autonomy and independence (freedom in decision-making and carrying out responsibilities)
- lifestyle incorporation (work-life balance)
- service/dedication (making a difference)
- entrepreneurship (ownership and responsibility for one's work) (Schien 2007:27; Gilley et al 2002:61–62).

Some individuals flourish by being creative and innovative, others prefer stability and steadiness; challenges and continuous simulation may be important to one person, while creating a work/life balance is vital to another (Mind Tools 2010; Schien

2007:27-33; Bandyopadhyay 2007:34-35; ILO 2007:2). These differences in individuals' personal preferences support the notion that employees will approach changes in the workplace differently, based on what they value and how they are motivated (also see section 2.3). For the same reason employees will approach learning and technology adoption differently (also discussed in chapter 4).

McLeish (2002:2) indicates that career development is no longer merely about the attainment of the skills and knowledge employees need to make progress in an organisation, it is about attaining flexibility and constantly assessing and developing these skills in order to stay employable and content over the long term. In the 21st century organisations employees are expected to do more with less (Fryer 2010; Navran 2010). Stability is no longer the focus, but instant results, along with a demand for high skill sets, are focused upon (Cline & Kisamore 2008:5–6; Khosrow-Pour 2006:256; Auer & Cazes 2000:379). For employees to achieve a high level of flexibility they need to have a strong sense of who they are and what they want from their jobs; people are differently motivated and ambitions vary to a great extent (cf Cobb 2010).

The shift towards more flexibility and versatile skills required of employees underlines the need for continuous career development. Although employees no longer can rely on most organisations for long-term employment, they are increasingly expecting employers to provide career support and enhance their employability (Auer & Cazes 2000:379). The need for flexibility also poses a challenge to line managers with regard to academics who do not view e-learning as part of their own career development. In such a case it will be necessary for the manager to provide a rationale as to the importance and relevance of e-learning, as discussed in sections 2.2.1 and 2.3.2. In particular employees who are not e-ready will have to be motivated. Considering the profile of the majority of learners, and their needs, it is necessary to sensitise academics to the need for e-learning and emphasise the need to become comfortable with e-learning (Alvaro 2010:4–7; Motah 2007:483–484; Le Roux 2009).

Another positive outcome of employee development is retention (Smith 2010; Bonadio 2010; Mercer 2010; Abraham 2007; cf Šiugždinienė 2008:32). Cook and

Jagers (2005:19) indicate that talented individuals may become frustrated when their learning curve starts to plateau. The best employees usually seek opportunities to learn and grow in their careers, knowledge and skills; therefore a career-oriented, valued employee should experience opportunities for growth within the organisation (Cook & Jagers 2005:19). Such career-oriented and talented employees may be categorised as *innovators* and *early adopters*, and may be portraying the *activist* or *pragmatist* learning style on the technology adoption cycle and will be elaborated upon in chapter 4. It may be ideal to include the employee development of these employees in a career management or talent management programme.

Talent management refers to “a strategic integrated approach to managing human capital throughout the career cycle: attracting, retaining, developing and transitioning the organisation’s human assets” (TalentAlign 2007). For talent management to be successful it should be integrated with existing HR processes such as performance management, mentoring career development, succession planning, retention, reward and recognition (Ingham 2006:21; McCauley & Wakefield 2006:4; Wellins et al 2009:2). Talent management processes should preferably be integrated with other developmental practices in the organisation to support and increase the practice and importance of succession planning (Vermeulen 2007:272;277). Vermeulen, 2008:409) further describes that talent management has to do with the human resources of an organisation and how these human resources should be retained, developed and motivated to optimise institutional performance. The integrated approach will ensure that all developmental aspects are addressed. The integrated approach also implies that these developmental human resource management practices are integrated with the University’s *Human Resource Plan* and that monitoring, evaluation and reporting should be done against both the *Human resource plan* and the *Institutional plan* as the *Human resource plan* derives from the *Institutional plan* (cf DPSA 2008:7).

It is thus evident that the enhancement of performance, and therefore the improvement of e-readiness of academics, can successfully be combined with a talent management strategy. An organisation will determine the focus, extend, capacity and restrictions of its approach to talent management, based on its business strategy (Ingham 2006:21). Talent management is therefore a strategic

process and should be driven by senior management (McCauley & Wakefield 2006:4; Lewis & Heckman 2006:7; Albertsson 2003:3; Guthridge, Komm & Lawson 2006:1).

As indicated in a previous section, for talent management to be effective, it should be integrated with other human resource management practices, especially development practices such as succession planning (Vermeulen 2007:272;277). Wolfe (1996:3) defines succession planning as “the systematic steps or design that allows for one to follow another in time or place”. In other words, an organisation should have long-term and leadership plans in place to ensure the organisation will continue as usual when a talented employee leaves (Maurer & Weeks 2010:159). Succession planning is therefore the use of a purposeful process to ensure that employees with the necessary capabilities are developed and prepared to replace senior management as necessary (Prenhall 2007). It can be argued that none of these human resource management practices – talent management, career management, succession planning – are most effective when it stands on its own, but with an integrated approach can optimally ensure employee development.

Part of the development of an employee through a talent management strategy for succession planning is the practice of mentoring and coaching (Cook & Jagers 2005:19). The *Public service mentorship programme* (2006:5) defines mentoring as “a process of deploying experienced individuals to provide guidance and advice that will help to develop the careers of protégés allocated to them”. A mentor acts as counsellor, providing guidance on career paths, development opportunities and an indication of what it entails to become a leader in the organisation (PALAMA 2010:111; Thomas, Willis & Davis 2007:179–180; NASA 2007:3).

Leask (2005) explains that mentoring empowers employees by mentors spending time with them and talking about issues that are important to employees. The mentor (usually a manager) should assist and provide guidance in growing and emphasising their strong points and encouraging their development (PALAMA 2010:111; Thomas et al 2007:179). It requires sensitive and attentive listening from the mentor and introspection and responsible decision-making from the employee (PALAMA

2010:111). When mentees start to reflect on their experience they can turn it into knowledge that can be used for growth and achievement (Leask 2005).

According to Tobin (1998) in Turk (2011:40) “the coach is more of a tutor, observing work and actions, providing comments on execution and teaching skills that may be lacking”. Coaching is described as a process that makes it possible for employees to learn and develop and thus enhance their performance (Turk 2011:39). It is essential that the coach has opportunities to observe the employee’s work and that the employee respects the coach and is open to feedback in order for the relationship to be successful (Tobin 1998 in PALAMA 2010:112). When managers act as coaches, they should spend time with employees and assist them in mastering their work and developing their knowledge and skills (PALAMA 2010:112–113). Managers should also respect individual capabilities, as employees grow and development at various rates, and provide employees the opportunity for self-development (cf Hicks & McCracken 2009:72–73). A coach’s most important task is employee development (Turk 2011:40).

It can be deduced that career management programmes and talent management programmes can play a positive role in employee performance. The integrated approach of a talent management programme, including human resource management development practices such as career management, succession planning and mentoring and coaching, is perceived to have a positive effect on developing the e-readiness of academics. The holistic approach of a talent management programme can ensure that all relevant aspects of an academic’s job requirements are addressed.

It is further necessary to take note of the fact that academics are adults and that their training and development should be approached keeping cognisance of this fact. The next section therefore focuses on academics as adult learners.

3.4 THE ACADEMIC AS ADULT LEARNER

When confronted with learning a new skill such as teaching and learning online the academic becomes the learner. With employee development, career management

and talent management therefore, it is important for managers to keep in mind that they are working with adult learners. Knowles et al (2005:38) describe adult learners as those learners who are unlikely to be intellectually motivated or stimulated by the strict, rigid and inflexible requirements of “authoritative, conventionalised institutions of learning”. The most significant differences between adult learning and conventional education lie within the learning process itself – adults bring their experience to the learning environment which results in a two-way learning process where both the adult learner and the teacher learn from each other (Knowles et al 2005:39; Fogarty & Pete 2004:12; Levine, 2001:1; Blake 2009).

Adult learners portray certain characteristic and preferences (Knowles et al 2005:3;36–37; Fogarty & Pete 2004:7–13; Blake 2009; Weldon 2010; Levine 2001:1–2). It is necessary that senior managers, line managers and the Human Resource Department of the NWU is informed about the preferences and characteristics of adult learners before they embark on employee development for academics to increase their levels of e-readiness. The theory of learning for adults, called *Androgogy*, is based on the following six principles (Knowles et al 2005:36–37):

- Learners need to know: Adult learners have a need to answer questions about the value of learning and the manner in which it will be accomplished.
- The self-concept of learning: Adult learners want to have the ability to take control of the skills and purposes of learning and self-direct their learning.
- Prior experience of the learner: Past experience of an adult resulted in individuals that have valuable resources, prejudices and a self-identity.
- Readiness to learn: In general adults are ready to learn when their life circumstances necessitate them to learn.
- Orientation to learning: When real-life problems are presented and a problem-solving approach is followed, adults usually learn best.
- Motivation to learn: Adult learners usually have high motivation to learn when the knowledge or skill they obtain can help them to solve significant problems in their life.

The fact that adults are ready to learn when their circumstances necessitate them to learn is encouraging in terms of formalising the use of e-learning for academics. This will necessitate them to undergo a development programme. Course designers should take care however, that employees do not feel coerced, as it will increase resistance and negativity. It is thus necessary to provide a rationale for the new job demand and development interventions. The abovementioned principles support the notion in sections 2.2.1 and 2.3.2 which indicates that it is necessary to provide a rationale for learning a new skill and that employees will be more inclined to learn a new skill when they are aware of the practical value that it will have for their immediate environments.

In addition to the abovementioned principles, Brookfield (1995) in Huang (2002:29) indicates the following four adult learning processes (cf Rabak & Cleveland-Innes 2006:118):

- Adult learners exercise self-directed learning by amongst others setting up their learning goals, searching for appropriate resources, deciding on their learning styles and evaluating their progress (Huang 2002:29; Blake 2009; Weldon 2010). In sections 2.2.1 and 2.3.2 the importance of an employee being involved in the goal-setting process is emphasised, as well as the motivational benefits of self-set goals. In chapter 4 the various learning styles are discussed.
- Critical reflection is part of adult's learning as they think contextually and critically (Huang 2002:29; cf Blake 2009). In particular, an adult learner who falls in the category of a *reflector*, as discussed in Honey and Mumford's learning styles in chapter 4 will portray this kind of learning to a great extent.
- When learning is founded on adult learners' experiences, these experiences are rich resources (Huang 2002:29; Levine 2001:1; Weldon 2010).
- When adults become skilled at learning, they have the capability of lifelong learning (Huang 2002:29).

Brookfield (1995) in Huang (2002:29) as well as Knowles et al (2005:3;36–37) identified the same characteristics that adult learners will portray when confronted with learning a new skill or to obtain new knowledge. It can be assumed that

academics as adult learners will in most probability portray the same or very similar characteristics. Adult learners want to see the value in what they are learning and want to take control of their learning experience. This places a responsibility on line managers and ASS to ensure that an academic's training and development to become an online learning facilitator reflect these values. Proctor and Doukakis (2003: 272) emphasise that it is also necessary to exercise employee development in such a manner that employees experience it as a result of management's commitment to meet their needs. "The successful application of the concept is translated into positive employee attitudes towards their work including organisational commitment, work motivation and job satisfaction" (Proctor & Doukakis 2003:272). This view is supported in sections 2.3.2, 2.3.3.1 and 2.3.4 emphasising the need for a non-coercive approach to maximise employee motivation. It remains evident that the line manager plays a significant role in employee development, particularly when a new job demand is introduced such as the use of technology in teaching and learning. The next section subsequently elaborates on the role of the manager.

3.5 THE LINE MANAGER'S ROLE IN EMPLOYEE DEVELOPMENT

According to Gibb (2003:281), and as alluded to in preceding sections, line managers are increasingly involved in employee development, which reflects the broader changing relations between line managers and the Human Resource Management Department (cf Šiugždinienė 2008:32). From the preceding sections it is evident that a manager has various roles to play in employee development such as assisting employees to identify their development needs, providing positive reinforcement and re-directive feedback, assisting employees in goal-setting and the drafting of a development plan, allocating time for coaching and development activities, providing feedback, providing guidance, ensuring opportunities, and offering organisational insight, information, and advice, and helping employees understand how they fit in the organisational picture. One of the most significant roles of the manager, however, will be to continuously provide information, motivation and support to constantly facilitate the employee's development (PSC 2010:6; Gilley et al 2002:57–58; 61; 68; Trinkka 2009:1; Coach4Growth 2007; Heathfield 2010b). One of the biggest misconceptions amongst employees and

managers alike is that performance appraisal is an annual event (PSC 2007:5), thus implying that the development of an employee will also only be followed up once a year during a performance appraisal. It is, however, evident that an ongoing high level of involvement, guidance and feedback of the manager is required on a day-to-day basis.

Further, a line manager should respect an employee's learning curve and realise that it takes time to learn new skills and apply them well (Trinka 2009:1; Ambler 2010; cf Coates 2010). An academic's learning style and position on the technology adoption cycle will guide the manager in this regard, as the position where an employee is plotted on the technology adoption cycle will be directly related to the employee's level of e-readiness. The employee's learning style will direct the manager as to how to approach the employee's training and development as discussed in chapter 4.

According to Mayo (2000:529) an important outcome of employee development should be to give employees the ability to continue adding value to the organisation in the future (cf Jacobs & Washington 2003:343). A mixture of two factors play a role in this regard: an employee's ability to adapt and grow with the changing situation; and an employee's potential to contribute at a higher, broader or deeper level in future (Mayo 2000:529). Everyone is capable of growing and has dormant abilities (Mayo 2000:529). Managers should understand this potential and utilise or create opportunities for development and encourage employees towards further development and growth (PSC 2000:5;7; cf PSC 2010:x;5;6; Gilley et al 2002:68). It is therefore advisable that the development plan is coupled with the most appropriate motivational strategy for a particular employee. It is apparent that line managers should realise their role in an employee's development towards new skills and competencies such as e-learning, make provision for opportunities in this regard and provide the necessary support.

3.6 CONCLUSION

This chapter highlighted the necessity for a development process to follow the performance appraisal of academics with a view to enhance their levels of e-readiness. The role and importance of training and development in this regard was

discussed, as well as how it can be connected to career management, career development and talent management to optimally achieve increased levels of e-readiness and subsequent performance with regard to the use of technology in teaching and learning.

The study further argues that the training and development interventions for academics where it concerns e-learning, should not focus on the technical skill of e-learning only, but follow a broader teaching and learning approach, also including the philosophy of e-learning and the use and adaptation of teaching and learning strategies to obtain optimal learning. It is also argued that these training and development opportunities can be incorporated in a career management programme or a talent management programme.

It was further determined that career management programmes and talent management programmes can play a positive role in employee performance. The integrated approach of a talent management programme including human resource management development practices such as career management, succession planning and mentoring and coaching, is perceived to have a positive effect on developing the e-readiness of academics. The holistic approach of a talent management programme will ensure that all relevant aspects of an academic's job requirements are addressed.

The chapter also discussed the uniqueness of the academic as adult learner and attention was given to the pivotal role of the line manager in employee training and development. The development and training of academics for the use of e-learning due to the changed job demand of increasingly incorporating technology in teaching and learning which necessitated the e-readiness of academics, needs to receive attention.

This chapter outlined a number of career anchors, reflecting that some individuals flourish by being creative and innovative, others prefer stability and steadiness; challenges and continuous simulation may be important to one person, while creating a work/life balance is vital to another. Through the typical traits of the key human factors reviewed in chapter 4, the career anchors outlined in this chapter are

brought into relation with the key human factors identified in chapter 4. In chapter 4 it is determined whether these key human factors influence the e-readiness of academics.

CHAPTER 4

KEY HUMAN FACTORS IN E-READINESS

4.1 INTRODUCTION

Previous chapters alluded to various aspects relating to the purpose of the study – to determine how to assess the e-readiness of academics at HEIs. The study argues for the e-readiness assessment of academics to be included in their performance appraisals. Chapter 2 therefore discussed the process of human resource performance appraisal. As the process of performance management consists of not only an assessment component, but also a developmental component, chapter 3 discussed the role of employee training and development in enhancing the e-readiness levels of academics. The role of career management programmes and talent management programmes, integrated with other human resource management practices such as career development, succession planning and mentoring and coaching, has also been recorded.

This chapter advocates the consideration of key human factors to be included in the e-readiness assessment of academics during performance appraisals as they are believed to impact on the e-readiness of academics. These key human factors are discussed to determine possible e-learning profiles among academics, contributing either positively or negatively to their levels of e-readiness. Chapter 7, discussing the empirical research results of the study, will reveal the e-profiles of academics at the Potchefstroom campus of the NWU, based on their personal work profile patterns, preferred learning style and pace and style of technology adoption.

4.2 KEY HUMAN FACTORS

The study focuses on a particular job requirement of an academic, namely the e-learning responsibility. The job requirement is brought about by global technological advancement and became an integral component of 21st century higher education (Moolman & Blignaut 2008:168;169; Amirault & Visser 2009:62). However, all academics did not necessarily embrace the changed job requirement (Le Roux

2009); therefore to a great extent causing ineffective application and use of e-learning. A perceived lack of e-readiness⁷ appears to be the biggest contributing factor to the effective use of e-learning as optimal learning tool.

Given the increasing importance of e-learning (Elgort 2005:182; Njenga & Fourie 2010:199; Kanuka 2006:1; Kim & Bonk 2006:23), an assessment of e-readiness of academics need to be enhanced to ensure they discharge their academic role as expected. Organisations obtain goals and objectives through their human resources (Ivancevich 2004:4); thus it necessitates dealing with the factor that appears to prevent academics from optimally using e-learning as pedagogical tool, namely their e-readiness. As indicated in chapter 1, the e-readiness of academics is not only determined by technical readiness, but also involves psychological readiness (Rautenbach 2007:iv; Hewitt 2003:5), therefore indicating that human factors play a role in e-readiness.

As the online learning facilitator plays a significant role in e-learning (Conceição-Runlee & Daley 2005; Thanasingam & Soong 2007:1003–1004; AFLF 2003:2), which necessitates academics (who have to act as online learning facilitators due to the new job requirement), to be e-ready. A variety of responsibilities is required from an online learning facilitator (and thus from the academic who will fulfil this role), including amongst others acting as subject expert, instructor, social director, facilitator, technical advisor and programme manager (Hootstein 2002; cf ANTA 2003:3; Choden 2008; cf ELF 2006:10–14).

The abovementioned responsibilities of an online learning facilitator unmistakably underline the human aspect in e-learning as crucial. However, the majority of research, pertaining to the use of technology in teaching and learning, focuses on the technology itself and not on the person using the technology (Johannes 2007:44–45). Johannes (2007:63) asks the question: “If we need new roles, new pedagogical approaches, new knowledge and skills and new online environments for the e-learning practice, should we not also look at new attributes for the person performing the job?” This question makes sense as the success of e-learning

⁷ Reasons for the perceived lack of e-readiness are discussed in chapter 5.

depends to a great extent on the competence and communication of the online learning facilitator (JISC 2009:8; Achimugu et al 2010:27; Cardwell & Madigan, 2004:26–27; Dziuban et al 2005:4). Human factors are thus significantly important.

Further it has been mentioned in previous chapters that employees will react differently to the changed job requirement and some will resist it (Proctor & Doukakis 2003:268), for the reason that employees have different personalities, intelligence, abilities, values, backgrounds and attitudes which influence their behaviour (Armstrong 2006b:240–244). It is therefore necessary to understand and appreciate the factors that affect how employees behave in the work environment to manage them effectively (Armstrong 2006b:239). Particularly when employees are confronted with a new job requirement, it calls for managers to be sensitive, communicate well, provide the necessary support and motivate employees (Landes 2006:29; Gitman & McDaniel 2008:187; Hansson 2009).

Further, in chapter 3 a number of career anchors have been indicated. These career anchors may influence an academic's e-readiness as they are indicative of personal work preferences (cf Gilley et al 2002:61–62). Individuals' different career anchors (different preferences in the workplace), illustrates that some individuals flourish by being creative, innovative and entrepreneurial; others prefer stability and steadiness; some individuals may prefer challenges and continuous simulation; while others may want a work/life balance (Mind Tools 2010; Friedman 2007; ILO 2007:2). These differences in individuals' personal preferences support the notion that employees will approach changes in the workplace differently, based on what they value and how they are motivated. For the same reason employees will approach learning and technology adoption differently, as also illustrated by the key human factors discussed in this chapter.

The chapter therefore emphasises the importance of considering key human factors when introducing a new technology. The DISC-factors of Thomas International (sa) are used as guideline for personal work profile patterns and will be brought into relation to the likely e-readiness profile of an academic. Further, the learning styles of Honey and Mumford (1982) are discussed with a view to determine the impact of employees' learning style preference on their technology adoption. The technology

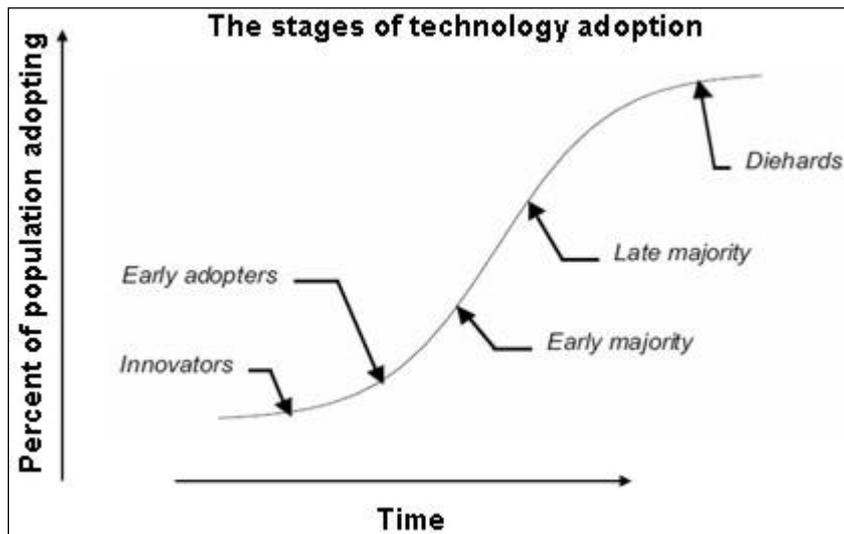
adoption cycle of Rogers (1962) will be used to discuss the pace and style of technology adoption, as the technology adoption categories of the cycle reflects academics' levels of e-readiness. The interrelatedness of these human factors also receives attention.

4.2.1 Pace and style of technology adoption

In chapter 1 *technology adoption* is described as the manner in which people respond to product and service innovations that require them to change their past behaviour (Alexandrou 2011). An employee's style and pace of technology adoption therefore refer to the characteristic individual manner in which an employee will respond or adapt to a new technology or innovation (*style*) and how fast or slow the employee will adopt (*pace*). The study argues that style and pace of technology should also be assessed with the e-readiness assessment of an academic and the subsequent development process.

The *technology adoption cycle* is described by The Computer Language Company (2010) as "a model used to describe the adoption of new technologies, typically including the stages of innovators, early adopters, early majority, late majority, and technology laggards". Rogers (1962) introduced the theory of diffusion of innovation in his book, *Diffusion of innovations*, 1962, and defines *diffusion* as "the process by which an innovation is communicated through certain channels over time among the members of a social system" (Rogers 1995:35). He argues that innovations would spread through a society in an S-curve since the *early adopters* will first select the innovation (which may be a technology), where after the majority will follow until a technology or innovation has reached its diffusion point in a community (Rogers 1995:22–23;257). Zemsky and Massey (2004:9) support the S-curve principle of Rogers, showing the number of technology users that have adopted a technology over time (EDS sa:1). The S-curve is typically followed with e-learning patterns of modernisation, change and adoption (Zemsky & Massey 2009:4) as it is illustrated in diagram 4.1 below and indicates how academics will adapt to e-learning.

Diagram 4.1: S-curve of technology adoption



Source: Zemsky & Massey (2004:9).

According to Chen (2007) the speed of technology adoption (as illustrated in diagram 4.2) is influenced by the infrastructure required for implementation. If no new infrastructure is needed, the technology will be adopted more rapidly and will be presented by a steep S-curve (Rogers 1995:257; Zemsky & Massey 2004:9; EDS sa:1). At most HEIs, including the Potchefstroom campus of the NWU, the infrastructure (bandwidth, hardware and software) is already in place (Le Roux 2009). Other influences such as the needs of the academics, the perceived usefulness of the innovation (e-learning), the risk attached to the adoption, perceived benefits and the extent of behavioural change required, will also impact on the speed of adoption (Chen 2007; EDS sa:1; Zemsky & Massey 2004:9). It is exactly factors such as the perceived usefulness (discussed in chapter 2) and the behavioural change required that is of importance to this study. Both these human factors influence the pace and style of technology adoption of academics. Perceptions regarding the perceived usefulness of e-learning and the behavioural change required to adapt to the change, need to be dealt with through training and development as it can be argued that these perceptions, if negative, contribute to resistance to e-learning.

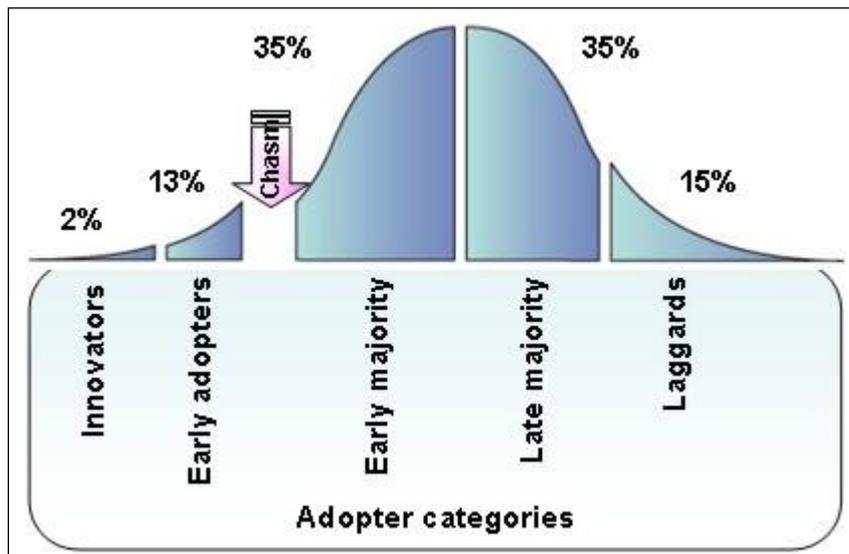
A central component to a person's attitude towards a new technology is in its diffusion (Rogers 1995:6). Roger's Innovation decision process theory suggests that the innovation adoption process takes place over time through five phases: Knowledge, Persuasion, Decision, Implementation and Confirmation (Rogers 1995:20–22;35). The innovation-decision process is the process through which an individual or other decision-making component goes:

- from initial *information* of an innovation
- to form an *outlook* toward the innovation
- to a *decision to adopt* or reject
- to *implementation* of the new idea
- to *confirmation* of this decision (Rogers 2003:20–22,35).

Academics, confronted with e-learning for the first time, will go through the abovementioned phases of adoption. The first phase, receiving *information* on the innovation, is a potential online learning facilitator's first contact with e-learning. Thus, a rationale is provided for e-learning. It could be argued that the more detailed and timely information is provided by institutional management and line managers, the more likely it is that the employee will adapt to or feel comfortable with the change in job demand, especially when the purpose and advantages of the new job demand is clearly communicated (as alluded to in chapters 2 and 3). Based on the information provided an employee will form an outlook or perception towards the innovation and decide to adapt to or reject the innovation. It can further be argued that if the phase of providing information is neglected, academics will not understand the use and purpose of e-learning in its totality and may therefore resist it. This in return, will delay the whole process of technology adoption.

Employees have different rates of technology adoption; therefore Rogers (1995:262) indicates various adopter categories. The diffusion model of Rogers (1995:262) proposes five adopter categories, namely *innovators*, *early adopters*, *early majority*, *late majority* and *laggards*, illustrated in diagram 4.2 below.

Diagram 4.2: Adopter categories defined by Rogers



Source: Adapted from: Rogers (1995:262).

A chasm or time gap develops between the *early adopters* and the *early majority* because of their different expectations (Moore 2002:5;12–13; Schang 2007:iv; Iskold 2007). Failure to identify this gap, which is wedged between pioneering and mainstream employees, or to take up the challenge of closing the gap has resulted in the failure of many potentially successful technology products (Oliver 2001:6; Carr 2007:3). Zemsky and Massey (2004:9–10) use these categories to illustrate e-learning's pattern of innovation and change. The categories can be summarised as follows:

- **Innovators** (2%): These are learners⁸ who enjoy exploring new ideas and are driven by intrinsic motivators.
- **Early adopters** (13%): These are learners who adopt once the concept has been proven. They are viewed as opinion leaders and decision-makers who have the vision to adapt an emerging technology to an opportunity, and they are driven by extrinsic motivators. They have the foresight to match an emerging technology to a strategic opportunity (Oliver 2001:6).
- **Early majority** (35%): These are the eventual users of technology who do not like to take the risks of pioneering, but see the advantages of tested

⁸ Learners in this context refer to academics as learners.

technologies driven by usability and success of the technology; they are the beginning of the mass market.

- **Late majority** (35%): These are learners who adopt when half of the population has already done so. They are followers who dislike the disruptions of new technologies and are more conservative.
- **Diehards (laggards)** (15%): These are learners who resist adopting innovations and perform the valuable service of regularly pointing out the discrepancies between the day-to-day reality of the product and the claims made for it (Beshears sa).

Carr (2007:9) explains that for *innovators* and *early adopters*, the existence of a technology in itself will be reason enough for them to pursue it, since they have a natural willingness and interest to explore. One can argue that *perceived usefulness* and *perceived enjoyment* (as discussed in section 2.3.4) will be high for these groups. Their *perceived ease of use* may also be high since these are the people that are willing to face challenges and overcome obstacles easier than people in the other categories. It can further be argued that the following career anchors (discussed in chapter 3), will appeal to these employees: pure challenge (innovation, assignments, problem-solving); autonomy and independence (freedom in decision-making and carrying out responsibilities); lifestyle incorporation (work-life balance); technical/functional competence (proper person-job fit); managerial competence (development towards more responsibility); and entrepreneurship (ownership and responsibility for one's work).

However, the *early majority* (and the other adopter categories to follow them) have a tendency to find use in something usually only when it relates to problems in their own disciplines (Zemsky & Massey 2004:9–10). Only if it can be confirmed that the new technology is effective, efficient and effortlessly applied, to their focused needs, they will be likely to adopt it (Zemsky & Massey 2004:10). It could be argued that employees falling in the *early majority* and *late majority* categories of the technology adoption cycle may need to be encouraged to use technology in teaching and learning by the use of motivators such as incentives or rewards, as there is

resistance to some extent, and they need a certain degree of convincing or motivation.

However, Rogers (1995:221) indicates that employees who receive incentives for adoption to e-learning possibly will change the patterns of adoption. The use of incentives will probably lead to faster adoption by employees who would have otherwise adopted slowly or not at all, and can negatively affect sustainability of adoption (Rogers 1995:221). Incentives can thus enhance the rate of adoption, but it is possible that it may cause a reduction in quality (Elgort 2005:183). It is therefore necessary that line managers do not haphazardly use incentives and rewards to motivate academics towards increased use of e-learning, but that it is well-planned, thought through and connected to an employee's e-profile. Important in this respect, is that training and development should be focused broader than the obtainment of a technical skill, but should also include the philosophy of e-learning pertaining to its use and purpose (as indicated in chapter 3). The benefits and use of e-learning as learning tool should rather be the motivating factor.

It can further be argued that *perceived enjoyment* will be low for these categories as they are slower to adapt and will probably only start enjoying the new technology, once they obtained the skill and experience the benefits thereof. Therefore, their *perceived usefulness* may be moderate to high, as they may be able to understand the benefits of the new technology, but their *perceived ease of use* will be low until the technology has been mastered. It can further be argued that career anchors such as technical/functional competence (proper person-job fit); security and stability (sustaining motivators such as income, benefits, and recognition); and service/dedication (making a difference) will appeal to these employees.

Employees of the *innovator* category will typically be intrinsically motivated and eager to take on challenges. An *innovator* therefore, will most likely embrace the change and job demand and not portray a lack of e-readiness. The *early adopter* category will also accept the new challenge relatively easily, as they are visionary thinkers, opinion leaders and change agents. It is important that leaders in HEIs focus on how to cross the gap between these two groups (*innovators* and *early adopters*) and the *early majority* (mass market), since the *early majority* will adopt

slower and portray resistance to some extent to the new technology. This is usually the biggest component of employees in the organisation and it is therefore imperative that managers should consider how to motivate these employees to firstly adapt to the new technology and secondly to determine training and development interventions to enhance performance.

It can be argued that line managers are responsible for determining the stage/s of technology adoption in which academics are through e-readiness assessment during the performance appraisal process. The assessment process is usually followed with a development plan and subsequent relevant development interventions and employees should be involved in the goal-setting process. Section 2.3.2 in chapter 2 recorded that there is a connection between self-set goals, self-efficacy and enhanced performance. Motivating employees and providing a rationale as to the relevance of e-learning within the framework of organisational objectives, is necessary for the eventual performance of an academic as an online learning facilitator.

According to Carr (2007:5) there are two primary approaches to the use of technology: a *determinist (developer-based)* focus and an *instrumentalist (adopter-based)* are different (Yates 2001; Yates 2004:3). For determinists (developers) technology is the primary reason of social change; determinists view the process as innovative progress that is thought to be out of direct human control; and determinists focus on an innovation's technical features and perceive successful adoption/diffusion as the result of an innovation's technological supremacy and regard the innovation's developer as the primary change agent (Carr 2007:5; Yates 2001; Yates 2004:3; Couros 2003:10–11). On the other hand *instrumentalists (adopter-based)* view the process as evolutionary; they perceive reasons for change to lie in social conditions and in human goals for change and development; and their focus is therefore on the user (adopter) of a technology and the user's value as an instrument to result in preferred change (Carr 2007:5; Yates 2001; Yates 2004:3; Couros 2003:10–11). Central to the instrumentalist's view is human control over the innovation and it is furthermore considered vital to appreciate the social context in which it will be used and the function that it will serve (Carr 2007:5).

For the purpose of this study the *instrumentalist (adopter-based)* approach is relevant, where the focus is on the academic (person) using the technology. This emphasises the notion that the consideration of key human factors in the innovation process can be helpful to determine a person's pace and style of technology adoption. Since there is currently no e-readiness assessment instrument available which assesses the e-readiness of the person using the technology, this study emphasises the need for including the e-readiness assessment of academics in performance appraisals. This should be followed with training and development interventions to assist in improving employees' e-readiness.

In addition to the level of technology adoption, each employee has a different style of approaching learning and adapting to a new concept or job demand (Dewhurst & FitzPatrick 2007:14). A number of these learning styles will be outlined in the following section and it will be determined how these learning styles impact on an academic's e-readiness.

4.2.2 Learning styles

Winn (1997) and Jonassen et al (1997:28) in Rautenbach (2007:11) are of the opinion that human beings are unpredictable and have different needs. This premise supports the necessity to identify as many as possible elements that can influence employees' learning needs (Rautenbach 2007:11). In this study the learning needs of academics are explored by means of amongst others preferred learning styles. The inspiration of individualised learning styles and the domain of cognitive learning styles has been emphasised for over 40 years (Cassidy 2004:419; Duff 2003:30). The term *learning style* has been used interchangeably with terms such as *thinking styles*, *learning modalities* and *multiple intelligences* (CIPD 2008:1). "Learning is a cognitive process of taking in information, processing, organizing, and storing it in rich connected schema in ways that knowledge formed is easily recalled when required" (Ormrod 1999 in Akdemir & Koszalka 2008:1452). Learning styles refer to various approaches or techniques of learning and involve educating methods, which seemingly allow learners to learn effectively (Guild 2001; Park & Lee 2001:656; Felder & Henrique 1995:21; Azhar 2008:5). The way in which learners prefer a

particular way to interact with stimuli and information are termed their learning style (Palade, Howlett & Jain 2003:1230; Felder & Henrique 1995:21).

Research done by Swinton (2006:1) reveals that everybody has a preferred learning style; employees will learn more successfully if they can use their preferred learning style (Swinton 2006:1; cf Robbins 2009:459). On the other hand, employees is likely to be discouraged if the only learning opportunities available to them do not allow them to use their preferred learning style and it will therefore affects their ability to learn (Swinton 2006:1; Robbins 2009:459). Learning styles influence the manner in which individuals attach their own meaning to the subject matter or skill being taught (Roy 2006:22). Online teaching and learning must therefore be structured in such a manner that it makes provision for all learning styles (Salmon 2003:110).

Academics' learning style preferences play a significant role in their adoption to the use of technology in teaching and learning and therefore, their e-readiness. For instance, right brain dominated people may prefer a holistic and visual approach, while left brain dominated people may prefer a systematic, step-by-step approach (Vermeulen 2005:8). "Dominance by the left cortex means that an individual is rational, logical, analytical, fact-based, and quantitative. Dominance by the left limbic means that someone is organised: sequential, planned, and detailed. Dominance by the right limbic makes someone interpersonal: feeling-based, kinaesthetic, and emotional. Finally, dominance by the right cortex means that someone is imaginative: holistic, intuitive, integrating, and synthesising" (Simons 2008:424). It is evident that employees have different traits, such as skills, aptitudes and preferences for processing information and constructing knowledge from information, and therefore provision should be made that they can learn in the manner with which they are most comfortable (Magoulas & Chen 2006:327).

Further, for the purpose of enhancing an employee's e-readiness, it is important to take into consideration that the ideal is to use a combination of active, practical, theoretical and reflective learning activities (Honey & Mumford 1982:25–29; Dewhurst & FitzPatrick 2007:14; Arp, Woodard & Mestre 2006:29; Boyatzis & Kolb 1995:3). There is a universal acceptance amongst researchers in the field of learning styles that a learner's learning approach influences his/her performance and

attainment of outcomes (Cassidy 2004:420). Learning styles are therefore important in the education environment, because it assists educators in understanding how learners learn (Swinton 2006:1). Assessing the learning styles of academics can therefore assist in understanding how employees learn and which approach should be applied to maximise an employees' motivation towards e-learning and their eventual performance. Organisations can use questionnaires to measure an employee's preferred style of learning (Jackson & Lawty-Jones 1996:293; cf Morrison 2007). Learning style questionnaires of Honey and Mumford are progressively more used as an autonomous method to encourage learning and with the aim of increasing the ability of people to learn from their jobs and training courses (Morrison 2007; Jackson & Lawty-Jones 1996:293).

Jackson, Furnham, Forde and Cotter (2000:223) point out that a connection exists between learning styles and occupation personality types (Bakx, Van der Sanden & Vermetten 2002:1229; Jackson & Lawty-Jones 1996:293). Although this study will not focus on individual personality styles, this premise supports the notion that an individual's learning style is to some extent, connected to a person's personality. It also emphasises the usefulness of including the assessment of an academic's learning styles (which will partly indicate the personality type of the employee) in the performance appraisal with a view to draft a training strategy, consistent with the employee's learning style preference.

Various learning styles and models are indicated and researched by psychologists, but for the purpose of this study the learning styles of Honey and Mumford (1982) were chosen. The following learning style categories are identified by Honey and Mumford (1982:25–29):

- **Activists** – individuals who prefer to deal with new challenges and experiences and should receive a range of activities to keep them interested.
- **Pragmatists** – individuals who require a link between the training and the end-result required of them. They will determine the practical value and use of what they are being taught.

- **Theorists** – individuals who require good structure and sufficient time to explore the relevance between ideas and scenarios. They are analytical and detail-conscious and need to think things through in a logical step-by-step manner.
- **Reflectors** – individuals who spend a significant amount of time to think intensively about the activities and concepts provided to them online. *Reflectors* fall into the category that probably benefits the most from web-based teaching and learning (Liu 2007:41). Downing and Chim (2004) in Liu (2007:41) find that individuals who are *reflectors* tend to be extroverted in the online environment whereas they may be introverts in the traditional classroom setting.

It can be argued that academics that are *activists* can be compared to the *innovator* and *early adopter* of the technology adoption cycle, who is an employee with a vision of the benefits of technology in teaching and learning. The *activist* will, however, prefer to be the leader and rather give direction (cf Honey & Mumford 1982:56). It can be argued that both the *perceived enjoyment* and *perceived ease of use* of employees belonging to these categories will be high. *Activators* thrive on new challenges and if an activating learning style is combined with an *innovator* category of technology adoption, it can be assumed that the employee will embrace the new job demand and will enjoy trying out online tools and possibilities. Employees, portraying the *activist* learning style will also perceive the technology to be *easy to use* as they do not fear new, unfamiliar challenges and are likely to “play around” with the new technology and *enjoy* the experience while they are mastering it.

The *pragmatist* may be compared to people falling under the *early majority* category of the technology adoption cycle. This group will make the paradigm shift from traditional classroom teaching and learning to e-learning once the concept has been proven. It can therefore be argued that the *perceived ease of use* will be very important to an employee portraying the pragmatist learning style. As long as they are not convinced of the use and purpose of the technology they will not adopt to using it. The same can be said regarding their *perceived enjoyment*; when they realise the possibilities of the use and purpose of e-learning and the rationale behind

it, they will start using it and in the process start enjoying it as they have realised its value in learning.

The *theorist* may be compared to people in the *early majority* or *late majority* category, needing more time to become familiar with the use of technology in teaching and learning. They will analyse and review information before they adopt the use of technology in this way and will eventually make the paradigm shift. Once they adopt the use of technology for e-learning, they tend to flourish in the online environment owing to their systematic and analytical approach (Arp et al 2006:30). The *reflector*, similar to the *theorist*, may be compared to people in the *early majority* and *late majority* category. Prior to adopting the use of technology, they will consider it intensively and listen to others' views, considering them before taking action or incorporating their own views. With both the *theorist* and *reflector* learning styles *perceived ease of use* will take time as employees belonging to these learning style categories take time thinking concepts over, especially if combined with the *early majority* and *late majority* categories, which also take time to determine the use of e-learning. Employees belonging to the *late majority* category may remain negative pertaining to *perceived ease of use* and it is possible that they will only eventually adapt to e-learning as it is expected of them by managers and/or learners, as indicated in the previous section. As these employees' ease of use will take long, they will also not *perceive* it to be *enjoyable* as they do not have the skill and do not know the purpose of e-learning.

The above discussion shows that academics who need to take on the role of online learning facilitators naturally tend towards a particular learning style. This learning style relates and indicates an employee's preferred way of interacting with and adapting to new information and demands. These learning styles need to be assessed during a performance appraisal as part of an academic's e-readiness assessment and should be considered during goal-setting and drafting of a personal development plan. By considering these learning styles during the developmental part of the performance appraisal process, training and development interventions can be structured in a manner to suit this learning style. This approach is likely to increase the employee's motivation and will make the technology adoption process

easier. The abovementioned learning styles will therefore be included in the framework in which employees can be plotted during performance assessment.

In addition to employees' pace and style of technology adoption and their preferred learning style, employees also have different work profile patterns. The personal work profile patterns as third key human factor in this study is discussed in the next section.

4.2.3 Personal work profile patterns

As indicated in section 4.2.2, employees portray different qualities, skills, abilities and prefer various methods to deal with information, to gather knowledge from information, and to apply their knowledge to real-life problem solving (Magoulas & Chen 2006:327). Thus employees have different approaches and preferences to work. Xu and Tuttle (2004:22) explain that interpersonal aspects are more important to an employee's success in the workplace than technical skill. An interpersonal aspect that is likely to differ between employees is work style; for instance, some employees approach problem solving in a cautious, systematic manner, whereas others favour innovative solutions (Xu & Tuttle 2004:22). Employees' work style therefore influences their behaviour in the workplace. Pearsall (2001:157) describes *behaviour* as "the way in which one acts or conducts oneself, especially towards others" and *style* as "a manner of doing something" or "in a manner characteristic of" something (Pearsall 2001:1847). Thus a work behaviour style refers to the characteristic manner in which an employee acts and conducts, especially towards other employees, including managers, in the workplace. In this study the **Dominance Influence Steadiness Compliance (DISC) factors of Thomas International** will be used to describe personal work profile patterns of academics.

The DISC profiling instrument is a useful and well-known assessment instrument to determine the attributes that will contribute to an employee's personal work profile pattern (Thomas International 2005). The DISC profiling instrument describes human behavioural pattern styles in four dimensions. A DISC profile reports a style or characteristic of behaviour in a work situation. Four dimensions or "typical patterns of interaction" of a person in the working environment are important (Thomas

International sa). All people have all four behavioural preferences but to various extents. The relationship of the four preferences to each other construct a profile pattern which gives information about a person's probable behavioural responses (Mills 2002). Thomas International (sa) identifies the following four dimensions:

- ***Dominance***: This category considers the manner in which problems are addressed. Individuals of this category are concerned with results. They are typically competitive, with high performance standards, and focused on achieving goals, solving problems, and accepting challenges.
- ***Influence***: This category considers the manner in which people are dealt with. Individuals of this category like people and want to be liked in return. They are typically charming, optimistic, and outgoing, and focused on networking, conversation, and working with others.
- ***Steadiness***: This category considers the manner in which an individual paces him- or herself. Individuals of this category are concerned about relations. They are typically sympathetic, friendly, good listeners, “finisher completers”, and team players, who work hard and create a stable environment.
- ***Compliance***: This category considers the manner in which rules and procedures are followed. Individuals of this category are concerned with accuracy and research every aspect of a situation, considering each possibility before making a decision (Witt sa). They typically have high standards, particularly for themselves; can be perfectionists; and prefer systems, processes, procedures, as well as predictable and consistent outcomes.

It is evident that an academic displaying a high *dominance* factor profile is likely to be motivated and inspired by a challenging and dynamic environment and enjoys experimenting with new technologies at a fast pace. Further, such an employee is unlikely to be motivated by incentives and rewards but will most probably be intrinsically motivated and have an inclination to set challenging goals (Thomas International sa). It can be argued that employees with a high *dominance* factor will typically be *innovators* on the technology adoption cycle, with the *activist* learning style. When an academic portrays a high *dominance* factor and low *steadiness* and *compliance* factors, it can be assumed that the profile of the online learning facilitator

tends to favour the achievement of results irrespective of unfavourable circumstances (Johannes 2007:256). These employees will experience high levels of *perceived ease of use* and *perceived enjoyment* due to the challenging and innovative nature of their profiles.

An academic with a high *dominance* factor will prefer an unstructured environment, which allows for frameworks and directions to guide people on how to act, tolerate innovative thought, creative problem-solving and independence to act, not prescribing strict rules and procedures (Thomas International sa). It can be argued that the development interventions for an online learning facilitator portraying a high *dominance* factor should be innovative, exciting and creative with challenging tasks. It is evident that academics belonging to this category will adapt to teaching and learning with technology easily and will not portray a lack of e-readiness. It can furthermore be argued that academics with a high dominance factor will connect relatively easy with young learners from Generation Y due to the same need for innovation and creativity (Thomas International sa; Naidoo 2005).

Academics' portraying high *steadiness* and *compliance* factors and a low *dominance* factor, will tend to favour standard operating procedures, a traditional approach and maintaining the status quo (Johannes 2007:256-257). Factors such as attention to detail and ensuring quality and standards are important (Johannes 2007:257). It can further be assumed that structure and security within a clearly defined learning environment will appeal to these employees. Academics belonging to these categories can be compared to the *early majority* and *late majority* categories of the technology adoption cycle, as well as the *theorist* and *pragmatist* learning styles. Their *perceived ease of use* of e-learning will initially be negative as it will put their status quo and comfort zones at risk. Likewise, they will not initially *perceive* e-learning to be *enjoyable* and will only change their perceptions over a long period of time.

Shelton, McKenna and Darling (2002:372) state that, not only do employees have different work profile patterns, they regularly also have diverse values and interests. Further employees are inclined to have a preference for various types of job tasks and work cultures (Shelton et al 2002:372; cf Liu 2010a; Switzer 2010). Liu (2010a)

asserts that managers that want to obtain objectives and achieve performance from their subordinates need to understand that employees have different work profile patterns and will therefore be differently motivated. An employee's personal work profile pattern thus plays a significant role in the manner in which he or she will adapt to technology and should therefore be included in an employee's e-profile.

4.3 CONCLUSION

The chapter highlighted the significance of the human factor in e-learning and its impact on academics' e-readiness. Employees portray different qualities, skills, abilities, preferences and behaviours and learn differently. These differences contribute to an employee's e-profile. The chapter advocates for particular key human factors to be considered during an employee's e-readiness assessment with a performance appraisal: pace and style of technology adoption, preferred learning style and personal work profile patterns.

It became evident that the traits portrayed by a person belonging to a certain technology adoption category show similarities to traits portrayed by particular learning styles and personal work profile patterns. Certain profiles could be identified, based on trends and similarities pertaining to interpersonal traits. It for example became evident that an employee who is an *innovator* on the technology adoption cycle will most likely prefer and *activist* learning style and will display a strong *dominance* factor on the DISC profile. These are high achievers who embrace challenges and new opportunities.

Another likely connection that could be identified was that an *early adopter* on the technology cycle may also portray an *activist* learning style and a *dominance* factor on the DISC profile, as these employees also adapt to technology relatively fast. The *early majority* and *late majority* technology adoption categories will most likely be related to the *theorist* or reflector style and will correlate with the *steadiness* and *compliance* factors of the DISC profile. These categories need more time to think about a changed job demand and will only adapt when most others have already done so or when it is expected of them. It is thus evident that these combinations imply various levels of e-readiness. In chapter 6, where results obtained from the

empirical research are discussed, it will be determine whether these trends could also have been identified in practice.

The following chapter outlines the role and purpose of e-learning in the 21st century, necessitating the e-readiness of academics. Attention is therefore also given to the resistance to e-learning and how it relates to key human factors of academics. As the academic plays a pivotal role in e-learning it is also discussed what e-readiness entails and what can be regarded as an adequate level of e-readiness.

CHAPTER 5

E-READINESS: CRITICAL REQUIREMENT FOR EFFECTIVE E-LEARNING IN THE HIGHER EDUCATION ENVIRONMENT

5.1 INTRODUCTION

The previous chapter emphasised the importance of key human factors in e-learning and their impact on an academic's e-readiness. The thesis therefore advocates for the incorporation of an assessment of key human factors in the e-readiness assessment of academics during performance appraisals. The previous chapters also recorded that the performance appraisal should be followed with the drafting of a personal development plan that makes provision for uniquely structures training and development interventions to enhance the employee's e-readiness.

The assessment of academics' e-readiness presupposes pre-determined goals, standards and competency requirements. In this chapter the e-readiness criteria against which academics should be assessed are determined with a view to establish an e-readiness construct. As the perceived lack of e-readiness amongst academics hamper the successful use of e-learning as educational tool, reasons for e-learning resistance are also explored. However, attention is firstly given to the higher education environment of the 21st century, necessitating the use of technology in teaching and learning, and in return, requiring that academics are e-ready.

5.2 THE HIGHER EDUCATION ENVIRONMENT OF THE 21ST CENTURY

The education environment, in particular the 21st century, presents universities with various challenges. Over the centuries universities have portrayed the ability to reinvent themselves when intellectual, political, or technological change take place. Likewise universities need to adjust to the pace of technological change in teaching and learning before they expose themselves to the risks of losing their standing and competitive advantage (Amirault & Visser 2009:62–63.)

Since the early 1980s HEIs have been criticised for their competence and accountability (Meek & Davies 2009:42). During the period mentioned above HEIs had the luxury of examining, debating, and arguing the advantages and disadvantages of advanced technology in teaching and learning. However, in the 21st century, the inevitable progress of technology into a meaningful, ever-present and sustained reality (OECD 2004; Bennet 2002:2; Albright & Nworie 2008:15) has largely cancelled out such debate and arguments in support of and not in favour of the notion (Amirault & Visser 2009:66). The ongoing success of universities as HEIs depends on their ability to adapt to technological change and to integrate such technology into teaching and learning (Amirault & Visser 2009:66; Albright & Nworie 2008:15; cf Hung 2006 5). A number of reasons that makes it necessary for HEIs to adapt to the changing pace of technology, in particular e-learning, are identified and discussed below.

5.2.1 The types of learners and their expectations

Traditional learners usually are well-developed in linguistic and logical-mathematical intelligences and are academically prepared for higher education (Bluestein 2001). Traditional learners portray personality traits such as concrete and logical thinking, rationality, promptness, they are well-organised, function well in a structured environment, and are able to follow rules and procedures (Bluestein 2001). Learners in the 21st century, however, differ from traditional learners (Magolda & Terenzini 2010; cf EIU 2008:5) for a number of reasons of which the following are discussed in this chapter:

- the unique characteristics portrayed by their generation, namely, Generation Y (Bennet 2002:6–7)
- a significant amount of current day learners are underprepared for tertiary learning (Reid 2007; Gabriel & Flake 2008: xii;1)

These 21st century types of learners are discussed below.

5.2.1.1 Generation Y learners

The first type of learners is those referred to as Generation Y learners. Undergraduate university learners in the 21st century are living in a world of technology (Kezi 2009:1; Bennet 2002:6–7). To expect of these learners to yield the realities of their world by providing them with traditional classroom teaching and learning, is to disregard the global role and place of technology (Amirault & Visser 2009:66). Generation Y refers to people born between 1980 and 2009 (Naidoo 2005). This year range refers mostly to Generation Y in the United States of America; in the South African context these learners are those born from 1990 to 2011 (Steyn, Badenhorst & Kamper 2010:177; 185; cf Msimang 2008). According to Song et al (2004:59) Generation Y portray particular characteristics which determine their interaction with others and their environment, how they connect and learn with each other, as well as the assortment of technologies they use to do so (Gonsalves 2006; Rockler-Gladen 2006).

In terms of the *The Generation Y and the workplace annual report* (2010) and EIU (2008:5) generation Y is characterised by a high level of technical literacy (Gen Y Report 2010:7; 17; EIU 2008:5) and some of its commonly used technologies include live virtual classrooms, podcasts, blogs, social networks and collaborative editing (Halse & Mallinson 2008:1; cf Song et al 2004:59; cf EIU 2008:5). Having the right technological platform is pivotal to learners of this generation (Gen Y Report 2010:8). This generation considers the internet indispensable to life, learning, work, and leisure time (Moore, Moore & Fowler 2011). Their behaviours, approaches, skills and abilities differ from those of other generations as a result of their exposure to technology and in many instances the teaching and learning perspective of Generation Y learners differs considerably from that of university management and academics (Moore et al 2011).

This generation, according to Naidoo (2005), prefers work to be fun and relaxed and a traditional approach to working does not appeal to them (cf Hansen 2010; cf

⁹ This estimation is approximate, as members of Generation Y in South Africa is generally considered to be born between 1990 and 2000, but in the United States, this generation is believed to be born between 1980 and 2000 (Naidoo 2005 Steyn et al 2010:177,185).

O'Neill 2010:3). Learners of this generation need to be constantly stimulated to prevent them from getting bored (Rockler-Gladen 2006). They are skilful at multi-tasking, think fast and are passionate and broad-minded (Naidoo 2005; cf O'Neill 2010:8). They are also an innovative generation and seek reinforcement and constant feedback on a regular basis (Naidoo 2005). Learners in this generation are networked, collaborative, and social (Gen Y Report 2010:24). The manner in which they use these digital technologies and the way in which they prefer to work with technology is often regarded as challenging for those who do not belong to this generation (cf Gen Y Report 2010:24).

These characteristics and technologies preferred and used by Generation Y, can shape the way in which academics teach. According to Ramsden (2003:xii) understanding learners' experiences of learning is an ingredient to effective teaching. Milliken and Barnes (2002:225) indicate that this implies that teaching and learning strategies may have to be adapted to focus on the enhancement of learners' learning. The application of new technology can be brought into play to improve both the teaching and learning experience (Milliken & Barnes 2002:226). It is therefore clear that making provision for Generation Y's learning needs will require academics to be flexible in terms of teaching and learning approaches.

Statistics from the Higher Education Management and Information System (HEMIS 2010) indicate that a total of 371 381 (46,3%) out of a total of 799 490 learner enrolments for 2008 at public HEIs, belong to Generation Y (HEMIS 2010). For 2009 a total of 387 550 (46,6%) out of a total of 837 779 learner enrolments at public HEIs, belong to Generation Y (HEMIS 2010). These statistics are indicated in table 5.1 below and include learner enrolments of ages 18 to 22 during 2008 and 2009.

Table 5.1: Learner enrolments at public HEIs, by age

Age	2008 Enrolment		2009 Enrolment	
	Total	%	Total	%
18	82 742	10,3	93 614	11,2
19	76 665	9,6	80 935	9,7
20	78 780	9,8	80 424	9,6
21	72 855	9,1	72 480	8,6
22	60 339	7,5	60 097	7,5
23	371 381	46,3	387 550	46,6
Total of registrations	799 490		837 779	

Source: HEMIS (2010).

When learner enrolments for learners between 18 to 21 years are considered, (including the vast majority of undergraduate learners), a total of 38,8% of learners in 2008 were between the ages of 18 and 21 and a total of 39,1% of learners were between these ages in 2009. These statistics indicate that almost 40% of the total learner enrolments at public universities in the South African context could be categorised as Generation Y during 2008 and 2009. If the learners of 22 years of age are also considered in the equation, this percentage moves up to 46,3% and 46,6% in 2008 and 2009 respectively, bringing it to a total of almost 50% of the total learner enrolments (including all postgraduate learners) for these years¹⁰.

The HEMIS statistics reveal that the vast majority of undergraduate students at public universities in the 21st century are Generation Y learners. Statistics on the presence of Generation Y learners at the NWU specifically are provided in chapter 6.

5.2.1.2 Underprepared learners

The second type of learners of the 21st century is the so-called underprepared learners. Addressing the needs of underprepared learners is an increasingly grave concern at HEIs throughout South Africa (Parliamentary Monitoring Group 2010;

¹⁰ In most instances the ages of 18 to 24 are considered for undergraduate (Worthen & Jefferson 2009:1, but as the South African Generation Y was born mostly from 1990, ages between 18 to 22 years were considered.

Taljard 2010; Gabriel & Flake 2008:6; Brüssow 2007:126). Globally HEIs face these challenges (NCES 2003:1; Ramsden 2008:3; Ramsden 2003:4).

Based on research conducted by Dzubak (2005:1) underprepared learners are learners whose academic skills are lower than what is regarded as higher education readiness skills, especially in terms of reading, writing, and mathematics. The underprepared learner in the higher education environment has substantial academic and societal problems and complexity that is related to academic underperformance (TSTC 2004:10 in Brüssow 2007:133). Further, underprepared learners portray weak academic skills (Anderson 2004:3 in Brüssow 2007:133). In research conducted for her PhD study by Brüssow (2007:134), she found that the underpreparedness of learners in the higher education environment may also be attributed to a challenging educational history, characterised by learning environments that did not sufficiently prepare students for higher education learning (Brüssow 2007:134).

Academic preparedness presupposes academic proficiency that includes abilities such as reading, writing, note-taking, examination writing (Brüssow 2007:133–134), as well as the ability to effectively study, solve problems, and think critically and analytically to make adequate progress through higher education academic programme work (Dzubak 2005:2). According to Nel (2010) learners should ideally be able to read an amount of 400 words per minute with an 80% correctness level, but 350 words per minute and a 70% correctness level is regarded an acceptable level to pass an academic programme.

HEIs thus face unique challenges to identify initiatives to support learners' underprepared for higher education (Brüssow 2007:127). However, although learners may be underprepared for the first semester of their first year of study, they have the ability to enhance their academic literacy skill once they have mastered the required prerequisites (Dzubak 2005:3). Chapter 6 elaborates on measures and tools being put in place at the NWU to enhance the academic underpreparedness of learners.

From the above discussions on the 21st century types of learners, it can be deduced that with Generation Y learners, as a highly technological generation (see section 5.2.1.1), technology should be used maximally to assist these learners in preparing their academic literacy and/or reading. Furthermore, it is advisable to use creative methods such as simulations, games, exercises that are fun, etcetera, as these learners belong to a highly innovative generation and get bored easily (Rockler-Gladen 2006).

Amirault and Visser (2009:75) are of the opinion that Bloom's Taxonomy can be very useful in making decisions regarding instructional technologies and strategies (cf Kanuka 2006:4). In Bloom's Taxonomy (Bloom 1956:201–207) he provided a classification of learning objectives within education, including lower order and higher order skills. The attainment of facts, knowledge, and information are usually best realised and mastered through repetition strategies, which are the powerful collection of an entire class of software based technologies, such as electronic flash cards, memory games, and electronic practice quizzes and tests (Amirault & Visser 2009:75; Adams 2007:72). The lower order skills represent the attainment of facts, knowledge, and information, whereas the higher order skills (analysis; synthesis; evaluation) cannot be achieved without the attainment of the lower order skills (Bloom 1956:20–21;207). When technology is effectively applied and integrated into teaching and learning, through meaningful facilitation and interaction of learners with information, it can assist in developing higher order thinking skills such as comprehension, reasoning, problem-solving and creative thinking (SA 2004b:14). It is thus evident that the preparation phase/s and bridging courses for learners can easily be facilitated and/or enhanced through the use of e-learning.

In the same manner that technology can be applied to improve the academic literacy and/or reading pace and correctness of learners, it can also be aligned with learning outcomes (cf Hoffman 2010:4). Although these repetition and exercise technologies are valuable in providing training opportunities, it is not the best suited method for the development of higher order skills such as analysis, synthesis, and evaluation. For learning outcomes of this nature technologies should be intended to accomplish research, collaboration, information gathering and comprehension, and content construction. Whilst behavioural approaches that are characterised by computer

based drill and practice routines are highly effective in achieving Bloom's lower order skills, constructivist approaches that are characterised by computer based research, collaboration, and content construction tools, are exceedingly effective in achieving Bloom's higher order skills. (Amirault & Visser 2009:76.)

It is evident that the 21st century learner's profile requires academics to adjust teaching and learning strategies to those that appeal to learners. The above discussion also implies that academics be skilled in using e-applications to enable them to be effective in the teaching and learning environment.

5.2.2 Changing demographics of learners

Traditionally HEIs targeted learners between 18 and 24 years of age (Worthen & Jefferson 2009:1; Borden 2004:12; cf Chen, Gonyea & Kuh 2008:1). The National Center for Education Statistics (NCES) of the United States of America (USA), however, indicates that this demographic is changing at a fast pace in the educational environment of the 21st century. It is projected that learner enrolments of HEIs learners between the ages of 25 and 34 will far outpace learner enrolments of 18 to 24 years olds over the decade from 2010–2020, due to changing employee and employment requirements (NCES 2008:9). In the USA it is also expected that enrolments among learners of 35 years or older will increase (NCES 2008:9) and this trend may also become a reality in South Africa. These learners already face challenges of studying and working full-time simultaneously and therefore, accommodating working adults requires that innovative instructional technologies are effectively brought into play to make university studies possible to this group of learners (Amirault & Visser 2009:70). A great number of HEIs have already made provision for these working adults as they became aware of the increasing demand of this group of learners and have thus gradually improved their distance learning programmes and e-learning programmes (Amirault & Visser 2009:70).

It is necessary to keep in mind, however, that merely a change in modality, such as offering programmes via e-learning, is not enough to meet the learning needs of these learners. Simply creating the path to the classroom (in this case, the virtual classroom), is not sufficient; a classroom environment that is attractive to learners to

choose time and time again is equally important (Amirault & Visser 2009:70). This is where the need for an e-learning skill of academics comes into play again. Not to simply provide an online course through making use of the basic applications (making study material available, post announcements, notes or power point presentations), but to know how to actively and effectively facilitate a course online, constructing knowledge in an interesting and appealing manner to keep the learning experience of the learner valuable and engaging.

5.2.3 Lifelong learning

The traditional way of learners completing higher education, the attainment of a first degree preceding entering the work environment, is no longer sufficient for a knowledge workforce (Amirault & Visser 2009:71; Ramsden 2008:8; cf Markkula 2006:15). The *World Bank report on lifelong learning* in the global knowledge economy¹¹ (2003:16) explains that organisations can no longer rely exclusively on new graduates as the main source of new skills and knowledge in labour market; they will increasingly need workers who are eager and able to continuously update their skills throughout their lifetimes, by way of lifelong learning.

A knowledge economy cannot be possible without the existence of advanced technological infrastructure (Auer & Cazes 2000:379; Amirault & Visser 2009:66; cf Brinkley 2010; cf Markkula 2006:16). This implies a workforce with technological know-how. The application of new technologies has significant implications for learning and the application of knowledge. Lifelong learning becomes an inevitability of which its framework includes learning throughout the lifecycle. Lifelong learning becomes progressively more crucial for countries to be competitive in the global knowledge economy and can be called the education for the knowledge economy. Within this lifelong learning framework, the most important aspect is learning and meeting learners' needs. (World Bank 2003:xiii.)

It is evident that the use and application of technology play a significant role in preparing learners for the knowledge workforce which compels the adoption of

¹¹ The knowledge economy includes bringing together powerful computers and well-educated people in order to meet the growing demand for knowledge-based goods and services (Brinkley 2006:3).

lifelong learning. Through the internet learners have fast access to resources that were not traditionally available with classroom teaching as only means of teaching and learning (cf Herselman & Britton 2002:270–273).

5.2.4 Increased competition among HEIs

It is necessary to take cognisance of the augmented competition from other educational institutions such as private sector training institutions, corporate universities, and content brokers (World Bank 2003:16;18–19). The number of corporate universities has grown by approximately 500% in the period of 1988 to 2002 (World Bank 2003:19). Therefore, if HEIs do not make provision in this regard, they will lose their competitive edge.

The Organisation for Economic Co-operation and Development (OECD) has already, since the 1990s, indicated that education will be pivotal to the knowledge-based economy, and learning will be the instrument of both individual and organisational development (OECD 1996:14; cf Markkula 2006:4). The demand for higher education is progressively increasing as employees seek a competitive advantage in the knowledge economy (Pusser 2002:105; cf ESRC 2008:2;4). It can be argued that the increased need for higher education among working individuals/adults and the changing demographics of learners resulted in a higher demand for higher education of non-traditional learners. It can further be argued that public HEIs, such as universities, must ensure they provide in the needs of the adult learner to prevent them from losing learners to private sector HEIs.

From the above discussion on the types of learners and unique challenges faced by HEIs in the 21st century it can be deduced that HEIs are facing problems different from what they have traditionally experienced. It is further also apparent that HEIs need to embrace the use of technology in teaching and learning, considering not only the technological advancement, but also the changing educational environment, the rise of the knowledge economy, the emphasis on and need for lifelong learning and the changed profile of the 21st century learner. From the abovementioned discussion it is clear that technology has a significant impact on higher education, not only to enhance the teaching and learning experience for learners that prefer this

way of learning (Generation Y), but also to prepare learners for the technologically advanced knowledge workforce.

It becomes more and more apparent that academics at HEIs no more have a choice in using technology in teaching and learning. It is also evident that merely providing learners with the opportunity to use the e-learning platform is not sufficient (eg by posting study material or power point presentations on the e-learning platform); e-learning should be used as pedagogical tool (through the use and adaptation of various interactive teaching and learning strategies), facilitating learning, collaboration and knowledge construction and providing opportunity for optimum interactivity and engagement. It is thus evident that academics that lack the e-readiness to take up this challenge must undergo training and development to become competent for the new job demand. It is the responsibility of the HEI as employer to ensure that employees receive the necessary training and development opportunities to become e-ready.

Throughout the discussion it remains evident that new, innovative teaching and learning approaches are required, including the use of technology in teaching and learning, that necessitates the e-readiness of academics. The next section subsequently focuses on the e-readiness of academics.

5.3 E-READINESS FOR ONLINE LEARNING FACILITATORS

With a view to emphasise the importance of e-readiness of academics in HEIs, the following paragraphs focus on e-readiness indicators of academics to determine the acceptable level of e-readiness for employees to act as online learning facilitators. As the perceived lack of e-readiness is usually the common contributor to resistance to e-learning, the section also finds it appropriate to reflect on resistance to e-learning as a critical requirement for effective teaching and learning by HEIs.

In order to determine e-readiness indicators for an academic's online learning duties, it is necessary to determine the role and responsibilities of an online learning facilitator as these will give an indication of the required e-readiness indicators.

5.3.1 Role and responsibilities of an online learning facilitator

The role and responsibilities of an online learning facilitator have been outlined in chapter 1 (section 1.8). Online learning facilitation skills include:

- engaging the learner in the learning process, particularly at the beginning
- appropriate questioning, listening and feedback skills
- the ability to provide direction and support to learners
- skills in managing online discussion
- ability to build online teams
- a capacity for relationship building
- motivational skills (ANTA 2003:3; AFLF 2003:3).

Skills required of an online learning facilitator such as being a good listener, providing feedback, communication and encouraging learners and building relationships, mentioned above, all relate to the human nature of e-learning. Online learning facilitators should possess the ability to let learners feel comfortable about participating in online discussions and sharing information (UKNCSL 2006; Sutton 2004).

It is therefore evident that an online learning facilitator should be focused on not only the technical aspects of online learning, but also on the learning experience of the learner and social nature of learning, thus the human side of learning. According to Salmon (2003:4) the primary role of an online learning facilitator is to promote human interaction and communication through knowledge construction and modelling, as well as transferring of skills and knowledge. Salmon (2003:4) further explains that the task of acting as an online learning facilitator requires a combination of fresh insights and technical skill. More so, it calls for understanding and appreciating the management of online learning and group working, thus focusing on the human aspects and variables of learning (Salmon 2003:4).

From the various traits and attributes indicated in chapter 1 and this chapter, an online learning facilitator can be defined for the purpose of this study as follows:

An online learning facilitator is a person who guides the learning process, facilitates knowledge construction, encourages learners to participate, promotes interaction and communication between facilitator and learner, as well as between learner and learner, offers technical assistance, enhances and promotes collaborative learning, manages online meetings, designs and develops online courses and creates a friendly and comfortable environment for learners.

It is apparent that the job of an online learning facilitator is comprehensive and requires not only a technical skill, but also interpersonal skills. Being an online learning facilitator also requires having the ability to adapt teaching and learning strategies to suit the needs and preferences of the learner and the medium of learning (e-learning), as emphasised in chapter 3 and this chapter. These skills, competencies and abilities, required of an online learning facilitator, demand e-readiness of academics. The following paragraphs therefore discuss the indicators of e-readiness, namely what are the requirements for an academic to be regarded as e-ready to take up the role of online learning facilitator. These indicators will become the assessment criteria against which an academic's e-readiness will be assessed during a performance appraisal. It is thus necessary to create an *e-readiness construct* for this purpose.

There is not a one-size-fits-all profile for an online learning facilitator. However, Llorens, Salanova and Grau (2002:208) are of the opinion that particular characteristics have to be present to realise the successful facilitation of e-learning. Primary characteristics and learning skills for e-learning are adaptability to change, creativity and innovation, empathy, identification of opportunities in the given context, effective management of time and aims, potential for teamwork, high self-esteem, and mental flexibility (Llorens et al 2002:208). Subsequently, the e-readiness indicators for an academic's online learning duties can now be determined.

5.3.2 E-readiness indicators

As the thesis argues for the incorporation of the assessment of the readiness of academics to use electronic tools in delivering learning, it becomes appropriate to

determine the indicators of e-readiness, namely which factors indicate academics' level of e-readiness. These discussions intend to inform the development of an e-readiness construct.

- **Technical experience and computer literacy**

According to Guglielmino and Guglielmino (2003) in Moolman (2007:65), e-readiness of individuals can be assessed by evaluating amongst others an individual's technical experience and competency with computers (cf Schreurs et al 2008:267; cf Lee-Post 2009:66). In addition to these competencies, an individual should have the capability to direct his/her own learning, by means of relevant knowledge, attitudes, skills and habits (Guglielmino & Guglielmino 2003 in Moolman 2007:65). An individual's e-readiness levels may or may not be supported by the readiness of the organisation, therefore managers in organisations need to guide and support e-learning processes for it to be considered a supporting factor to the e-readiness of an individual (Moolman, 2007:65). It is also necessary to emphasise the importance of learning styles of people to assess whether an individual is skilful to direct his/her own learning programme (Swinton 2006:1; Roy 2006:22), as discussed in chapter 4. Aptitude, prior knowledge and motivation will also play a role in an employee's e-readiness (Guglielmino & Guglielmino 2003 in Moolman 2007:65; cf Reeves 1997).

- **Charisma and communication skills**

Miller (2003:1) mentions the need for charisma as trait of an online learning facilitator. She describes charisma as a "magnetic charm or appeal" to attract learners. A charismatic online learning facilitator will have the ability to communicate an in-depth understanding of the subject matter as well as a wide spectrum of life experiences and will, through this behaviour, bridge the gap created by distance and time. A charismatic online learning facilitator therefore portrays personality traits that will enhance the online learning experience of the learner. Outstanding written communication skills is an asset for online learning facilitation, but communicating with charisma will include a personal touch to compensate for what is lacking visually and verbally. Furthermore, online messages should ideally not be written with firm

devotion to grammatical guidelines, but rather be informal and with more emotion. An online learning facilitator can in this regard also make use of emoticons. A charismatic online learning facilitator may be able to help build the bond between teacher and learner due to his/her particular personality traits. (Miller 2005:2–8.)

- **Self-awareness**

Salmon (2003:56) identifies self-awareness, consideration, and the ability to influence as important characteristics of an online learning facilitator.

In addition to the abovementioned e-readiness indicators, Moolman (2007:79) identifies the following indicators that will give an indication whether a person is e-ready:

- access and connectivity to an IT infrastructure
- experience of technology
- utilisation of the platform provided by the organisation
- motivation to become a self-driven learner
- exercising of learning styles and attitudes to take responsibility of training
- experiencing a culture of learning and support.

The first three indicators mentioned by Moolman (2007:79) refer to the physical readiness for e-learning: bandwidth, hardware, software and the technical skill to teach online, assess assignments online, compile e-tests and/or quizzes online, upload material to an e-learning platform, facilitate discussions on the forum, post messages and announcements on the e-learning platform and compile and produce podcasts.

The last three indicators of Moolman (2007:79) focus on the intrinsic human factors such as motivation, learning style, attitude and a culture of support (which creates a sense of belonging). These indicators support the significance of human factors in the e-readiness of academics and should be considered during e-readiness assessment and the subsequent training and development interventions.

In addition to the abovementioned indicators of e-readiness, indicated by various authors on e-learning, the following additional indicators can be identified for the purpose of this thesis:

- **Comfortableness with teaching online:** E-readiness implies that a person should be comfortable with the online environment (Information Technologies Group 2000). Usually the better the technical skill of an online learning facilitator, the more comfortable he/she is with teaching online (Le Roux 2009; Focus Group 2006). One can argue that a high level of comfortableness with teaching online will most likely result in a motivated and enthusiastic online learning facilitator, which in turn will motivate and encourage learners to be enthusiastic about the online course and will enhance their performance.
- **Willingness to teach online:** One can assume that an academic should be willing to teach online to be regarded as e-ready (Mitra 2010; Wolf 2006:49; Kosak, Manning, Dobson, Rogerson, Cotnam, Colaric & McFadden 2004; Palloff & Pratt 2000:4; Information Technologies Group 2000). A lack of willingness will portray a lack of e-readiness. The willingness refers to psychological aspects and an attitude towards e-learning (Juutinen & Saariluoma 2009; Clarke & Mayer 2007:29; Information Technologies Group 2000). Human factors such as the learning style, pace and style of technology adoption and the personal work profile pattern of an employee will influence the employee's willingness to teach online, as discussed in the previous chapter. This study argues that, although it is difficult to measure an inherent quality or preference such as a learning style or personal profile pattern, these human factors will give an indication of the most preferred employee development approach that should be followed.
- **Use and purpose of e-learning:** As e-learning was initially used mostly as distance learning or remote learning tool (Fuller 2009), the perception of this being the only manner in which to use e-learning may still be prevalent amongst academics. This perceived ignorance can cause resistance to e-learning and therefore calls for the awareness of the philosophy of e-learning. Academics should undergo e-learning training, broader than learning a technical

skill, but should also be schooled in the use and purpose of e-learning. Previous chapters recorded that e-learning has become included into a broader debate on the enhancement of learning by more effective and comprehensive use of digital technologies (JISC 2009:8). The focus of e-learning is therefore not to replace the teacher, but to use technology to increase the focus on pedagogic skills (JISC 2009:5). It is also important that academics are aware of the pedagogical use of e-learning and do not merely view it as technology. The “e” in e-learning, referring to “electronic”, adds a technological edge to the “learning”, but the focus remains on *learning* as the critical element and e-learning can therefore be seen as enhanced learning (JISC 2009:8). The focus of *e-learning* is thus not on technology, but on *learning*, supported by technology (Armstrong 2006b:583).

- **Knowledge and adaptability of teaching and learning strategies:** As indicated in section 3.2.3, people shape their personal theories regarding teaching and learning early on in their lives and carry it over from generation to generation (Elgort 2005:184). A person usually teaches in the manner in which a person is taught and that teachers' principles, approaches, attitudes, and practices is likely to be connected to prior experiences (Thomas & Pederson 2003:319). Academics also have a tendency to use ICT tools only if these tools are aligned with their own philosophy of teaching and learning (Robertson 2004 in Elgort 2005:184). Academics are usually subject specialists and not educational specialists. In many instances academics are not sure what is expected of them in terms of pedagogical expectations. Thus, it is advisable that e-learning training goes hand in hand with training pertaining to the use and adaptability of teaching and learning strategies. In this regard the constructivist approach, as outlined in section 3.2.3 can be considered.

Online learning facilitators at HEIs should meet a minimum level of e-readiness in order to fulfil their online duties satisfactorily. This minimum level of e-readiness refers to extrinsic factors such as internet accessibility, adequate bandwidth, organisational and technical support and the necessary hardware and software. These factors need to be provided by the organisation and are in place to an acceptable level at the NWU, as allowed for within the parameters of bandwidth, accessibility and

connectivity in the South African environment (Le Roux 2009). In addition to these external factors, a technical skill and particular human factors are also necessary.

Also required for an acceptable level of e-readiness is to have the required technical skill to teach online: be able to access the e-learning platform, post messages, announcements and documentation and communicate asynchronously with learners. Although this can be regarded as an acceptable level of e-readiness, to excel at teaching online and to make the learning experience valuable and effective, interactive learning is necessary, which calls for the use of forums, blogs, podcasts, wikis, etcetera and to design on an e-learning platform (Le Roux 2009).

However, for this study, most important are the human factors of e-readiness: emotional, essential, personal issues, which are intrinsic and related to a person's beliefs and attitudes (Bozarth 2006:2). Aspects such as concept of work role, beliefs about practice, beliefs about quality of e-learning, personality factors, and the perception of technology as a supporting device in learning rather than an enabler and enhancer of learning as indicated in the previous section. It is also apparent that Bozarth's second order factors (soft skills) can be related to Honey and Mumford's learning styles, Thomas International's DISC personal profile patterns and Rogers' technology adoption cycle, outlined in chapter 4, section 4.2. The specifics of these indicators will be indicated in the e-readiness construct.

Durrheim and Painter (2009:142) describe a *construct* as "attributes that have been conceptualised and defined in language, and which have been theoretically elaborated in terms of how they are related to other constructs". For example, the attributes of people that a researcher wishes to assess is seen as a methodically arranged set of ideas, that is as constructs (Durrheim & Painter 2009:142). Cronbach and Meehl (1955:3) support these notions as they define a construct as an assumed attribute of people that is believed to be revealed in assessment performance. Babbie (2005:124) explains that constructs are not real, but they are valuable and helpful to the researcher to systematise, and comprehend things that are real and to communicate about these things. Constructs therefore assist in making predictions regarding real things (Babbie 2005:125), as they stand in an explicit relationship to things that are real and observable (Johannes 2007:12).

An **e-readiness construct** therefore consists of the attributes/indicators that will provide an indication of an employee's level of e-readiness, systematically arranged as a set of standards regarding e-readiness. This arranged set of ideas can be compared to other constructs, in this case key human factors of academics. The e-readiness construct assisted the researcher in understanding the contributing factors to the e-readiness of academics. Thus it could be determined what the solutions are to a lack of e-readiness. As the e-readiness construct as people attribute reveals itself in performance assessment, the study argues for the inclusion of e-readiness assessment in performance appraisals of academics. The e-readiness construct is indicated in table 5.2 below:

Table 5.2: The e-readiness construct

Indicator	Specifications
Technical skill	<ul style="list-style-type: none"> • Basic computer skills • Skill to use the e-learning platform tools <ul style="list-style-type: none"> ▪ Basic tools – announcements, messages, schedule, resources, assignments, gradebook ▪ Interactive/advanced – forum, e-testing, podcasts, wikis, bloggers, simulations • Technical support to learners
Subject competency	<ul style="list-style-type: none"> • Subject expert – knowledge • Curriculum development • Development of course material • Facilitate knowledge construction • Well-structured assessments • Guidance and assistance in terms of subject related problems • Providing feedback
Comfortableness	<ul style="list-style-type: none"> • Ease of use • Lack of fear/resistance • Enjoyment of online activities
Willingness	<ul style="list-style-type: none"> • Positive attitude • Adaptability and flexibility to adjust to change • Focusing on outcome of learning • Considering learner profile
Understand use and purpose of e-learning	<ul style="list-style-type: none"> • Philosophy of e-learning – understand e-learning as pedagogical tool • Use technology to achieve learning
Knowledge and use of teaching and learning strategies	<ul style="list-style-type: none"> • Knowledge and skill of pedagogical strategies and approaches • Flexibility with teaching and learning strategies • Educational “savvy” • Considering learner profile
Interpersonal skills	<ul style="list-style-type: none"> • Communication – sharing information; provide direction & support; online charisma • Motivation – encourage learners • Providing feedback • Accommodating • Counselling skills • Good rapport with learners • Ability to bridge the gap – building relationships • Mental flexibility • Compassion/empathy
Personal attributes	<ul style="list-style-type: none"> • Diligence • Perseverance • Commitment • Openness • Creativity and innovation • Time management

For the effective pedagogical use of technology in teaching and learning, an academic's e-readiness should comply with these requirements. It can be argued that initially basic technical skills will suffice like basic computers skills and the use of basic e-learning platform tools (announcements, messages, schedule, resources, assignments, gradebook). Advanced use of e-learning tools can be included in the employee's development programme, once the employee is comfortable with the basic tools and had sufficient time to practice it. In this way, the advanced development course will be a natural progression for the employee.

Subject competency should be regarded as a fundamental, irrespective of the learning modality. A lack of comfortableness and willingness can be regarded as the indicators that usually are some of the biggest contributors to e-learning resistance. Therefore, these factors should receive attention. Resistance to e-learning is usually experienced before the skill is obtained and after training to master the skill, most academics are more comfortable to teach online (Le Roux 2009), unless an online learning facilitator falls in the category of *late majority* or *laggards* according to the technology adoption cycle as discussed in section 3.2. The *late majority* category is likely to resist e-learning as long as possible and will not necessarily be comfortable with it when they eventually are trained and using technology (Zemsky & Massey 2004:10). The *laggards* will never adapt to technology (Zemsky & Massey 2004:10).

Two other categories vitally important are the use and purpose of e-learning and the use and knowledge of teaching and learning strategies. These two components should be included in development programmes from the start. Addressing the use and purpose of e-learning will immediately create awareness of what is expected and how technology should be viewed in education, addressing the resistance and thus, the lack of e-readiness. Knowledge about the use of teaching and learning strategies is also imperative. It can be argued that the knowledge of these strategies will enhance an employee's e-readiness as they will have a clearer idea of how to approach online teaching and learning. It can be argued that it should be made compulsory as it is the only way to guarantee that employees have the knowledge and skill. It should, however, be done with a great amount of care and motivation from line managers. As indicated in chapter 2, sections 2.2.1, 2.3.2 and 2.3.3.1, the

provision of a rationale enhance an employee's sense of autonomy, which positively impact on motivation and ultimately task performance.

As for interpersonal skills and personal attributes, there is not a one-size-fits-all. Chapter 4 and this chapter emphasised the differences of employees in terms of human factors, which in return impacts on their behaviours, attitudes and approaches in the workplace. Therefore, based on how employees rated with regard to technology adoption, learning style and personal work profile pattern, it will give an indication as to the presence of these indicators.

Based on the discussion above and the e-readiness construct, it can be argued that the minimum required level of e-readiness of an academic can be regarded as the inclusion of the following indicators: technical skill in the form of basic computer skills and basic e-learning platform skills; subject competency; willingness; comfortableness; an understanding of the use and purpose of e-learning; and knowledge and skill to use various teaching and learning strategies.

It is evident that all the indicators, indicated in table 5.2, will be influenced by the key human factors identified in this study: pace and style of technology adoption, preferred learning style and personal work profile pattern. For example, an employee with a high *influence* DISC factor is likely to do well with the human side of e-learning, for example communication, motivation, compassion and counselling skills, as a high *influence* DISC factor is concerned about the manner in which people are dealt with and are typically charming, optimistic, and outgoing, and focused on networking, conversation, and working with others (Thomas International sa). An employee with a high *dominance* DISC factor or an *innovator* technology adoption style is likely to do well with the technical skills, subject competency, comfortableness and willingness, as a high *dominance* factor and *innovators* are competitive, with high performance standards, and focused on achieving goals, solving problems, enjoy exploring new ideas and accept challenges (Thomas International sa; Zemsky & Massey 2004:9). The same can be said about an employee with an *activist* learning style that also prefers to deal with challenges (Honey & Mumford 1982). However an employee who is an *innovator*, prefer an

activist learning style or portray a high *dominance* factor, does not necessarily have good interpersonal skills.

These indicators are linked to an employees' e-profile, that will be determined during e-readiness assessment (by assessing the employee's key human factors), and will provide insight into which attributes will need attention during training and development interventions. As it will indicate areas for development and should thus be included in a development plan.

It is apparent that a number of factors can contribute to an academic's e-readiness or lack thereof, which may cause resistance to the changed job demand (cf Robbins 2003:559–560). The next section will outline some of these barriers to e-learning, relevant to this study.

5.3.3 Resistance to e-learning

It can be argued that employees resist e-learning because of a lack of e-readiness. As mentioned in previous chapters, employees usually resist change in the workplace due to various reasons such as amongst others fear of the unknown, habits (comfort zones), inadequate information and communication, threats to status, fear of failure and lack of perceived benefits (Proctor & Doukakis 2003:268; Robbins 2003:559–560). It is therefore necessary to explore the barriers to e-learning with the aim of addressing it and to determine whether it will simultaneously provide insight into the e-readiness of academics.

Bozarth (2006:2) indicates that barriers to change (such as employees' resistance to the inclusion of technology in teaching and learning) can be classified into first order or second order barriers. First order barriers refer to extrinsic factors such as organisational support or access to equipment and second order barriers refer to more emotional, essential, personal issues, which are intrinsic and related to a person's beliefs and attitudes (Bozarth 2006:2). Important to this study is the underlying, second order barriers of resistance to e-learning amongst academics. As mentioned in the previous section, factors that cause first order barriers are in place at the NWU, Potchefstroom campus: access to equipment, the internet, hardware

and software, development support and technical support (Le Roux 2009). This study therefore does not focus on first order barriers, but places the focus on second order barriers that relate to the human factors in technology.

Second order barriers relate to aspects such as concept of work role, beliefs about practice, beliefs about quality of e-learning, personality factors, and the perception of technology as a supporting device in learning rather than an enabler and enhancer of learning (Bozarth 2006:2). These human factors (second order factors) is addressed in chapter 4 of this study by explaining an online learning facilitator's learning style, personal profile pattern and pace of adoption to technology.

When factors that cause resistance to e-learning are identified, one option of minimising their impact is to increase participation in employee development (Barak & Cleveland-Innes 2006:118). The study supported this view in chapter 3, indicating that academics should take responsibility for their own development and jointly set goals with their managers. Olgren (2000:7) in Barak and Cleveland-Innes (2006:118) argue that all employees are unique and multifaceted and therefore go into a learning experience with different backgrounds, attitudes, skills, and motivations. Burge (2000:90) in Barak Cleveland-Innes (2006:118) proposes that managers focus on finding the blocking factors of employees' resistance to e-learning and remove them. It is important to consider not only the motivating factors that encourage employees to embrace e-learning, but also the factors that cause resistance to e-learning (Barak & Cleveland-Innes 2006:118).

Bozarth (2006:3–8) indicates a number of reasons why online learning facilitators are not e-ready, namely work roles, practice and beliefs about teaching, beliefs about quality of e-learning, personality factors, and vision. The following barriers to e-readiness can be identified (Bozarth 2006:3–8):

- **Work roles**

E-learning brought a shift from the traditional hierarchy between teacher and learner from the traditional view of the teacher as authority and expert, to a role of the teacher as guide and the learner as explorer. Many facilitators fear that their specialised status and position as “expert” will be downgraded to the roles

of production worker, simply typing out content to be put online, and customer service representative that should be available 24/7 to assist learners with technical problems. Also creating resistance are a belief of loss of routine and the “old way” of doing things, losing control and a fear of being replaced by technology. (Bozarth 2006:3–4; cf Billings sa.)

Academics, viewing e-learning from this perspective, will most likely adopt very slowly to the use of technology in teaching and learning and will in all likelihood resort under the *late majority* category on the technology adoption cycle, since they dislike the disruptions of new technologies, have conservative thinking and therefore are likely to resist a change in work demand or job requirements (Zemsky & Massey 2004:10). It is clear that academics, resisting e-learning for this reason are not well-informed about the role and purpose of e-learning. As alluded to in various sections of this study, the focus of e-learning is not to replace the teacher, but to use technology to increase the focus on pedagogic skills and learning (JISC 2009:5;8). Academics should be made aware of the pedagogical use of e-learning and should not merely view it as technology or a threat to their work roles.

- **Practice and beliefs about teaching**

Online learning facilitators that are regarded as technologically advanced, judged by the extent and manner of their use of technology and online learning approaches, tend to use constructivist strategies such as inquiry learning and collaborative learning. These online learning facilitators plan lectures to meet the needs of individual learners and wish to instil in learners a sense of curiosity and desire to learn. For them, the goal is not to provide big chunks of information, but to equip learners to find answers themselves. These online learning facilitators are also likely to adjust their teaching practice in answer to learner needs. They furthermore view teaching and learning as an ever-changing activity that develops over time, and are excited by trying innovative methods of teaching and learning. They are eager to participate in professional development opportunities, even without encouragement or incentive. (Bozarth 2006:4–5.)

It can be argued that this type of academic will be categorised as an *innovator* on the technology adoption cycle since they enjoy exploring new ideas and are driven by intrinsic motivators (Zemsky & Massey 2004:9), as outlined in section 4.2.1 of chapter 4. One can also assume that such an employee will portray the *activist* learning style of Honey and Mumford (1982) since they prefer to deal with new challenges and experiences, is action oriented, and are good adaptors, as outlined in section 4.2.2 of chapter 4. This type of academic will most likely be categorised with a high *dominance* factor on Thomas International's (sa) DISC personal profile patterns, since they are competitive, have high performance standards, are focused on achieving goals and solving problems, and easily accept challenges as described in section 4.2.3 of chapter 4.

On the other hand, academics that resist new approaches and technologies are more often than not operating from a teacher-centred perspective, viewing themselves as the one and only source of knowledge (Bozarth 2006:5; Hanley 1994:3). These employees are typically fearful that technology may interfere with their association of control and authority (Hanley 1994:3). Whereas learner-centred instructors make use of freely-structured lecture plans and innovative learning techniques, instructors who use a more teacher-centred approach follow the textbook and lesson plan strictly (Jonassen 1991:28). These online learning facilitators therefore follow a traditional, behaviourist approach (Bozarth 2006:5; Jonassen 1991:28).

It can be argued that academics that follow the teacher-centred approach will be more likely to portray a lack of e-readiness than those who follow a learner-centred approach. This type of employee portrays distinct similarities with the *late majority* category on the technology adoption cycle since they dislike the disruptions of new technologies and are conservative in their thinking (Zemsky & Massey 2004:10), as outlined in section 4.2.1 of chapter 4. One can furthermore assume that such an employee will portray the *theorist* learning style of Honey and Mumford (1982), since they prefer and need sufficient time to explore the relevance between ideas and scenarios and need to review information, analyse, and form abstract concepts and generalisations before

acting, as outlined in section 4.2.2 of chapter 4. This type of employee will most likely be categorised with a high *compliance* factor on Thomas International's DISC personal profile patterns, since they consider the manner in which rules and procedures are followed, are concerned with accuracy, consider each possibility before making a decision, and prefer systems, processes, procedures, as well as predictable and consistent outcomes (Thomas International, sa), as described in section 4.4.3 of chapter 4.

- **Beliefs about quality of e-learning**

For many academics, the start of e-learning brought many challenges and many ideas and philosophies about adult learning and what constitutes up-to-standard acceptable teaching (Robertson 2008:824). Implementation of e-learning also often requires that academics should challenge their belief systems and ideas regarding what comprise teaching and learning (Sharpe, Benfield & Francis 2006:135; Robertson 2008:824). It is advisable that educators engage “in dialogue about personal practical theories of learning and teaching” (Errington 2004:43) in order to review and revise their theories and practices to support sustainable changes to teaching practice (Robertson 2008:824). It is again emphasised that the willingness to use e-learning usually goes hand-in-hand with the willingness to adapt teaching and learning strategies.

- **Personality factors**

Distinct patterns between personality traits and approaches to work relative to the use of technology in teaching and learning can be seen (Bozarth 2006:6). Academics who successfully integrate technology with teaching and learning are often described as pioneers, explorers and risk-takers (Zemsky & Massey 2004:9) and also display a broad-mindedness for uncertainty and willingness to make mistakes (Bozarth 2006:6–7). Early adopters to technology can further be described as finding excitement in innovative ways of working and perceiving use of a fresh approach as an intellectual challenge (Zemsky & Massey 2004:9).

It is evident that human factors such as personality play a role to the use of technology and thus e-readiness. Section 4.2.2 recorded a relationship between personality and learning styles. In this regard an employee's position on the technology adoption cycle and his/her personal work profile pattern will also play a role as they are human factors, relating to personality (Thomas International sa).

- **Vision for education and training**

Online learning facilitators who successfully integrate technology in teaching and learning have a common belief that technology provides a valuable tool to realise their visions of teaching and learning. These facilitators have strong visions of classroom technology use and therefore do not appear to be easily disturbed by typical implementation obstacles. On the contrary, many of these online learning facilitators achieve high levels of use despite the lack of equipment, training, or time. Their refusal to give up in the face of difficulty allows them to overcome obstacles that usually keep others from proceeding. On the other hand, online learning facilitators who view technology as a presentation tool, or “add-on”, rather than the means of enhancing practice, are far more likely to report barriers. (Bozarth 2006:7–8.)

Most of the academics at the NWU, Potchefstroom campus, use the e-learning platform as an “add-on” to classroom teaching, where information (announcements, study notes, power point presentations and other documents) are distributed and not as an interactive learning tool (Le Roux 2009). As it is used merely as a distribution mechanism, e-learning is not applied to its fullest extent as a learning tool and will therefore not produce enhanced learning results.

The abovementioned barriers to e-readiness supports various notions/conclusions made in the previous chapter with regard to personal profile patterns, learning styles and pace and adoption to technology:

- Employees' position on the technology adoption cycle will influence their perceptions of teaching and learning online. Employees who adapt easily to the use of technology in teaching and learning will be unlikely to portray a lack of e-readiness and will in most probability use the e-learning platform to enhance the teaching and learning experience of learners. On the other hand, employees who adapt slowly or resist the use of technology in teaching and learning will be more likely to portray a lack of e-readiness and will in most probability need more motivation and development opportunities to use the e-learning platform maximally.
- Employees' personal work style preferences will influence their adaptability to the use of technology in teaching and learning and therefore, their level of resistance to e-learning. Some employees (eg innovators) will eagerly embrace new challenges and changes in the workplace, whereas others (eg late majority) will slowly adapt to changes in the workplace.
- Employees' learning styles will influence their preferred manner in which employee development should take place. Learning styles also indicate how easily or slowly an employee will adapt to new job demands.

It is thus evident that addressing barriers to e-readiness should be approached differently with each online learning facilitator, based on his/her personal profile pattern, learning style and pace and style of technology adoption. It is furthermore evident that an online learning facilitator's practices and beliefs pertaining to teaching and learning in general, will influence his/her perception on the use of e-learning. It may be necessary to first address an online learning facilitator's teaching and learning theories/beliefs before the technology is introduced, as argued in the previous section.

5.4 CONCLUSION

This chapter highlighted the 21st century higher education environment and focused on various challenges posed to HEIs, regarding the changing demographics of students, a shift from traditional learning towards lifelong learning and the increased competition among HEIs. Given the 21st century higher education context, the

chapter also focused on two types of learners and their expectations: Generation Y and underprepared learners.

Generation Y learners have teaching and learning needs and preferences, different from traditional learners, that should be catered for by HEIs if they do not want to lose their competitive edge. One of the most significant preferences of Generation Y learners, identified in this chapter, is their preference for the use of technology. It is thus apparent that HEIs need to embrace the use of technology in teaching and learning, considering not only the technological advancement, but also the changing educational environment, the rise of the knowledge economy, the emphasis on and need for lifelong learning and the changed profile of the 21st century learner.

Furthermore, in many instances, learners entering the higher education environment are underprepared for higher education. Thus, it is required of HEIs to find ways in which to improve the academic literacy of learners to enhance their learning and enable them to live up to the demands expected of them in their academic programmes. Academic underpreparedness especially relates to inadequate reading and writing skills. It can therefore be argued that HEIs should make provision for academic literacy programmes, enhancing these abilities of learners.

It became evident that the increased need for higher education among working individuals/adults and the changing demographics of learners resulted in a higher demand for higher education of non-traditional learners. It can further be argued that public HEIs, such as universities, must ensure they provide in the needs of the adult learner to prevent them from losing learners to private sector HEIs.

Enabling factors to e-readiness were outlined and discussed and the following indicators of the e-readiness of academics have been established and included in an e-readiness construct:

- technical experience and computer literacy
- charisma and communication skills
- self-awareness

- access and connectivity to an IT infrastructure
- utilisation of the platform provided by the organisation
- motivation to become a self-driven learner
- exercising of learning styles and attitudes to take responsibility of training
- experiencing a culture of learning and support
- comfortableness with teaching online
- willingness to teach online
- use and purpose of e-learning
- knowledge and adaptability of teaching and learning strategies

Since a lack of e-readiness usually causes resistance to e-learning, various barriers to e-learning have been discussed. The underlying causes for e-learning resistance could be linked to a lack of e-readiness and emphasised the need for adequate and comprehensive e-learning training and development.

An empirical study has been conducted to verify the theoretical framework and assumptions made in this chapter and the preceding chapters. The next chapter discusses the results of the empirical study.

CHAPTER 6

PROFILING THE NORTH-WEST UNIVERSITY

6.1 INTRODUCTION

In preceding chapters a review of scholarly literature has been conducted on the various aspects related to key human factors in the e-readiness of academics. This chapter applies the theory derived from the literature review to the human resource practices at the NWU, Potchefstroom campus. Consequently, this chapter provides a profile of the current human resource performance appraisal processes and practices at the NWU. Further the NWU practices pertaining to employee development and related human resource practices such as career management, career development and talent management are also reviewed. The profiling of the performance management and employee development practices are being done with a view to determine whether provision is made for the assessment of the e-readiness of academics during their performance appraisals, as well as the subsequent employee and development interventions to follow these performance appraisals.

The chapter also profiles the NWU learner in terms of e-learning preference and to determine whether the average undergraduate learner can be categorised as a Generation Y learner.

6.2 HUMAN RESOURCE PERFORMANCE APPRAISAL AT THE NWU

As explained in chapter 2, the process of human resource performance appraisal takes place within the human resource performance management process of an organisation. At the NWU the performance appraisals of academics take place within the University's *Performance management policy*, which is aligned with the NWU *Institutional plan, 2010–2012*. One of the goals set in the *Institutional plan* is to optimise the integrated performance management system with suitable development opportunities, recognition programmes and incentive programmes for employees (2009b:9).

The NWU has approved its *Performance management policy* on 6 December 2005 with the following two primary objectives (NWU 2005a:2):

- to provide an integrated framework for the enhancement of performance and outputs of the University and all its sections
- to provide a structured process and framework for the identification of performance problems and developmental needs for employees

The *Performance management policy* of the NWU thus echoes the principle of identifying and providing in developmental needs of employees as part of the performance management process, as identified in literature and explained in chapter 2. This principle is also indicated as one of the guiding principles in the NWU *Performance management policy*: “A performance management system is primarily aimed at development, and should therefore be distinguished from other systems such as remuneration and promotion” (NWU 2005a:2) and the *Institutional plan, 2010–2012*, of the NWU: “Optimize the integrated performance management system, with appropriate development opportunities, recognition programmes and incentive programmes for staff at identified levels” (NWU 2009b:7). It is thus evident that the NWU management acknowledges the need for employee development. The policy (NWU 2005b:2) also makes provision for and describes the need for personal development plans for academics and indicates that the performance appraisals of academics is based on a performance agreement (Annexure G) and a personal development plan (Annexure H) (NWU 2005a:2).

Another guiding principle of the *Performance management policy* relevant to this study is: “Performance management should encourage creativity and innovation within an ordered system with a clear and agreed understanding between managers and staff on all levels” (NWU 2005a:2). To “encourage creativity and innovation” in the academic environment is a vital principle for the successful implementation of e-learning. It is thus evident that the use of creative and innovative teaching methods, including the use of e-learning, is supported by the NWU. This principle is further supported by the University’s *Teaching and learning framework* (NWU 2009a:16). The personal development plan makes provision for training and development in the

category “Teaching and learning” (see Annexure H). E-learning training and development can therefore be included in this section of an academics’ personal development plan.

The *Performance management policy* (NWU 2005a:7) also makes provision for a self-evaluation form (Annexure I) to be completed by academics. This forms the basis of a development oriented assessment discussion with the relevant line manager. However, provision for the inclusion of technology in teaching and learning as such is not made on the self-evaluation form, but provision is made for the “Effective use of appropriate teaching media” (see Annexure I). Academics thus can assess themselves pertaining to the use of technology in teaching and learning. However, if an academic lacks e-readiness, this category will merely be used for the use of other appropriate teaching media. In this respect the line manager plays a significant role. To ensure that teaching and learning is optimised through e-learning and to comply with the University’s mission, the line manager must ensure that academics are well-skilled and trained to provide quality teaching and learning.

From the *Performance management policy* and the *Teaching and learning framework* of the NWU, it is evident that e-readiness assessment is not included in the performance appraisals of academics at the NWU. The Director: Human Resource Management (HRM) at the NWU confirmed this and explained that the lack of e-readiness assessment of academics can be attributed to the fact that the use of technology in teaching and learning is not compulsory at this stage (De Wit 2010). He is, however, of opinion that this has to change due to the changing needs of university students and the technological era which necessitates that a mind shift needs to take place amongst academics in order to accomplish this (De Wit 2010).

The inclusion of the e-readiness assessment of academics in performance appraisals calls for new and adjusted policies. The current *Performance management policy* of the NWU will have to be adjusted to make provision for the inclusion of e-readiness. The introduction of e-readiness assessment in the performance appraisals of academics will also impact on other human resource policies:

- *Recruitment* – if e-learning becomes a compulsory job requirement, it must be included in the *Recruitment policy* and indicated in job advertisements. Academics would have to be assessed on their e-readiness before they are appointed or they should be appointed on a probationary period and their permanent appointment should be subject to an acceptable level of e-readiness. In the latter case an academic can undergo a development programme, once he or she is appointed.
- *Service contracts of academics* – If compulsory, e-learning should be included in the service contracts of academics and be described in *Human resource management policy* of the NWU.
- *Teaching and learning framework* – The current *Teaching and learning framework* should be adjusted to make provision for the e-learning training and development of academics, broader than providing merely basic technical skills. Academics should also be trained how to incorporate and adjust new teaching and learning strategies and what the most appropriate ways of the use of e-learning will be to enhance teaching and learning training should be incorporated of a broader teaching.

It can be argued that, in addition to the above mentioned adjustments to policies, a separate policy for e-learning will be advisable and also be of value as it will outline the use and purpose of e-learning; the University's position on e-learning; as well as guidelines and directives of e-learning as teaching and learning tool. Prior to the adjustment or introduction of the abovementioned policies, it is necessary for Institutional Management of the NWU to consult all stakeholders, including the Workplace Forums and labour unions (SA 1995:63–64). It is thus evident that the inclusion of e-readiness assessment in performance appraisals will have a broader impact on the human resource management of the academics of the NWU than merely adjusting the human resource performance appraisal process and the *Performance management policy* of the NWU.

In chapters 2 and 3 of this study it has been alluded to that performance appraisal consists of not only an assessment component, but also a developmental

component. The next section subsequently reviews the employee development practices at the NWU.

6.3 EMPLOYEE DEVELOPMENT AT THE NWU

Chapter 3 pointed out that within the broader human resource management system, the process of employee development logically flows from an employee's performance appraisal from which an employee's development needs are identified (Rademan & De Vos 2001:54; cf Grobler et al 2002:260;266). It has also been mentioned that employee development is aimed at assuring that all employees possess the competence required to optimally perform their duties (Jacobs & Washington 2003:344). Academics who teach online, but are not trained as online learning facilitators, experience difficulty to meet the demands of the e-learning environment (Johannes 2007:6). E-learning training and development is therefore necessary.

In the interview with the Director: HRM at the NWU, Potchefstroom campus, he indicated that, given the fact that the world is using technology more and more and students are expecting e-learning to be included in their academic programmes, the NWU has to ensure that its academics are skilled to use e-learning. Therefore, academics need to be trained and developed to obtain this skill. The Director: HRM further indicated that, in his experience, according to their research/experience, academics, especially older employees, do not like the disruptions of new technology. He referred to the fact that current university students belong to a different generation than most of the academics and is therefore of the opinion that academics need to be made aware of the different generations and their needs. Alternatively the NWU stand the risk of losing its students if it does not adapt to and include e-learning in academic programmes. This necessitates the need for the assessment of e-readiness to ensure that academics are equipped to fulfil their online teaching duties. (De Wit 2010.)

The Director: HRM further confirmed that e-readiness assessment and the subsequent e-learning training have to be coupled with a personal development plan for each academic (De Wit 2010). He is of the opinion that it is the university's

responsibility to its staff to develop and empower them, even if they may not be employed by the NWU for the rest of their careers (De Wit 2010). This broad minded and visionary remark from the Director: HRM indicates that he comprehends the importance of training and development as motivational tool, leading to better performance. It is also refreshing that he is willing to make this investment in employees, irrespective whether they will be retained. The Director: HRM clearly grasps the global tendency to move away from being employed to being employable. Literature (Judhi, Pa'Wan, Othman & Moxsin 2010:1; Vermeulen 2010:12; UNECE 2010:13; Sieber 2008:2) reveals that although employees mostly no longer can rely on organisations for long-term employment, they are increasingly expecting employers to provide career support and enhance their internal and external employability. This is likely to have a positive influence on employees' motivation and consequently enhance performance.

At the NWU, employee development, in terms of teaching and learning, is integrated in the *Institutional plan, 2010–2012*, of the NWU, calling for the continuous improvement of the quality of teaching and learning (NWU 2009b:14). It is therefore compels the NWU to have well-skilled and competent academics to provide such quality teaching. It can be argued that line managers, as being responsible for academics' performance appraisals, have to support academic staff in skills development, including an acceptable level of e-readiness.

6.3.1 Employee training and development programmes at the NWU

Employee development at the NWU is guided within the parameters of the *Teaching and learning framework* (2009), the *Teaching and learning policy* (2007) and the *Staff development policy* (2005) of the university. The *Teaching and learning framework* of the NWU outlines the broad approach of the University towards teaching and learning (NWU 2009a:i) and the alignment of teaching and learning goals, objectives, principles and practices to the goals and objectives of the *Institutional plan, 2010–2012* of the university (NWU 2009b:2–4). The *Teaching and learning policy* firstly aims to ensure that teaching and learning at the university is practiced within the parameters of national legislation and adheres to the principles for effective outcomes-based education in the Higher Education Sector (NWU

2007a:1). Secondly, the *Teaching and learning policy* aims to implement the mission statement of the NWU, to: “Develop, educate and empower through quality teaching and learning, well-rounded graduates, able to think laterally and critically and to serve the country and its people” (NWU 2007a:1). The objectives of the *Staff development policy* are to make the availability of competent, efficient and effective human resources for the NWU possible; and to provide a structured framework for the development and learning of employees (NWU 2005b:1).

The guiding principles stated in the *Staff development policy* (NWU 2005b:1–2) have already been identified as core aspects relating to employee development and performance management in literature and outlined in preceding sections of this study:

- “Opportunities for learning and development will be accessible to all staff members, provided that it is aligned with the needs and goals of the University and within budgetary constraints” (NWU 2005b:1). See sections 2.2.1 and 2.2.2 of this study.
- “The allocation of resources for staff development will be fair, as determined by the strategic aims and objectives of the University” (NWU 2005b:1). See section 2.2.1 of this study.
- “Staff development programs will be competency based, i.e. focusing on the development of knowledge, skills and attitudes/values as appropriate for the staff member in a specific position” (NWU 2005b:1). See sections 2.2.1, 2.2.2 and 3.2.1 of this study.
- “Staff development interventions must be planned and executed in a structured way. The line manager in participation with the staff member is responsible for the identification of staff development needs, in co-ordination with and based on assistance by the Human Resources department. Training may be provided in-house or sub contracted as needed” (NWU 2005b:1). See sections 2.2.1, 2.2.2, 3.2.1 and 3.2.2 of this study.
- “Staff development should follow from the annual formulation of a personal development plan for every staff member in a systematic and integrated manner” (NWU 2005b:1). See sections 2.2.1, 2.2.2, 3.2.2 and of this study.

- “This personal development plan results as the output from the performance management system” (NWU 2005b:1). See sections 2.2.1, 2.2.2 and 3.2.2 of this study.
- “The outcome of staff development interventions must add value to the attainment of the goals and objectives of the University” (NWU 2005b:2). See sections 2.2.1, 2.2.2, 3.2.2 and 3.2.4 of this study.

It is thus apparent that the NWU is committed to the enhancement of employee performance through structured and well-planned employee development opportunities. From the perspective of this study however, specifically exploring the e-readiness of academics, it is necessary to make adjustments or additions to the current policies and programmes to enhance the e-readiness of academics. It will include the consideration of key human factors such as an employee’s personal work profile pattern, preferred learning style and pace and style of technology adoption, which are discussed in chapter 4. Further, provision for development of only the technical skill is currently included in e-learning training and should be expanded to include the use of teaching and learning strategies to optimally use e-learning as learning tool.

The *Teaching and learning framework* (2009a:17–18) outlines two development programmes currently offered by the Potchefstroom campus of the NWU:

- **The Institutional course for new lecturers (ICNL)**

The Institutional course for new lecturers (ICNL) is a compulsory programme for newly-appointed academics (NWU 2009a:17). The ICNL provides basic knowledge and skills pertaining to outcomes-based teaching principles and practices, and includes brief, concise training in research (NWU 2009a:17). The ICNL runs in two phases (NWU 2009a:17):

- Phase I is offered by the Institutional academic and development and support (ADS) office, consists of information training sessions and workshops, focusing

on various aspects of both research and of teaching and learning, including mini-contact sessions presented by the new lecturers themselves.

- Phase II, a mentoring programme, is arranged by the ADS office of a particular campus and requires the presentation of a contact session by a new academic, under the guidance and leadership of a mentor from the particular campus' ADS office and a subject-specialist from the particular school in which the new academic is employed (see Annexure J) for the evaluation form of the contact session. Phase II also includes the attendance of three compulsory workshops (NWU 2009a:17):
 - the writing and use of a study guide
 - group-work as teaching tool
 - e-learning (basic training on the e-learning platform)

It is apparent that the ICNL is addressing sound teaching and learning principles and practices. However, the basic training of the use of the e-learning platform's tools can be identified as a shortcoming. Academics, as subject experts and not educational experts, should be schooled in the use of teaching and learning strategies and how to apply these with the use of technology in teaching and learning. Although teaching and learning strategies are included on a foundational level, it is not specifically targeted for the use of technology in teaching and learning and is mostly focused on classroom teaching and learning.

- **The Institutional teaching excellence award (ITEA)**

Another development programme offered by the NWU is the Institutional teaching excellence award (ITEA). The aim of is to encourage academics to enhance their teaching skills and to give evidence-driven classes (see Annexure K) for contact session requirements and Annexure L for the assessment scorecard for contact sessions) and a portfolio with study material, assessments, the use of teaching and learning strategies, the use of media and innovation, peer assessment, student evaluation and the academic's teaching philosophy (see Annexure M) for portfolio requirements and Annexure N for the assessment scorecard of the portfolio) to prove

that their teaching practices are outstanding reflections of outcomes-based teaching principles that should result in effective learning (NWU 2009a:17).

The NWU *Teaching and learning framework* (2009a:17) makes, in addition to the ITEA as award for excellent teaching practice, also provision for a developmental opportunity to young and inexperienced academics to optimally improve their teaching practices by means of structured and planned workshops and under the guidance of an skilled academic advisor and an academic peer from the same academic discipline. For this developmental leg of ITEA the Development ITEA is awarded for noteworthy improvement of teaching capability (NWU 2009a:17). Academics that are eligible for participation in the ITEA programme must be nominated by their dean/school director (NWU 2009a:18). The ITEA process includes (NWU 2009a:18):

- observation and evaluation of three contact sessions (one scheduled and two unscheduled) by the evaluation panel
- student feedback on the lecturer's teaching
- the evaluation of a teaching portfolio compiled by the academic

A financial incentive is allocated to the ITEA as follows (NWU 2009a:18):

- The prestigious ITEA amounts to R30,000 for academics who achieve 80% and above.
- Academics who achieve between 75% and 79% in the programme receive an amount of R25,000.
- Academics who complete the Development ITEA programme successfully with an average mark between 70% and 74% are awarded an amount of R20,000.

The focus of the ITEA programme is precisely on the teaching aspects that are argued for in this study: applying innovative teaching strategies, including technology, facilitation rather than lecturing, interactivity and high class participation, teaching on the relevant National Qualifications Framework (NQF) level and applying Bloom's taxonomy applicably to these levels. Also a positive aspect to the ITEA

programme is the financial incentive attached to it, serving as motivation. The shortcomings that can be identified, however, is that the use of teaching and learning strategies to enhance the use of e-learning as learning tool is not specifically dealt with in this programme and it is assumed that the academic already is competent in this respect, unless the employee entered the Development ITEA. However, as with the ICNL, when an employee entered the Development ITEA, the development is not specifically targeted on the adjustment of teaching and learning strategies for the use of technology in teaching and learning and is mostly focused on classroom teaching and learning.

In addition to the ICNL and the ITEA, the University also offers the following employee development programme:

- **A management skills development programme (MSDP)**

The management skills development programme (MSDP) was introduced in 2008 as an exclusive programme for top management and since 2009 it was also offered to deans of faculties and school directors (De Wit 2010). This programme focuses on management skills and not academic skills (De Wit 2010). The following topics are included in the programme content (NWU 2010a):

- Managing both functional and dysfunctional conflict for optimal outcomes.
- Establishing a value-driven work environment.
- Establishing the empowerment and competencies for effective planning and successful execution.
- Learning to negotiate for win-win outcomes; also enhancing relationships.
- Developing an ability to know when and what to change, and the competence to complete the change process.
- The practical application of values.
- The building up of customer relations.
- The valuing of diversity.
- The importance of competitive intelligence.
- The valuing of teamwork.

- The building of trustworthiness.
- The value of performance orientation.
- The importance of the 360° managing spectrum.

In consideration of the purpose of this study it may be sensible to include change management for line managers, guiding them as to how to lead academics to the acceptance of the changed job requirement of including technology in teaching and learning. It would therefore also be helpful if line managers were trained in motivational skills to better motivate employees. Line managers should also be made aware of their roles and responsibilities pertaining to the identification of training and development needs of academics, as well as given the opportunity to attend such training and development sessions and providing the necessary support to academics.

According to Erasmus et al (2005:297) career development and career management should be part of the development planning process. Therefore, the next section reviews the role and place of career management at the NWU.

6.3.2 Career management programmes at the NWU

The NWU do not have a career management policy as such, but does to some extent make provision for it through the *Institutional plan, 2010–2012*, and the *Staff development policy*, which are discussed below.

- **The Institutional plan, 2010–2012**

In terms of career management, the *Institutional plan, 2010–2012* indicates that the NWU intends to:

- continue with employee development as currently is the case (see section 6.3.1), and will manage individual personal development plans and career plans (NWU 2009b:28)

- define mechanisms for employee retention, including mentoring and coaching, to ensure qualification for career development and promotion (NWU 2009b:28)
- improve the existing talent management strategy to integrate practices such as capacity building, succession planning, mentoring and coaching (NWU 2009b:28)
- keep on implementing the talent management programme, which is connected to development opportunities and rewards, in order to retain high performers (NWU 2009b:28)

Although personal development plans are in practice to some extent at the university, the use of career plans is not commonplace (De Wit 2010). Further, mentoring and coaching, as with career management, is currently not widely practiced at the NWU (De Wit 2010). The university is currently in the process of drafting a talent management strategy that will be applied for academics (De Wit 2010). The strategy is, however, in its infant phase and not being implemented yet as it still has to be approved at the university's Senate. It can however, be argued that a talent management strategy will positively enhance career management practices such as mentoring and coaching, succession planning and employee development at large, especially as an integrated approach will be followed.

The literature review in chapter 3 revealed that mentoring and coaching can be integrated into a career management plan to develop academics' levels of e-readiness and their skill to effectively make use of e-learning. In this case the coach will not necessarily be the line manager, but a person that is skilled in the technical ability of e-learning. The coach can help the employee to develop online skills and to master the tools of the e-learning platform. In other words, the coach will contribute to the "e" in e-learning. The mentor can be the line manager, a senior academic that is experienced in educational strategies, or a teaching-learning advisor from the ASS Unit. The mentor's role will be to develop the academic's educational knowledge and school the employee in the philosophy and use of e-learning. The mentor should also provide guidance regarding the use of various teaching and learning strategies, most relevant to the learners' needs and preferences with the ultimate goal of optimising learning. The mentor will thus contribute to the "learning" in e-learning.

It can be argued that an integrated approach (where human resource practices such as mentoring and coaching, career development, succession planning and talent management are all aligned to career management), is most likely to strengthen the effectiveness of a career management programme and will prevent managers from following a silo approach.

- **Staff development policy**

The *Staff development policy* indicates that:

- “Career planning and staff development is primarily the responsibility of the individual staff member, and supported by management” (NWU 2005b:1). This principle also appears in the *Academic staff promotion policy*, stating that “the organisation should create the environment and framework within which individual staff members can optimise their potential” (NWU 2005a:2). Line managers are responsible for adhering to the *Staff development policy*, including the process and procedures thereof, whereas the Human Resources Department is responsible for the *administration process*, and the provision of management information (NWU 2005b:2).

The principle of career planning being the responsibility of the employee, within a conducive and supportive environment provided by the organisation, is supported by the recent literature in the field of career management (see sections 3.3.1 and 3.3.2). It will be necessary, however, to clearly communicate this policy to employees and provide an opportunity for open discussion and questions to clarify what is expected of the employee and how the university will assist in terms of career management. Also the principle pertaining to responsibilities allocated to the line manager and the Human Resources Department respectively corresponds with literature (see sections 3.2.3 and 3.2.4).

It can be argued that the implementation of the planned talent management programme will make a significant difference in terms of career planning and development of academics. The integrated approach will ensure that monitoring and review of the talent management programme are done against the Human Resource

Plan and the *Institutional plan* (DPSA 2008:7). Further, the holistic integrated approach of talent management, career management, succession, planning and mentoring and coaching will ensure that all areas of the academic's capabilities and development areas are addressed and that it is aligned to organisational goals (cf DPSA 2008:9). Important though, is that the talent management programme must be correctly implemented and monitored. Correct implementation entails buy-in and commitment from senior managers who need to pilot the programme (Vermeulen 2008:413).

Best practices for talent management reveal that it should be a strategic approach, driven by senior managers (McCauley & Wakefield 2006:5). Best practice research (Albertsson 2003:3; McCauley & Wakefield 2006:5) further reveals that line managers must be aware of their role and responsibilities and will in all likelihood play a significant role in terms of mentoring and motivating staff as they are responsible for getting the work done as well as for developing the employees they manage and are therefore essential to making talent management succeed. It can be argued that with regard to the inclusion of development for e-readiness of academics in their development plans, line managers will have to be particularly attentive to motivating employees as the new job demand of e-learning may not necessarily be congruent with the employee's personal career goals.

In addition to senior managers and line managers, the Human Resource Management Department also has a significant role to play. The Human Resource Department will be responsible for the administration, policy-making and support to managers. Best practice research revealed that organisations that excel at talent management connect the critical owners of talent (senior managers, the Human Resource Management Department and line management) together to drive the organisation to increased performance (Mucha 2004:100).

It can be argued that the talent management programme will also contribute to employee performance. Surveys held with employees, employed by institutions that excel at talent management and retention indicate that leaders in their institutions go the extra mile to develop subordinates and grow leaders to follow in their footsteps

(Corporate Leadership Council 2003:3). Thus, not only the employee, but also the NWU at large will benefit from talent management programmes.

As indicated in this section a number of employee development programmes are already in place at the NWU, but in none of these the enhancement of the e-readiness of academics as part of a broader teaching and learning approach is dealt with. Therefore, attention must be given to the drafting of a personal development plan that makes provision for uniquely structured training and development interventions for each employee. It is advisable that these training and development interventions not only be focused on the technical skill of e-learning, but follow a broader teaching and learning approach, including the philosophy of e-learning and the use and adaptation of teaching and learning strategies to obtain optimal student learning. These training and development opportunities can be incorporated in a career management programme or a talent management programme.

6.4 THE NWU LEARNER

Chapter 5 described the 21st century learner as mostly belonging to the so-called Generation Y. Chapter 5 also indicated that the 21st century higher education environment is characterised by underprepared learners. This section profiles the NWU learners in terms of their generation and preparedness for higher education.

6.4.1 Generation Y learners

It has been determined in chapter 5 that Generation Y learners have teaching and learning needs and preferences that differ from traditional learners. One of the most significant preferences of Generation Y learners, identified in this chapter, is their preference for the use of technology

The vast majority of undergraduate learners at the NWU are Generation Y learners. Table 6.1 below indicates the statistics for undergraduate learners at the Potchefstroom campus of the NWU, as well as the total amount of undergraduate students across all three campuses of the NWU: The Potchefstroom campus, the Mafeking campus and the Vaal Triangle campus:

Table 6.1: Undergraduate learner enrolments at the NWU

Year of birth	2010 Undergraduate contact learners (Potchefstroom Campus)		2010 Undergraduate learners (All campuses)	
	Total	%	Total	%
1992	89	1,2	555	4,4
1991	2 774	37,8	4 033	32,2
1990	876	11,9	1 668	13,3
1989	298	4,1	730	5,8
1988	605	8,2	919	7,3
1987	383	5,2	623	5
Total	5 025	68,4	8 528	68
Total of undergraduate registrations	7 342		12 537	

Source: NWU (2010b).

The information in table 6.1 reveals that at least a total of 68,4% of undergraduate learners at the NWU, Potchefstroom campus can be categorised as Generation Y and 68% of undergraduate learners at the NWU as a whole (including all three campuses) can be considered as belonging to Generation Y. As mentioned, this generation's behaviours, approaches and preferences differ from those of other generations as a result of their exposure to technology, and in many instances the outlook of Generation Y learners also differs considerably from that of university management and academics (Westerman 2007). This reality implies that teaching and learning strategies may have to be adapted to focus on the enhancement of Generation Y learners' learning as indicated in the discussion above. Academics have to come to the realisation that traditional classroom teaching and learning strategies will not appeal to these learners and will not obtain optimal learning results. It is also necessary for senior managers at HEIs to take cognisance of the facts and put structures and policies in pace to formalise the use of technology in teaching and learning.

The Academic support services unit of the Potchefstroom campus of the NWU took a step in this direction by conducting a survey pertaining to e-learning during 2010. The aim was to amongst others determine learners' preferences and perceptions

pertaining to the use of technology in teaching and learning¹². A total of 1 284 undergraduate learners participated in the survey of which 88,45% were under the age of 25 years. Both male (46,11%) and female (52,63%) learners participated in the survey and mother tongue languages were represented as follows: 78,95% of learners were Afrikaans, 7,23% Setswana, 4,01% English and 3,69% Sesotho. Therefore, learners who participated in the survey represented the demography of the NWU, Potchefstroom campus to a great extent. (NWU 2010e:1.)

Some of the results obtained in the survey, relevant to this study are:

- On a question whether learners would prefer to receive all study material electronically if money was not an issue (adding to printing costs), 50,7% of learners indicated that they would prefer this manner of distribution. The other 49,3% indicated that they would still prefer to receive study material in hard copy (NWU 2010e:3).
- When asked to which extent learners want e-learning incorporated in their courses, 9,2% indicated they prefer modules only using technology, 25,8% prefer modules that mostly use technology, 50,6% prefer modules that have a relative average use of technology, 10,8% prefer modules with a limited number of technology and 3,6% prefer modules where technology is not at all incorporated (NWU 2010e:6).

The abovementioned results prove the majority of learners (96%) prefer the inclusion of e-learning in their courses to various extents, thus supporting the discussion in chapter 5 pertaining to Generation Y's preferences.

It is evidently clear from the abovementioned statistics that the vast majority of learners at the NWU are Generation Y learners. These learners prefer new, innovative methods of learning and the traditional approach of teaching and learning does not appeal to them. These learner preferences, together with global technological advancement and the shift towards e-learning (OECD 2004; Bennet 2002:2; Albright & Nworie 2008:15), compel academics to adapt their teaching and

¹² More aspects of e-learning were also included in the survey, but are not discussed as it does not form part of the scope of the study.

learning practices to better address their learners' needs. In this regard, e-learning training that includes the use of appropriate teaching and learning strategies for the use of technology in teaching and learning is important. The learner profile calls for well-skilled online learning facilitators who are willing to adapt their teaching and learning approaches to accommodate 21st century learners.

As a step in moving towards making provision for the needs of generation Y learners, the NWU piloted an e-learning project at the beginning of 2011. The next section elaborates on this pilot project.

6.4.2 Task group and pilot project: technology in teaching and learning

The Faculty of Theology on the Potchefstroom campus of the NWU commenced with a teaching and learning with technology project at the beginning of 2011. The aim of the pilot project is to determine whether the initiative taken at the Faculty of Theology can be implemented in the rest of the campus, based on the successes and failures experienced in this project (NWU 2010c:3). The project is undertaken by the Teaching and learning with technology task group of the Potchefstroom campus which was established during 2010 (NWU 2010c:1). The task group functions under the leadership of the Vice Rector: Teaching and Learning of the Potchefstroom campus and is chaired by the Dean of Theology (NWU 2010c:1). The mandate of the task group is to:

- establish a broad decision-making criteria framework pertaining to the use and integration of technology in teaching and learning at the Potchefstroom campus of the NWU, in consideration with national initiatives in this regard
- determine current teaching and learning policy and processes and revise it within the framework of strategic and tactical considerations
- determine whether teaching and learning with technology initiatives were taken on the other campuses of the NWU to benchmark and learn from such initiatives with the aim of optimal synergy (without reducing the rate of development at the Potchefstroom campus)
- plan and implement specific projects on the short and long term

At the beginning of the 2011 academic year each first year Theology students were issued with a laptop. The laptops have WiFi¹³ connectivity. Before classes commenced students received training in the use of the laptop, the software uploaded to it and the use of the e-learning platform (NWU 2010c:3;5). First year Theology academics also received e-learning training (NWU 2011:2). Progress reports will be drafted throughout the course of the project to determine challenges and find solutions. The lessons learnt from the challenges experienced during the pilot project can be used to improve the implementation of the project at other faculties at the NWU. The establishment of the task group and the subsequent pilot project in the Faculty of Theology are thus positive steps towards the enhancement of learning through the use of technology. The increased use of technology in teaching and learning is likely to appeal to Generation Y learners.

The NWU's commitment to enhance the learning of the second type of 21st century learner, the underprepared learner, is discussed in the next section.

6.4.3 Underprepared learners

In chapter 5, section 5.2.1.2, it has been determined that academic preparedness for higher education presupposes learners' academic proficiency that includes abilities such as reading, writing, note taking, exam writing (Brüssow 2007:133–134). Academic preparedness also includes the ability to effectively study, solve problems, and think critically and analytically to make adequate progress through a higher educational academic programme (Dzubak 2005:2).

Learners on the first year level at higher education should ideally be able to read an amount of 400 words per minute with an 80% correctness level, but 350 words per minute and a 70% correctness level is regarded an acceptable level to pass an academic programme (Nel 2010; Beukes 2010). However, a significant number of learners entering their first year of study at the NWU are not able to read at these

¹³ WiFi is "used to certify the interoperability of wireless computer networking devices" (Webster 2011).

levels (Nel 2010; Taljard 2010). Therefore, the NWU, as other HEIs, face challenges to identify initiatives to support students' underprepared for higher education (Brüssow 2007:127). The NWU, Potchefstroom Campus, has established the Centre for Academic and Professional Language Practice (hereafter referred to as the Centre). The Centre provides support programmes such as: learner academic literacy, a reading laboratory and a course in computer and technology skills. (Taljard 2010.)

According to Taljard (2010) the academic literacy support programme at the NWU commences with a test (Test for Academic Literacy Levels – TALL) that all first time first year learners at the university should write. The TALL is classified as a medium stakes test, meaning that it determines academic programmes to which learners will be able to learn most suitably and not to merely disqualify learners. If learners fail the TALL they are obliged to register for two academic literacy courses in their first year of study. However, learners that do pass the TALL need to register for one prescribed academic literacy course which is compulsory to all first year learners. The content of these academic literacy courses focus on amongst others, empowering learners to function in the academic writing environment, academic vocabulary, nominalising (using active and passive voice), and written argumentation for the writing of assignments. (Taljard 2010.)

According to Beukes (2010), the reading laboratory as the second component of the support programme, assists learners with reading speed and reading correctness. All reading and tests are conducted and assessed on computers. The reading course is, however, due to a lack of adequate staff capacity, at this stage voluntary (Beukes 2010). As mentioned above, learners should be able to read an amount of 400 words per minute with an 80% correctness level, but 350 words per minute and a 70% correctness level is regarded an acceptable level to pass the course (Nel 2010). Nel (2010) further explains that in previous years, excluding the past two years, the majority of learners needed approximately 10 sessions of 45 minutes to reach this level of reading. During the past two years, however, the majority of learners needed an average of 15 sessions to master these levels (Nel 2010). This decline in performance supports the notion that HEIs increasingly deal with underprepared learners.

The third component of the three support programmes, the computer literacy and technology skills component, is compulsory to all first year learners (Taljard 2010). This component focus on the following: the use of computer programmes such as Microsoft Office, the management of electronic files, basic computer applications for the writing of assignments, the drafting of power point presentations, using the internet to search for information for assignments with sophisticated search techniques, and the sending of e-mails (Van Aswegen 2010).

In addition to the three support programmes, a writing laboratory is also available for both learners and staff, providing support in academic writing. The writing laboratory makes use of 14 writing consultants, which are mostly NWU postgraduate learners. These writing consultants receive training from the Centre for Academic and Professional Language Practice in the writing of academic text and academic text editing. (Taljard 2010.)

As indicated in chapter 5, section 5.2.1.2, technology can play a significant role in the process of preparing underprepared learners for the academic challenges of tertiary education, but is, however, not yet employed to its fullest extent at all universities (cf Amirualt & Visser 2009:72).

At the NWU, Potchefstroom Campus, first year learners are introduced to the university's e-learning platform, eFundi, during the two weeks orientation programme, prior to the commencement of the academic year (Van Aswegen 2010). eFundi is currently used to some extent in the abovementioned programme of the Centre for Academic and Professional Language Practice: announcements are made on eFundi and test results, general course information and text examples for assignments are posted on the e-platform (Taljard 2010). Future planning in this regard includes online exercises for learners to practice the areas in which they are not competent yet, as well as previous exam papers and memorandums of the programme (Taljard 2010).

It is thus evident that the NWU has put definite mechanisms in place to support learners in improving their academic literacy. Although learners need a longer period

of time to reach an acceptable level of reading speed and correctness than was the case a few years ago, pointing to underpreparedness of learners, the decline in performance is likely also be worsened by a shortage of staff. It will benefit the NWU to strengthen their staff base in the academic literacy support programmes and make all programmes, including the reading programme compulsory to learners who are not on the adequate academic preparedness level for higher education.

6.5 CONCLUSION

The chapter reviewed the current performance management and employee development programmes and policies at the NWU. It became evident that although the NWU have policies and practices in place for the performance appraisals of academics, including personal development plans and self-assessment, no provision is made for the assessment of the e-readiness of academics as e-learning is currently not a compulsory job requirement. Once it becomes an integral and compulsory part of an academic's job, it should be included in performance appraisals and be reflected in all related policies such as the *Performance management policy*, the *Recruitment policy*, the *Human resource management policy*, the *Teaching and learning framework* and the *service agreements* of academics. A separate e-learning policy should also be drafted.

It is further evident that academics at HEIs who are expected to teach online will benefit from training and development. Through employee development academics will be provided with a skill that will enable them to teach online and to be able to use the tools of the e-learning platform effectively. As an academic will be appraised for this skill against job requirement standards, it is necessary for the line manager to be involved in the development process by taking responsibility therefore and ensuring that the employee has the opportunity to attend the training. The line manager should also provide an employee with the opportunity to implement the new skill in the workplace.

It was further determined that career management programmes and talent management programmes can play a positive role in employee performance. The integrated approach of a talent management programme, as currently planned by

the NWU, including human resource management development practices such as career management, succession planning and mentoring and coaching, is perceived to have a positive effect on developing the e-readiness of academics. The holistic approach of a talent management programme will ensure that all relevant aspects of an academic's job requirements are addressed.

The chapter also profiled the NWU learner, determining that the majority of undergraduate learners at the NWU can be categorised as Generation Y learners and are underprepared for higher education. As a high preference for the use of technology is one of the outstanding characteristics of Generation Y, academics are compelled to include the use of technology in teaching and learning. The use of technology in teaching and learning in return requires academics to be well-skilled in this regard, calling for employee development pertaining to e-learning.

The underpreparedness of learners compels the NWU to make provision for enhancing the academic literacy of their learners. In this regard the NWU has established a number of programmes/mechanisms, offered by the Centre for Academic and Professional Language Practice: a learner academic literacy programme, a reading laboratory and a course in computer and technology skills.

As the profiling of performance management and employee development practices and policies at the NWU revealed shortcomings, empirical research has been conducted to determine how these shortcomings could be improved to contribute to the e-readiness of academics. The empirical research discussed in the next chapter thus determines how provision can be made for the assessment of the e-readiness of academics during their performance appraisals and for the subsequent training and development interventions. The next chapter also determines how the learning needs of the 21st century learner can be provided for through the use of technology in teaching and learning. The empirical research thus determines how the scholarly literature review on the various aspects related to key human factors in the e-readiness of academics can be applied in the higher education environment, specifically at the Potchefstroom campus of the NWU.

CHAPTER 7: EMPIRICAL RESEARCH: METHODOLOGY AND FINDINGS

7.1 INTRODUCTION

Whereas the preceding chapters have outlined the theoretical framework for the study, this chapter focuses on the results obtained from the empirical research. With the aim of achieving the research objectives and answering the research problem outlined in chapter 1, sections 1.3 and 1.4, an in-depth literature study and an empirical study was conducted. This chapter discusses the findings of the empirical research and subsequently interpret these findings with the aim to make recommendations on the inclusion of e-readiness assessment of academics in performance appraisals. Recommendations will also be made on the development plan and consequent e-learning training and development interventions. For this purpose a framework, considering an employee's key human factors, namely, personal work profile pattern, preferred learning style and technology adoption pace and style, is developed. Further, the application and implementation of the framework towards attaining optimal results is discussed.

The research methodology followed with the research is outlined and justified in terms of the purpose, paradigm, techniques and context of the study. Further, particular challenges were experienced during the data collection of the study, which in itself led to certain observations and deductions and is therefore also outlined in this chapter, following in the next section.

7.2 CHALLENGES EXPERIENCED DURING DATA COLLECTION

A number of obstacles were experienced during the data collection for the empirical component of the research. Data collection for the empirical research was done through a questionnaire, a focus group discussion and personal interviews¹⁴. The researcher's initial aim with regard to data collection through the questionnaire was to distribute the questionnaire to between 500 and 600 permanent academics at the

¹⁴ These data collection methods are discussed in detail in section 7.3 as part of the research methodology.

Potchefstroom campus of the NWU. Due to certain challenges experienced (as discussed later in this section) it was ultimately distributed to 300 academics. Participation was voluntary and was stated clearly in the cover letter, accompanying the questionnaire (see Annexure C). In addition to the cover letter which explained the purpose of the study and calling upon employees' support in this regard, and irrespective of School Directors' urging and encouraging their staff to complete the questionnaire, only 85 academics completed and returned the questionnaire. Not even an extension of the deadline made a significant difference in the increase of responses. A number of reasons may have caused this low response rate:

- The questionnaire was distributed during October 2009, two weeks before the final annual academic exams. The rationale was that academics would mostly have concluded semester classes and would be scaling down on academic activities for the semester. At this time they would also not yet be busy with marking exam scripts, therefore this was considered to be a suitable time to complete a questionnaire without interfering too much with work commitments, as would be the case during the midst of the semester. This was also the time that the researcher has reached the point in the research to be ready to distribute the questionnaire. However, judging by the feedback response, this turned out to not be the ideal time. It appeared that many academics were still busy with last minute academic activities and calculation of semester marks.
- Before the questionnaire was distributed amongst academics of a particular School, the School Directors were contacted to obtain permission for the distribution of the questionnaire in their schools (see Annexure A). Three School Directors did not grant permission for the questionnaire to be distributed amongst their staff, due to exam preparations and the finalisation of academic matters for the semester. In some instances School Directors never responded to the request, however, this was the exception rather than the rule. On the other hand, a number of School Directors, who indicated that they were not comfortable with e-learning, completed the questionnaire in a spirit of academic and collegial courtesy and agreed that it could be distributed amongst their staff.

- It became evident that the chosen method of distribution of the questionnaire (electronically) caused a lower feedback return than expected. The researcher chose to distribute the questionnaire via electronic mail for three reasons: Firstly, the delivery of the questionnaire to academics was immediate; secondly, the customary slow and poor response to mail-delivered questionnaires could be thus avoided; and thirdly, it was applicable to distribute a questionnaire pertaining to e-learning electronically. In retrospect, however, it appears that in all probability employees lacking e-readiness to teach online did not complete the questionnaire. It was received in a format that they are not most comfortable with (electronically). Although the cover letter (see Annexure B) clearly indicated that hard copies of the questionnaire would be provided if preferred, only five employees made use of this option.
- It can be argued that the low response rate can also be attributed to a tendency of apathy amongst employees, if a matter does not affect them directly, or if it is perceived to not affect them directly. Currently the use of technology in teaching and learning is voluntary and academics who do not make use of e-learning supposedly do not see the need to get involved in a study in this regard and maintain an apathetic stance towards it. This lack of response in itself provides food for thought. The notion of apathy is supported in literature. A research essay on the *My best essays* website explains that apathy is the indifference of an individual or society to the activities and events of the world around them (Anon 2009:1; cf McNulty 2009; cf DeFiore & DeFiore 2005). Apathy is a lack of interest, enthusiasm or concern (Pearsall 2001:75). Apathy is also described as indifference (Webster 2011) to anything that does not directly affect a person or his/her environment and therefore people usually are apathetic towards issues that they feel do not concern them (Anon 2009:1). "In fact, this is one of the major causes of apathy, along with a lack of knowledge of the subject matter, a perceived superfluity and complexity of information and a simple lack of interest" (Anon 2009:1). Helen Keller (sa) once said: "Science may have found a cure for most evils: but it has found no remedy for the worst

of them all, the apathy of human beings". Apathy evidently played a role in the feedback to the questionnaire.

- With the literature on the low response to surveys (Sivo, Saunders, Chang & Jiang 2006; Cummings, Savitz & Konrad 2001:1348–1349; cf Sax, Gilmartin & Bryant 2003:409–410) in mind it can be argued that a lack of e-readiness, and perhaps even a fear of, or resistance to e-learning, may have been responsible for the low response rate of the questionnaire:
 - The title of the e-mail, as well as the covering letter indicated the title and nature of the study. Concepts such as *e-learning* and *e-readiness* itself could be a push factor for employees lacking e-readiness.
 - It is likely that an employee, already not in favour of using technology in teaching and learning did not want to complete the questionnaire since they have perceived it as supporting the cause of e-learning.
 - They may have been under the impression that the questions are of a technical nature.
 - They are merely not interested in the topic.

It is interesting to note that the apathetic stance of academics imply that they are under the impression that e-learning does not affect them directly. Academics may hold this believe for the reason that the use of technology in teaching and learning is still optional at this stage. However, what this impression is also indicative of is a lack of understanding for learners' needs and preferences, as discussed in chapter 5. Judged by the apathy of a significant amount of academics (as reflected in the poor feedback response of the questionnaire), it appears that academics either are not aware of how favourable learners perceive the use of e-learning as part of their academic courses, or they choose to ignore this fact due to their own biases and preferences.

If the phases of technology adoption as recorded in chapter 4 are considered in this regard, it can be argued that the considerable reaction of apathy points to the possibility that a significant amount of academics may belong to the *early*

majority category of the technology adoption cycle (the eventual users of technology who do not like to take the risks of pioneering, but see advantages of tested technologies are driven by usability and success of the technology [Zemsky & Massey 2004:9]; or they may belong to the *late majority* category (those who adopt when half of the population has already done so; they are followers who dislike the disruptions of new technologies and are more conservative [Zemsky & Massey 2004:9]). Some may even belong to the *diehards* category (those who resist adopting innovations [Zemsky & Massey 2004:9]).

Although the response rate was not what the researcher has hoped for, valuable data of significance for obtaining the study's research objectives was still obtained through the questionnaire and focus group discussion. These results are discussed in section 7.4.

7.3 RESEARCH DESIGN

To enable the researcher to address the research objectives outlined in chapter 1, data was gathered through a literature study, followed by an empirical study. The study followed both a quantitative and qualitative approach with the empirical research. A research design, most applicable to the purpose, paradigm, techniques and context of the study was developed.

A research design is described as a planned framework for action that serves as a connection between research questions and the execution or implementation of the research (Durrheim 2009:34; cf Babbie & Mouton 2004:72). The research design thus directs the research activities to ensure that valid conclusions are attained (Durrheim 2009:36).

The research design was firstly developed in consideration of the **purpose of the study**, which is to determine the role of key human factors in the e-readiness assessment of academics and how their e-readiness can be assessed. The study follows an **explanatory** approach. Explanatory research aims to provide explanations of phenomena (Durrheim 2009:44). During this study the researcher

explains the role of particular key human factors on the e-readiness of academics. The researcher further indicates and explains the interrelatedness of these human factors and how these factors contribute to an employee's e-profile. It is further argued that the e-profile of an academic should be used to draft a development plan for each employee. Section 7.6 provides and explains the framework, drafted for this purpose.

Secondly, the research design was developed in consideration of the **interpretive paradigm**. The interpretive paradigm sustains the belief that the reality which is studied consists of people's subjective experiences of the external world (Terre Blanche & Durrheim 2009:7). In this study it is argued that the e-readiness of academics, consist of their subjective perceptions of the use of technology in teaching and learning. This notion is supported by the results obtained from the questionnaire and the focus group and is discussed in section 7.4.

Thirdly, to suit the interpretive paradigm, a **qualitative method**, was chosen for **data collection** in order to explain the subjective reasons and meanings that lie behind employees' e-learning perceptions. For this purpose the technique of a focus group discussion was used. In section 7.3.5.2.1 a detailed account is given on the procedure followed with the focus group discussion. A **quantitative method** was however also chosen for data collection. For this purpose the survey technique by means of a questionnaire was used to collect data for determining academics' subjective perceptions towards e-learning, which impacts on their e-readiness. These subjective perceptions are rooted in key human factors such as personal profile patterns, preferred learning style, and technology adoption style and pace. Particular questions posed in the questionnaire, determined these key human factors by means of respondents' choices. Responses further indicated the interrelatedness of these key human factors, leading to certain trends and patterns that could be identified and related to employees' level of e-readiness.

The fourth consideration in the development of the research design was the **context** in which the study took place. Research always takes place in a specific context and it is the researcher's prerogative to decide to which extent the context of the study will be manipulated and considered (Durrheim 2009:53). Thus, it is necessary to

consider the context of the study. Extraneous, or nuisance **variables**, that can manipulate a participant's performance and thus influence the outcome of the study, can be controlled (Durrheim 2009:53; Van der Riet & Durrheim 2009:91). The researcher, however, chose not to control extraneous variables to avoid misleading, misinterpretation and unrepresentative results. Instead, the researcher followed a naturalistic approach, considering these nuisance variables as an essential part of the real-world setting that can impact on the outcomes of the study (Van der Riet & Durrheim 2009:91). Variables connected to the context of this study are: the e-readiness of academics as the dependent variable; the key human factors of academics as the independent variable; e-learning training and development as the mediating variables; and the challenges and changes in the higher education environment as the extraneous variable.

7.3.1 Sampling

Sampling, the selection of research participants, is influenced by the unit of observation and the unit of analysis (cf Durrheim 2009:49). In this study the unit of analysis is the e-readiness construct and the unit of observation the permanent academics at the Potchefstroom campus of the NWU. These staff members cannot be regarded as representative of all HEI academic staff, but serves as a case study.

The first consideration with sampling is representativeness (Durrheim 2009:49; Babbie 2008:210; Babbie & Mouton 2004:170; May 2006:93). The researcher had to ensure a sample that will represent the academics of the Potchefstroom campus of the NWU, is chosen. A second consideration with sampling is the size of the sample (Durrheim 2009:49). The sample size must be large enough to make deductions and assumptions about the population (Durrheim 2009:39). In some instances, as was the case with this study, the sample size is determined by practical considerations (Durrheim 2009:49). These practical considerations were discussed in section 7.2.

Whereas random probability sampling from the identified unit of observation has been used for the questionnaire, purposeful non-probability sampling, convenience sampling and maximum variation sampling were used for the focus group. For the interviews with specialists, informants were selected. Durrheim and Painter

(2009:134–135) explain that random probability sampling is done when each constituent (academic) in the sampling parameter has an equal chance of being selected for the sample. The questionnaire was distributed amongst 300 academics and was completed on a basis of availability and willingness to participate.

With the focus group discussion the researcher purposefully selected 20 academics to participate, of which 10 was able to participate. Kelly (2009:288) indicates that convenience sampling refers to sample selection, based on the availability of participants. The availability of academics played a role in their selection for the focus group discussion. Durrheim and Painter (2009:139) explain that with purposeful non-probability sampling, sampling does not only depend on the availability and willingness of participants to participate, but that the sample should comprise of cases (academics) that are typical of the population. For this purpose participants were purposefully selected to include employees at various levels of e-readiness. The focus group thus included employees who are relatively comfortable with the use of technology in teaching and learning and portray a certain level of e-readiness, as well as employees who are either not using the e-platform, or are using it, but simply because it is expected of them, and in general portray a lack of e-readiness and a lack of the understanding of the optimal use of technology in teaching and learning to enhance the learning experience. The same reason has led to the use of maximum variation sampling for the selection of focus group participants. Kelly (2009:290) explains that maximum variation sampling refers to sampling when the researcher aims to acquire a wide range of information and perceptions on the topic, which result in the selection of participants who have different experiences, skills and viewpoints about the topic. This was accomplished through the selection of academics on various levels of e-readiness, and with various perceptions and experiences in this regard.

For the interviews informants were selected. Babbie (2008:206) describes an informant as someone that is knowledgeable in the phenomenon a researcher is studying and who is prepared to share his or her knowledge pertaining to the particular phenomenon with the researcher.

7.3.2 Validity

In order to comply with sound research principles and being able to draw certain deductions and conclusions of the findings, the researcher had to ensure the validity and reliability of the results. According to Van der Riet and Durrheim (2009:90) “validity refers to the degree to which the research conclusions are sound”. When research produces credible results that can be used to make certain generalisations, it can be regarded as valid (Van der Riet & Durrheim 2009:90). Babbie and Mouton (2004:122) further indicate that results are valid when it provides the real and precise meaning of the concept it is intended to measure (cf Babbie 2008:160).

Results obtained from the questionnaire can be regarded as valid as it produced the occurrence of particular trends. Particular patterns and interrelatedness between academics’ personal profile patterns, preferred learning style, and technology adoption pace and style could be identified. Results obtained from the focus group discussion can also be regarded as valid as the same trends and patterns, identified through the questionnaire, were confirmed through the focus group discussion. Further, the lack of e-readiness and a lack of a clear understanding of the role and purpose of e-learning could be identified and related to the same factors in both the questionnaire and the focus group discussion. Certain deductions and generalisations could therefore be made from these results.

7.3.3 Reliability

Reliability of research is obtained when a specific technique, applied repetitively to the same object, would produce the same result repeatedly (Babbie & Mouton 2004:119; May 2006:92). However, Van der Riet and Durrheim (2009:93) explain that in interpretive research (such as this study) it is acknowledged that the researcher is not investigating a stable and static reality (as in the case with positivists which believe they study a stable and static reality), and are therefore not anticipating the same results repeatedly. Interpretive researchers rather anticipate that the actions and views of individuals, groups and organisations will alter and vary in changing contexts (Van der Riet & Durrheim 2009:93). It is proposed by Van der Riet and Durrheim (2009:93) that dependability can be used as criterion in the place

of reliability. Dependability will be achieved when the reader can be convinced that the findings do in fact arise in the manner the researcher indicates and explains it (Van der Riet & Durrheim 2009:93). Rich and thorough descriptions that reveal how certain behaviours, beliefs and attitudes are rooted in, and developed out of, contextual interaction, will support and attain dependability of research (Van der Riet & Durrheim 2009:93–94).

In this study it became evident that certain trends and patterns between the key human factors of an academic could be identified and could be related to an employee's level of e-readiness. One could argue that once the level of e-readiness is dealt with through training and development interventions, the same results would not be obtained with the same academics as their level of e-readiness would have increased. Therefore the same results will not be attained repeatedly. One can further argue that even without a training and development intervention, the results will vary in some instances. When a new job demand is introduced in the work environment, employees portraying the *dominance* DISC factor, with an *activist* learning style and an *innovator* style of technology adoption, would most likely adapt to the new job demand without a training and development intervention. The results will therefore depend on the changing context.

Therefore, a research plan, entrenched in the problem statement of the study, was drafted to optimise the attainment of valid data from observations. The research design ensured that the research objectives, as set out in chapter 1, section 1.4, would be obtained and the research problem would be addressed in order to make certain deductions and recommendations.

7.3.4 Review of scholarly literature

An in-depth literature study enabled data collection of the most significant variables of the study: public human resource performance appraisal and the consequent employee development process; career management and career development; the key human factors included in this study, namely personal profile patterns, preferred learning style and technology adoption pace and style; e-learning and e-readiness.

The literature study also assisted in data collection pertaining to the most likely motivators of academics and their preferences of and reactions to goal-setting.

Kaniki (2009:19) points out that a literature review should put one's research study into context by demonstrating how it fits into a particular field. According to May (2006:28), facts do not exist separately from the basis through which they are interpreted. A literature study allows for the ability to provide an explanation and identify with the findings of research within a particular conceptual framework that clarifies the data (May 2006:29). The literature study was thus done with the aim to outline the theoretical frameworks of the most important variables in the study and to enable the researcher to view the empirical results in the context of these frameworks.

A further aim of the literature study was to determine shortcomings in current literature. Snieder and Larner (2009:133) support this notion and indicate that it is essential to learn what research has already been done in the chosen field of research in order to carry out original research. In order to contribute to the scholarly knowledge in a field, it is necessary to be updated on the current state of knowledge and its limitations (Snieder & Larner 2009:133). The literature research enabled the researcher to identify a gap in the literature of both human resource performance appraisal and e-learning with regard to e-readiness of academics at HEIs. Current e-readiness assessment instruments make provision for the e-readiness assessment of countries, governments, businesses, and to a limited extent HEIs (EIU 2007:1–3; Bridges.org 2005:1–10; Mutula 2006; Machado 2007:73–74; McConnell International 2001:1–23; Maugis et al 2005:313–342; Choucri et al 2003; Ifinedo 2005; SchoolNet Africa 2003; Bridges.org 2005:1–4; 2002; Brendan 2006:276). However, no instrument for the e-readiness assessment of employees in HEIs exists, which caused the researcher to embark on this study.

7.3.5 Empirical study

As already referred to, quantitative as well as qualitative methods were used for data collection.

7.3.5.1 Quantitative data collection

Quantitative research strives towards two standards: generalisable findings and objective data (Durrheim & Painter 2009:132). Generalisability refers to the degree to which the data of a research study can be generalised to broader populations and situations (Van der Riet & Durrheim 2009:91). Quantitative methods start with a string of prearranged categories that are typically embodied in standardised quantitative measures (Durrheim 2009:49). This data is used to make broad and generalisable comparisons (Durrheim 2009:47).

Babbie (2008:25) is of the opinion that quantification of data often provides better clarity on observations. Phenomena are thus measured by assigning numbers to the qualities of things (Babbie & Mouton 2004:49; cf Durrheim 2009:47; Blaikie 2004:21). It also simplifies data collection and data review (Babbie 2008:25). With quantitative research the emphasis is placed on the quantification of constructs (Babbie & Mouton 2004:49).

A *construct* is defined as “attributes that have been conceptualised and defined in language, and which have been theoretically elaborated in terms of how they are related to other constructs” (Durrheim & Painter 2009:142). For example, the attributes of people that a researcher wishes to assess is seen as a methodically arranged set of ideas, in other words as constructs (Durrheim & Painter 2009:142). Babbie (2008:135) describes constructs as “theoretical creations that are based on observations but that cannot be observed directly or indirectly”. Constructs are not real, but they are valuable and helpful to the researcher to systematise and comprehend things that are real and to communicate about these things (Babbie 2005:124). Constructs assist in making predictions regarding real things (Babbie 2005:125), as they stand in an explicit relationship to things that are real and observable (Johannes 2007:12). Cronbach and Meehl (1955:3) define a construct as an assumed attribute of people that is believed to be revealed in assessment performance. They further explain that a construct is defined by a network of relations or systems in which it arises (Cronbach & Meehl 1955:3).

An e-readiness construct therefore consists of the systematically arranged set of ideas regarding e-readiness. This arranged set of ideas can be compared to other constructs, in this case key human factors of academics. The e-readiness construct assisted the researcher in understanding the contributing factors to the e-readiness of academics. Thus it could be determined what the solutions are to a lack of e-readiness. As the e-readiness construct as a people attribute reveals itself in performance assessment, the study argues for the inclusion of e-readiness assessment in performance appraisals of academics.

For this study, a self-administered questionnaire was used as quantitative data collection technique in order to determine the variables in the e-readiness of academics.

7.3.5.1.1 Quantitative data collection by means of a questionnaire

A self-administered questionnaire (see Annexure C), was designed and distributed to the primary unit of observation (academics at the Potchefstroom campus of the NWU) via electronic mail. As indicated in section 7.2, the questionnaire was distributed via electronic mail to 300 permanent academics from a population of 771 academics at the Potchefstroom campus of the NWU. Eighty five (85) completed questionnaires were returned.

The online encyclopedia (sa) defines a questionnaire as a collection of written questions used to gather information from respondents. A self-administered questionnaire can be described as a questionnaire that respondents complete themselves (Babbie 2008:286). A self-administered questionnaire can only be used if the population is sufficiently literate (Babbie & Mouton 2004:258).

As indicated in chapter 1, section 1.6.5.3, the questionnaire does not include a professional psychological analysis of personal profile patterns, preferred learning style and pace and style of technology adoption of academics. Particular questions have, however, been asked to get an indication of an employee's personal profile pattern, learning style preference and pace and style of technology adoption.

The questionnaire used in this study comprises of closed and open-ended questions, known as a semi-structured questionnaire (Westburn 2002). Open-ended questions provide for respondents to communicate their experiences and/or beliefs about a specific matter in their own words, without constraint (Kanjee 2009:486; May 2006:102). The researcher interprets the implication and significance of responses, which has the possibility to lead to misinterpretation and bias (Babbie & Mouton 2004:233). In order to limit bias and misinterpretation, the researcher refrained from interpreting responses that were not clearly representative of certain preferences. Furthermore, to validate responses to open-ended questions, these responses were compared to a respondent's work style preference, preferred learning style and technology adoption pace and style, as gathered from the closed questions. Open-ended questions were used to probe respondents on their perceptions pertaining to the use of e-learning and the manner in which they are currently using e-learning.

Open-ended questions were also directed about the e-learning training and development of academics, as well as their perceptions of the inclusion of e-readiness assessment in performance appraisals. Responses to the open-ended questions provided insight into respondents' perceptions on e-learning, e-readiness assessment and e-learning training and development, and could be related to respondents' e-learning profiles. Respondents' e-learning profiles are subsequently connected to training and development interventions on a matrix.

Kanjee (2009:487) explains that closed questions do not provide respondents with the opportunity to answer in their own words, but oblige them to choose one or more choices from a set list of answers. The advantage of closed questions is that it brings forth a standardised set of responses from all the respondents, creating patterns, and thus allow for comparative data analysis (Kanjee 2009: 487; cf Babbie & Mouton 2004:233; cf May 2006:103). Closed questions were used to determine respondents' work style patterns, preferred learning styles, style and pace of technology adoption, motivating factors, goal-setting preferences, preferences pertaining to the use of e-learning and opinions on e-learning training and development interventions. The feedback provided for comparative data analysis on these aspects and certain conclusions and trends could be identified from the quantitative data.

7.3.5.2 Qualitative data collection

Qualitative data is collected by means of written or spoken language, or by way of observations that are documented in language, and are analysed by recognising and classifying categories or trends (Durrheim 2009:47; cf May 2006:193). The aim of qualitative research is to study a particular phenomenon in-depth, which enables the researcher to recognise and identify the categories of information that present itself from the data (Durrheim 2009:47). Qualitative research is naturalistic, holistic and inductive (Durrheim 2009:47). It is *naturalistic* in the sense that it does not manipulate information or control the surroundings (cf Babbie 2008:321), but is open to whatever emerges; it is *holistic* as it focuses on multifaceted interdependencies and the phenomenon as a whole is viewed as a complex system that is more than its various components (Durrheim 2009:47); and it is *inductive* as central “categories, dimensions and interrelationships” are revealed, which originated with the exploration of open questions (Durrheim 2009:47-48; cf Terre Blanche, Kelly & Durrheim 2009:272–273; cf Babbie 2008:24), and often is “intuitive reasoning, driven by observations” (Snieder & Lerner 2009:18).

In this study, qualitative research was conducted through the use of a focus group of academics and interviews with employees in key specialist positions at the NWU, Potchefstroom campus.

7.3.5.2.1 Focus group discussion

A focus group is a group of individuals who have a similar type of experience in common, but is usually not necessarily part of the same social group (Kelly 2009:304). Therefore, with a focus group the researcher gets access to inter-subjective experience, namely. a group of people’s mutual experience (Kelly 2009:304). A focus group discussion often reveals facets of a topic that would not have been likely to have surfaced in individual interviews (Babbie 2008: 339). A focus group is not merely a method to get a number of people together to talk about a certain topic, it has a particular *purpose, size, composition* and *procedures* (Krueger & Casey 2009:2), accordingly discussed below.

- **Purpose**

The purpose of conducting a focus group discussion is to promote self-disclosure, to listen to participants and collect information and a range of opinions pertaining to a particular topic/theme, with the aim to understand people's perceptions, feelings and thoughts regarding a particular matter (Krueger & Casey 2009:2;4;7;17–20). The purpose of the focus group is not to reach consensus, make recommendations or decide between alternatives, but to have a focused discussion, which is solicited through open-ended questions and a natural environment where variables are not controlled and manipulated (Krueger & Casey 2009:7). In this study the purpose of the focus group discussion was to determine academics' perceptions about e-learning and e-readiness in the higher education environment, as well as their perceptions on learners' expectations in this regard and the role that academics should play in terms of e-learning. This was done through posing open-ended questions to participants, followed by their discussions.

- **Size**

The ideal size for a focus group is between five and 12 people (Krueger & Casey 2009:6). The researcher invited 20 academics to attend the focus group discussion, of which 12 confirmed attendance and 10 attended and participated in the focus group discussion.

- **Composition**

Participant selection of a focus group is based on specific common characteristics, relating to the topic of the focus group (Krueger & Casey 2009:2). The nature of these similar characteristics is determined by the purpose of the study (Krueger & Casey 2009:7). For the purpose of this study the focus group participants were selected from permanent academics at the Potchefstroom campus of the NWU (the unit of analysis). Participants represented lecturers, senior lecturers, associate professors and professors from two faculties. All participants are involved in tertiary education of undergraduate and/or postgraduate learners.

- **Procedures**

The focus group discussion was held on 10 December 2010, from 10:30 to 12:30 at the Potchefstroom campus of the NWU. The following procedure was followed with the focus group discussion:

- Participants were informed that participation is voluntary and that they may quit the discussion at any time. They were further informed that results obtained from the focus group discussion will be presented in a collective manner and no individual will be identified or implicated in the study. All participants signed a consent form (see Annexure D).
- Participants were informed of the procedure and method that would be followed during the focus group discussion.
- The background and context of the study was provided by means of a brief power point presentation (see Annexure E), focusing on the key variables of the study and providing the background to the discussion to follow.
- A video clip¹⁵, pertaining to Generation Y (which constitute the majority of the learner population at the NWU, as indicated in section 5.2.1.1), was played to contextualise the learner population in terms of e-learning.
- Questions (see Annexure F) were posed to participants and they were requested to commence with discussions.

The researcher did not take part in discussions to refrain from manipulating of the situation and from steering the discussion in a particular direction, following in other words the naturalistic approach. This approach allowed for honest discussion and freedom of participants to disclose their true feelings, experiences and prejudices pertaining to e-learning. The discussions and interpretations emerging from the focus group discussion are outlined in section 7.4.2.

7.3.5.2.2 Individual interviews

The individual interview as qualitative research method is a suitable method for the interpretive approach to research (Kelly 2009:297). Interpretive research view

¹⁵ The video clip is available at: <http://www.youtube.com/watch?v=SEZM6nUhKW8>.

interviews as a means to determine people's true feelings and perceptions about particular experiences and/or matters (Kelly 2009:297). Semi-structured interviews with open-ended questions were conducted with various experts to obtain specialist information on particular variables of the study. The following specialists were interviewed for data collection:

- The Director: Human Resource Management, Institutional Office, NWU.
- The Section Head: Information Technology Support, Academic Support, NWU, Potchefstroom Campus.
- The Head: Writing Laboratory, Centre for Academic and Professional Language Practice, NWU, Potchefstroom Campus.
- The Head: Learner Learning and Reading Development, Centre for Academic and Professional Language Practice, NWU, Potchefstroom Campus.
- The Manager: Reading Laboratory, Centre for Academic and Professional Language Practice, NWU, Potchefstroom Campus.
- A subject specialist: Computer Science and Information Systems, NWU, Potchefstroom Campus.

Results obtained through these interviews are discussed in chapters 3 and 5.

7.4 EMPIRICAL RESEARCH FINDINGS

As explained in section 7.3, the data collection for the empirical research component of this study was done through a self-administered questionnaire and a focus group. Both were conducted with permanent academics at the Potchefstroom campus of the NWU. The terms *respondent* and *participant* will interchangeably be used to refer to academics who participated in the study by means of completing the questionnaire or participating in the focus group discussion. In addition to the questionnaire and focus group discussion with academics, specific specialists have been interviewed with regard to their particular expert knowledge and experience pertaining to certain aspects dealt with in the study. The sections to follow outline the results obtained from the questionnaire and the focus group.

7.4.1 Results obtained through the self-administered questionnaire

As indicated in section 7.3.5.1.1, the questionnaire consists of both open-ended and closed questions. The closed question component of the questionnaire consists of five sections: biographical information, work style preferences of academics, academics' motivation in the workplace, the use of and perceptions of an e-learning platform, and training and development for e-readiness. Two of the sections of the questionnaire also contain open-ended questions, namely section D: The use of and perceptions of an e-learning platform, and section E: Training and development for e-readiness. Respondents had to answer these questions, indicating their personal opinions, beliefs and perceptions regarding a particular matter, and were requested to motivate their answer.

The following sections give the results obtained through the closed questions of sections A–E of the questionnaire. Thereafter the discussions and interpretations of the results on the closed questions follow. Lastly, the discussions and interpretations on the results of the open-ended questions of the questionnaire (sections D and E of the questionnaire) follow. The statistics given at all questions are based on valid percentages¹⁶. The frequencies¹⁷ are indicated at each question. The results obtained through the questionnaire are followed by the results obtained from the focus group discussion, as well as the analysis of the focus group discussion results.

7.4.1.1 Section A: biographical information

Respondents were requested to indicate their designation, faculty and/or school where they are employed; years of teaching experience; and their highest qualification obtained and their age. The purpose of including the biographical information of respondents is to possibly explain certain trends in their preferences or behaviour, for example, to determine whether older academics portray a higher lack of e-readiness, or whether employees in a particular academic field portray a greater tendency to make use of e-learning. Also, a particular academic field may

¹⁶ Valid percentages “express the number responding as a percent of those who responded” (SFU sa:2).

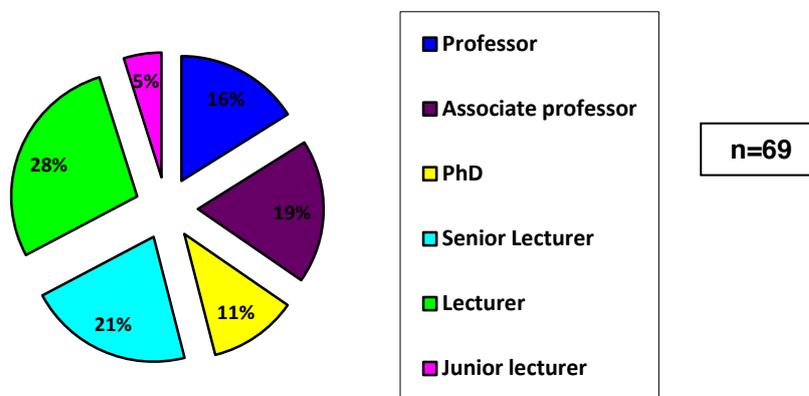
¹⁷ The frequencies refer to the number of respondents who answered each question (SFU sa:2).

arguably not lend it itself ideally to the use of e-learning. The following paragraphs discuss the results obtained pertaining to biographical information.

7.4.1.1.1 Designation

Participants were requested to indicate their designation, for example professor, associate professor, senior lecturer, junior lecturer. Diagram 7.1 below illustrates the results obtained in this regard.

Diagram 7.1: Designation of academics



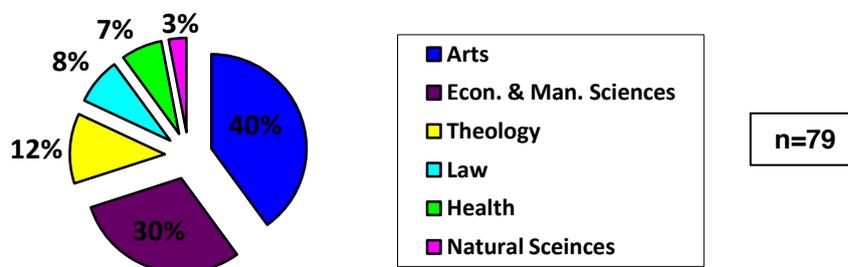
More than a third (35%) of the respondents are senior academics, namely professors (16%) and associate professors (19%). Eleven percent (11%) of respondents did not indicate their designation, but did, however, indicate that they have obtained doctoral degrees. Although they did not indicate their designation, one can deduce they must be senior lecturers, associate professors or professors, due to the university's qualification requirements for these levels (with the exception of a few, eg the Faculties of Law and Nursing which can promote an academic to associate professor without the obtainment of a doctoral degree as prerequisite) (NWU 2005c). It is thus evident that **a significant number of the respondents are senior academics**. If the 21% of senior lecturers (who also mostly possess doctoral degrees due to the university's qualification requirements for this level, again with the exceptions of the Faculties of Law and Nursing) (NWU 2005c), are added to the number it brings the total of respondents on senior lecturer level and higher to 67%. The high response rate (67%) of respondents that occupy senior positions can be interpreted as an understanding of the importance of data collection for research amongst these

academics, as opposed to a lower understanding of this nature amongst junior academics.

7.4.1.1.2 School/faculty

Participants were requested to indicate the faculty and/or school in which they are employed. Diagram 7.2 below illustrates that the vast majority of respondents are academics from the **Faculty of Arts (40%)** and secondly, from the Faculty of Economic and Management Sciences (30%).

Diagram 7.2: Faculties of academics



The high number of respondents from the Faculty of Arts may be attributed to the fact that the researcher is employed in this faculty and therefore received support from colleagues. As for the Faculty of Economic and Management Sciences, the second best response rate, it can be argued that it may be due to the fact that most of the School Directors in this Faculty agreed to the questionnaire being distributed amongst their staff. A further reason may be the fact that the researcher often collaborate with colleagues from the School of Human Resource Sciences with regard to one of the programmes jointly run by them and the School for Social and Government Studies. Almost 50% of respondents from the Faculty of Economic and Management Sciences are from the School of Human Resource Sciences.

7.4.1.1.3 Years of teaching experience

The purpose of this section was to determine how many years of teaching experience respondents have. Academics' years of teaching experience are also

brought into relation of their age in section 7.4.1.6.2. Diagram 7.3 below indicates respondents' years of teaching experience.

Diagram 7.3: Years of teaching experience

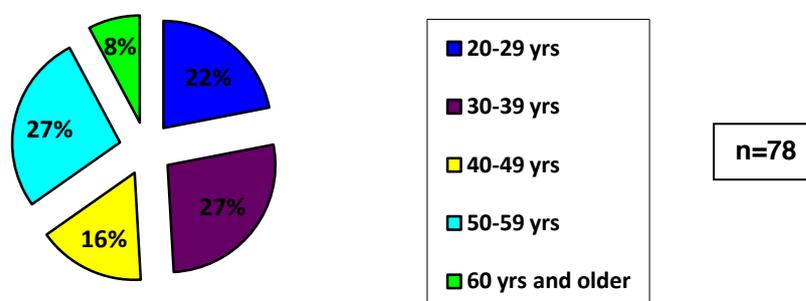


Results obtained from the questionnaire revealed that academics with less than five years of teaching experience comprised 27% of the total number of respondents. Employees with teaching experience of five to 10 years accounted for 24% of the total number of respondents, thus indicating that a total of 53% of respondents have less than 10 years of teaching experience. Academics with 20 to 30 years of teaching experience accounted for 15% of the respondents and 17% of the respondents had teaching experience of more than 30 years.

7.4.1.1.4 Age

Diagram 7.4 below illustrates the respondents' age distribution.

Diagram 7.4: Age of academics



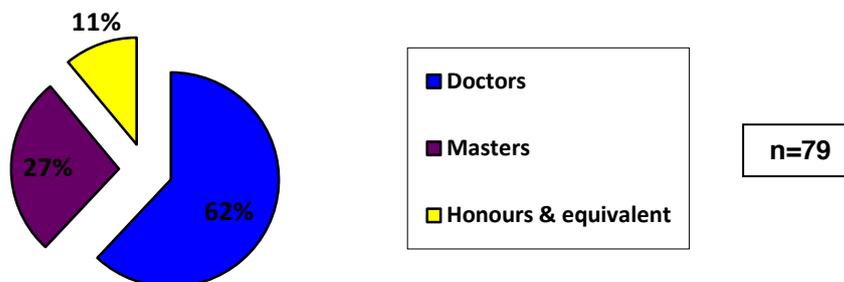
Respondents mostly represented the age groups between 30 to 39 years of age (27%) and 50 to 59 years of age (27%). These two age groups account for more

than half (54%) of the total number of respondents. It is interesting to note that the age group between these two groups, 40 to 49 years of age, had a significantly lower response rate (16%). Academics' ages are also brought into relation to their preference pertaining to e-readiness assessment in section 7.4.1.6.2.

7.4.1.1.5 Highest qualification

The vast majority of respondents, 63%, are in possession of a doctoral degree, 27% are in possession of a master's degree, and 10% are in possession of honours degrees or equivalent degrees (see diagram 7.5 below).

Diagram 7.5: Highest qualifications of academics



These results correspond with the designations of academics discussed in section 7.4.1.1.1, where it was also indicated that the majority of respondents are in possession of doctoral degrees.

The biographical information provided an indication of the personal profiles of respondents. Further, a correlation between age and e-readiness could be found: the older academics are, the more likely they are to have a low level of e-readiness. The next section of the questionnaire, discussed in the following section, will provide an indication of the professional profile of respondents.

7.4.1.2 Section B: work style preferences of academics

Questions asked in this section probed respondents to indicate their work style preferences pertaining to their adoption to new technologies/innovations and their preferred attitude and approach towards learning a new skill. The rationale was to

form an impression of an academic's e-profile by asking questions pertaining to particular key human factors, like DISC factors, as outlined by Thomas International, preferred learning style and pace and style of technology adoption, as outlined and discussed in chapter 4.

Although the answers to these questions cannot be regarded as conclusive of an employee's personal work profile preference, learning style or pace and style of technology adoption, it gives an indication of which of these styles and/or preferences an employee is most likely to embrace in the workplace. It also gives an indication of the typical e-profiles eminent at the NWU, Potchefstroom campus. Further, the results will show whether certain trends and similarities exist between the various key human factors. These styles and preferences can in all likelihood also give an indication of the manner in which an employee will be motivated in the workplace.

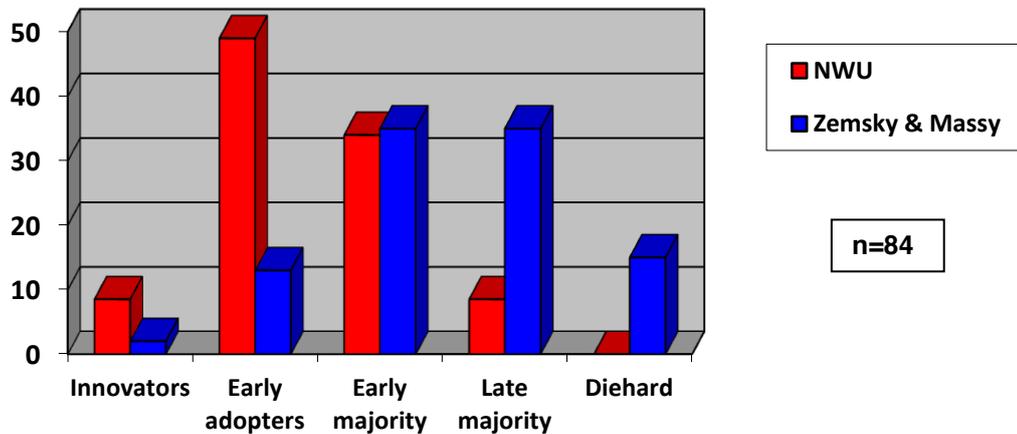
7.4.1.2.1 Style and pace of technology adoption

In the first question in this section participants were requested to choose their most likely feeling/reaction when confronted with a new technology/innovation in the work environment. The aim of this question was to determine their style and pace of technology adoption. Results obtained showed that 8,5% of respondents immediately embrace and welcome a new technology when confronted with it; 49% adapt to the new technology/innovation relatively fast; 34% immediately see the risks involved, but will eventually see the advantages of the technology innovation over a period of time when the usability and success of the technology/innovation is proven; 8,5% dislike the disruptions of new technology/innovations and will be very slow to adapt; and none of the respondents chose the option that they will never adapt to a new technology.

In section 4.2.1 of this study the various categories of technology adoption style and pace, as indicated by Zemsky and Massey (2004:9) are outlined: *innovators, early adopters, early majority, late majority and the diehards*. Zemsky and Massey (2004:9) further allocate certain universal percentages of each category. In diagram 7.6 below a comparison is drawn against the universal percentages indicated by

Zemsky and Massey (2004:9) and the results obtained at the NWU (Potchefstroom campus).

Diagram 7.6: Style and pace of technology adoption



As illustrated in diagram 7.6, it is evident that there is a difference in results obtained from respondents of the questionnaire (academics at the NWU, Potchefstroom campus), and Zemsky and Massey's general category weights. The *innovators* (those who enjoy exploring new ideas and are driven by intrinsic motivators [Zemsky & Massey 2004:9]) are significantly more amongst respondents to the questionnaire (8,5%) than the 2% indicated by Zemsky and Massey. This may be due to the fact that the tertiary environment is a high performance environment, leading to the high percentage of 8,5% of *innovators*.

Further, according to Zemsky and Massey (2004:9), the vast majority of individuals usually lie within the *early majority* and *late majority* categories (35% each). However, 49% of the respondents to the questionnaire lie in the *early adopter* category, 14% more than Zemsky and Massey's 35%. This category refers to those individuals who adopt once the concept has been proven (Zemsky & Massey 2004:9). According to Oliver (2001:6) *early adopters* are opinion leaders and decision-makers who have the vision to adapt to an emerging technology to an opportunity, and they are driven by extrinsic motivators. They have the insight to match an emerging technology to a strategic opportunity (Oliver 2001:6).

Results obtained from the questionnaire indicated that 34% of respondents belong to the *early majority* category (the eventual users of technology who do not like to take the risks of pioneering, but see advantages of tested technologies, are driven by usability and success of the technology; they are the beginning of the mass market [Zemsky & Massey 2004:9]). This result of 34% is close to Zemsky and Massey's 35% for this category. The *late majority* category is represented by only 8,5% of respondents, compared to Zemsky and Massey's 35% for this category. They describe individuals belonging to this category as people who adopt when half of the population has already done so; they are followers who dislike the disruptions of new technologies and are more conservative (Zemsky & Massey 2004:9). None of the respondents represented the *diehard* category (those who resist adopting to innovations and regularly pointing out the discrepancies between the day-to-day reality of the product and the claims made for it) (Beshears sa).

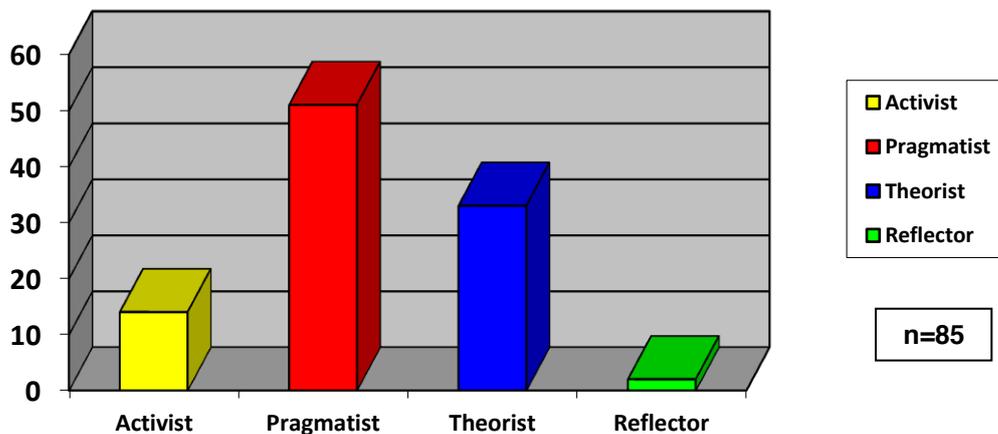
The vast majority of respondents, 83% (of which 49% are in the *early adopter* category and 34% are in the *early majority* category), will according to theory adopt to the use of technology in time, once the concept is proven and the technology showed usability and success (Zemsky & Massey 2004:9). Usually a high rate of respondents in the *early adopter* category can be attributed to a high *dominance* factor (of Thomas International's DISC profiles) amongst the group, as discussed in section 4.2.3 of this study. The *early majority* category can usually be attributed to a high *compliance* factor of an employee. The compatibility and validity of these notions will be determined, once the results to the question pertaining to the DISC profile of employees are also outlined and can thus be compared to the results obtained in this question. Results pertaining to the DISC profile will be discussed in section 7.4.1.2.3.

7.4.1.2.2 Preferred learning style

In the second question of this category of the questionnaire participants were requested to indicate their preferred approach and attitude towards learning a new skill such as teaching and learning online. The purpose of this question was to determine their preferred learning style. The results obtained give an indication of the respondents' learning styles, as outlined in chapter 4, according to Honey and

Mumford's (1982) learning style categories. Fourteen percent (14%) of respondents indicated that they adapt easily and prefer to deal with new challenges and experiences (representing the *activist* learning style); 51% indicated that they want to understand the practical value and use of what being taught first (representing the *pragmatist* learning style); 33% indicated that they want to see good structure and a logical step-by-step approach (representing the *theorist* learning style); and only 2% of respondents indicated that they want to have ample time to think intensively about the activities and concepts provided to them (representing the *reflector* learning style). Diagram 7.7 below illustrates the learning styles of respondents.

Diagram 7.7: Learning styles

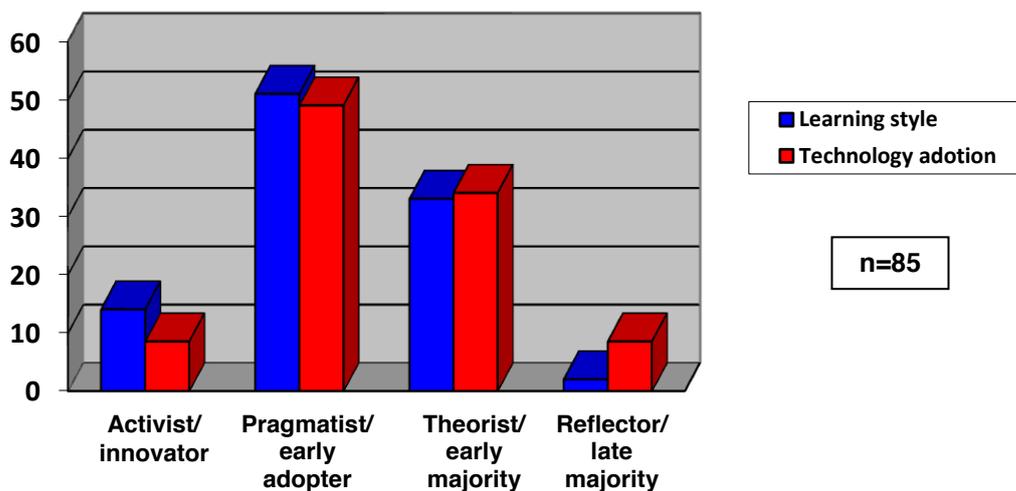


The diagram illustrates that the vast majority of respondents (almost 51%) prefer the *pragmatist* learning style. Individuals who prefer this learning style will require a link between e-learning training and the end-result required of them (Honey & Mumford 1982:28). They will determine the practical value and use of what they are being taught (Honey & Mumford 1982:28). The result of 51% further shows a relationship to the results of style and pace of technology adoption (in the previous section), where 49% of respondents can be placed in the *early adopter* category. The *activist* learning style can be compared to the *innovator* category of the technology adoption cycle, to which 8,5% of respondents belong. Employees who prefer this learning style adapt easily to new technologies/innovation and prefer to deal with new challenges and experiences (Honey & Mumford 1982:25).

The 33% of respondents, preferring the *theorist* learning style, corresponds with the 34% of respondents that can be categorised in the *early majority* category of the

technology adoption cycle. Employees who embrace the *theorist* learning style require good structure and sufficient time to explore the relevance between ideas and scenarios; they are analytical, detail-conscious and need to think things through in a logical step-by-step manner (Honey & Mumford, 1982:27). This sentiment is echoed in the technology adoption styles of the *early majority* category that are described as the eventual users of technology (Zemsky & Massey, 2004:9). Employees in the *early majority* category do not like to take the risks of pioneering innovations and technology, but see the advantages of tested technologies; they are driven by the usability and success of the technology and are the beginning of the mass market. The relation between these learning styles and technology adoption styles is illustrated in diagram 7.8 below.

Diagram 7.8: Relation between learning styles and technology adoption



It is evident that the vast majority of academics are *pragmatists* (51%) and second to that, *theorists* (33%). Employees, preferring either one of these learning styles, will not adapt immediately and without reservations to new technology/innovations in the workplace.

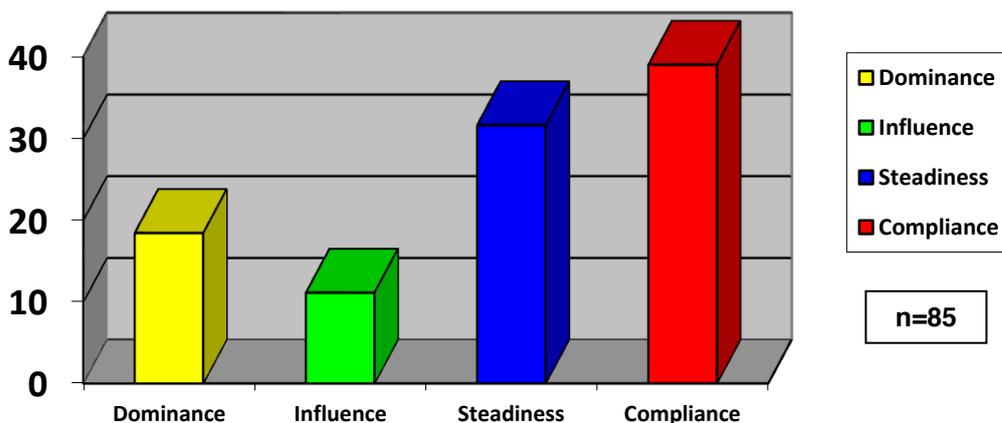
7.4.1.2.3 Personal work profile patterns

In the third question of this section, respondents were requested to choose the statement that provides the most accurate description of them in the workplace. The purpose of this question was to determine employees' personal work profile patterns.

Four statements were provided to respondents, of which one should have been chosen. Each one of the four statements represents one of the DISC profiles as discussed in chapter 3. The results obtained were as follows and are also indicated in diagram 7.9:

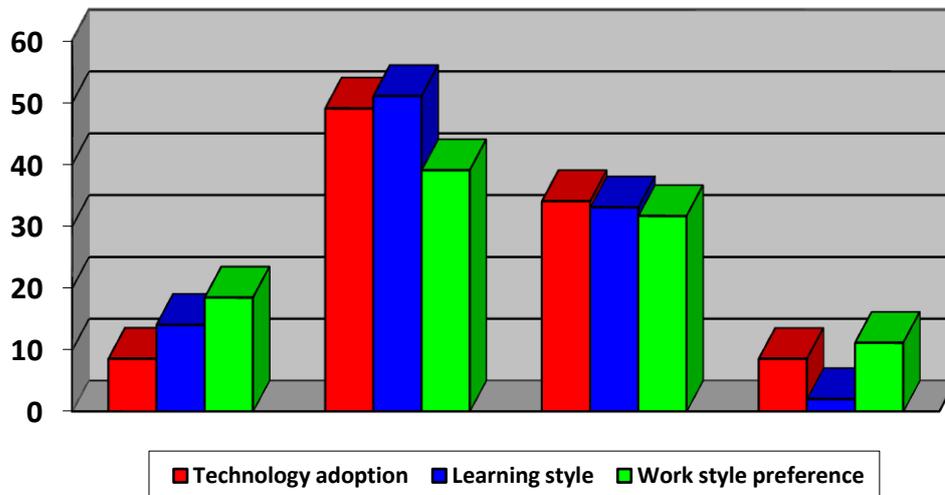
- Dominance – I am concerned with results, competitive, focused on achieving goals, like to solve problems and love challenges – 18,4%.
- Influence – I like people and want to be liked in return, am optimistic and outgoing – 11,1%.
- Steadiness – I am sympathetic, friendly, a good listener, a great team player, work hard and create a stable environment – 31,6%.
- Compliance – I have high standards, am a perfectionist, and prefer systems, processes, procedures and consistency – 39%.

Diagram 7.9: Personal work profile patterns



From the above results it is evident that the majority of respondents (39%) are portraying the *compliance factor* of the DISC profile, followed by the *steadiness* factor (31,6%). When a comparison is made between the relation between an employee's pace and style to technology adoption, preferred learning style, and personal work profile patterns, certain comparisons and deductions can be made (see diagram 7.10 below).

Diagram 7.10: Comparison between pace and style of technology adoption, preferred learning style, and personal work profile patterns



From the comparisons drawn between pace and style of technology adoption, preferred learning style, and personal work profile patterns (DISC factor) in diagram 7.10 above, it is apparent that certain parallels appear. The majority of respondents portray an *early adopter-pragmatist-compliance* profile. This implies that the majority of respondents will adopt to a new technology/innovation in the workplace, once the concept is proven (*early adopter*); they want to see the practical value of e-learning and would like to see a link between what they are taught and the end-result (*pragmatist*); and they have high standards, particularly for themselves, can be perfectionists, and prefer systems, processes, procedures, as well as predictable and consistent outcomes (*compliance*).

Interesting deductions can be made from the abovementioned results. The *pragmatist* learning style match with the *compliance* DISC factor proves to be logical, as both these profiles are cautious about (although not necessarily in opposition to) changes in the workplace and like to see stability and practicability before they will support a changed job demand (Honey & Mumford 1982:28; Thomas International sa). Secondly, the high rating of the *early adopter* category of the technology adoption cycle would be a more logical match with the *dominance* factor of the DISC profiles, as *early adopters* adapt relatively fast and are innovative (Zemsky & Massey 2004:9–10). In this case, however, the *early adopter* category is coupled with the

compliance factor of the DISC profile. Individuals who portray a high *compliance* factor, usually tends to favour standard operating procedures, support a traditional approach and prefer to maintain the status quo (Thomas International sa). The researcher is of opinion that these are not qualities usually associated with the *early adopter* profile, but would be a more likely match with the *early majority* profile. It can be argued that, although a significant number of respondents portray the *compliance* DISC factor (supporting a traditional approach), the high performance environment of academia led to the earlier acceptance of technology. Thus, it led to a higher precedence of the *early adopter* style of technology adoption than the *early majority* style of technology adoption.

The second highest profile that can be identified amongst respondents is the *early majority-theorist-steadiness* profile. This implies that employees belonging to this profile are the eventual users of technology who do not like to take the risks of pioneering, but see advantages of tested technologies, and are driven by usability and success of the technology (*early majority*); they require good structure and sufficient time to explore the relevance between ideas and scenarios, are analytical and detail-conscious and need to think things through in a logical step-by-step manner (*theorist*); and they are sympathetic, friendly, good listeners, “finisher completers”, and team players, who work hard and create a stable environment (*steadiness*).

The second profile identified amongst respondents appears to be more logical than the first. Individuals portraying a high *steadiness* factor on the DISC profile, usually are, as with the *compliance* factor, in favour of standard operating procedures, support a traditional approach and prefer to maintain the status quo, but are also to a great extent concerned about relations and want to create a stable environment (Thomas International sa). These qualities are well-aligned to the *theorist* learning style and the *early majority* category, as both the *theorist* and the *early majority* usually portray a sense of preferring a stable environment without too many disruptions and are in favour of a well-defined step-by-step process. However, it would have also made sense if the *theorist* learning style and the *steadiness* DISC factor was coupled with the *late majority* category of the technology adoption cycle. For an academic displaying the *early majority-theorist-steadiness* profile, factors

such as attention to detail and ensuring quality and standards are important (Thomas International sa). Thus, structure and security should be provided by a clearly defined learning environment and the development intervention should be predictable and stable.

It is thus evident that e-learning training and development interventions should mostly be focused on two types of academics: firstly those who portray an *early adopter-pragmatist-compliance* profile, and secondly those who portray an *early majority-theorist-steadiness* profile as almost 80% of employees portray one of these two profiles. This does not mean that the other 20% should be neglected. They should also receive the necessary training and motivation.

7.4.1.3 Section C: academics' motivation in the workplace

Questions in this section of the questionnaire relates to an academic's personal preferences and perceptions pertaining to goal-setting, preferences towards receiving goals, approaches pertaining to new work challenges and their most likely motivators in the workplace. These questions were aimed at determining whether the manner in which an employee is motivated can be connected to the employee's personal work style preference, preferred learning style and/or pace and style of technology adoption.

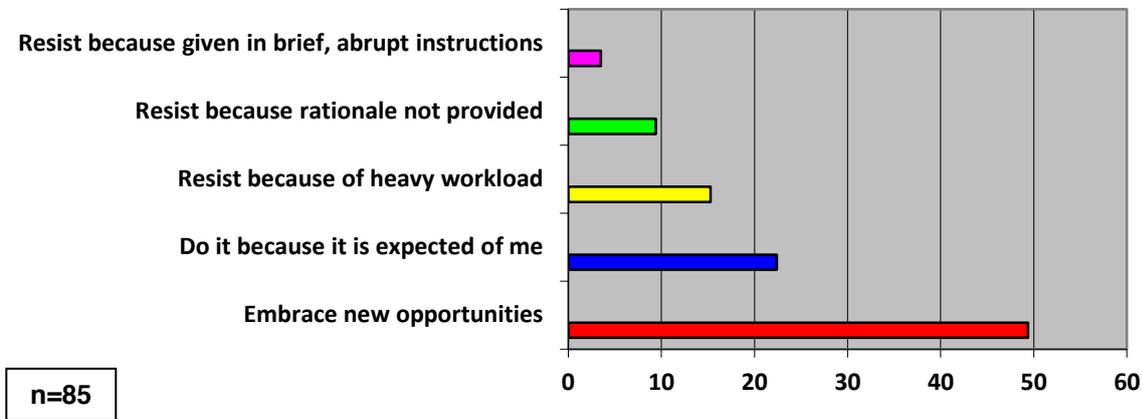
7.4.1.3.1 New challenging goals

In the first question of this section respondents were requested to indicate which will be their most likely reaction when new challenging goals are assigned to them from the choices provided to them. The following choices were provided and results obtained are illustrated in diagram 7.11:

- I resist it, because I already carry a heavy workload.
- I resist it because it is given in brief, abrupt instructions.
- I resist it because a rationale is not provided.
- I do it because it is expected of me.

- I embrace the opportunity as it motivates me to develop my skills and demonstrate competence.

Diagram 7.11: Most likely reaction when new challenging goals are assigned

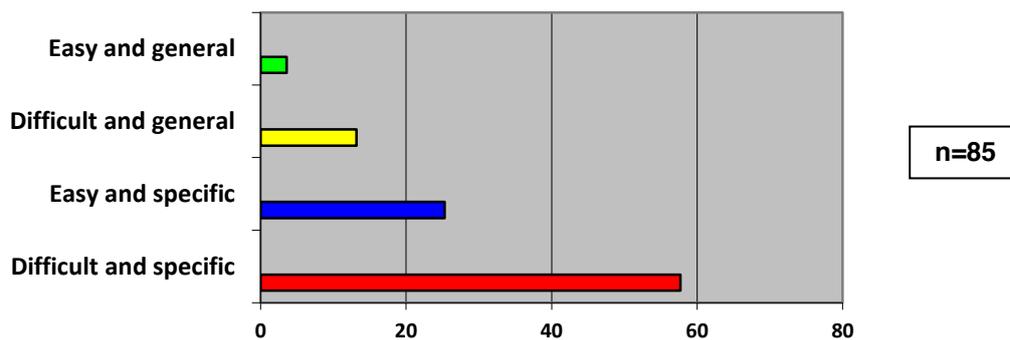


It is evident that almost half of the respondents (49,4%) embrace new challenging goals. This outcome corresponds with the outcome of 49% of respondents that indicated that they adapt to new technology/innovations fast (*early adopters*). Given these results, at least half of academics should be e-ready. In section 7.4.1.6.2 this result is compared to the percentage of respondents who are willing to undergo e-readiness assessment as part of their performance appraisals in order to support the use of e-learning.

7.4.1.3.2 Goal preference

The second question in the section on motivation probed respondents to indicate the type of goal they prefer to receive. A significant number of 57,7% of respondents indicated that they prefer to receive difficult and specific goals; 13,2% indicated that they prefer difficult and general goals; 25,3% prefer easy and specific goals and 3,6% prefer easy and general goals. It can be argued that the high number of respondents in favour of difficult and specific goals (almost 62%), are willing to take on new challenges, provided that the goals and expected outcomes are clarified. Diagram 7.12 illustrates these results.

Diagram 7.12: Goal preference



The results obtained is supported in literature that indicate that *difficult* and *specific* goals result in higher performance as opposed to easy and general goals or no goals (Latham & Locke 2006:232; Li & Butler 2004:37; Callaghan et al 2003:2517; Perry et al 2006:509; Locke & Latham 1990; Wegge & Haslam 2005:400).

Chapter 2, section 2.3.2, further recorded that research on goal commitment has found that the same level of commitment and performance are reached when goals are assigned to employees by managers, as when employees take part in the setting of their goals or set their own goals (Latham 2007:112; Curtis 1994:41; cf Elston & Ginis 2004:500; Feltz et al 2008:99–100; cf Lycette & Herniman 2008:27). The only exception where assigned goals do not contribute to better performance, but actually lead to poorer performance, is when the assigned goals are given with brief, abrupt instructions and with the absence of a rationale (Locke & Latham 2002:708; Locke & Latham 1990:241). Providing employees with a rationale for a challenging goal can assist in increasing goal commitment (Li & Butler 2004:38; Locke & Latham 1990:241). The importance of providing a rationale, as outlined in chapter 2, sections 2.2.2, 2.3.2 and 2.3.4, is thus emphasised as it provides an employee with a sense of autonomy which in return enhances performance (Guay et al 2006:238; Markland et al 2005:815–816).

Further, assigned goals strongly influence personal goals of employees (Locke & Latham 2002:709; Fiske, Gilbert & Lindzey 2009:271). The fact that new goals are now assigned to academics in terms of e-learning should according to literature not be a restricting factor to motivation. However, in practice, resistance to some extent is usually prevalent when changed job demands are introduced (Robbins 2003:559–

560). The various personal profile patterns, preferred learning styles and differences in pace and style of technology adoption also influence the adaptation and acceptance of e-learning goals. It is thus necessary that managers approach goal-setting for a job demand such as e-learning that may be experienced as challenging, in the most appropriate manner for each employee.

The fact that almost 60% (57,7%) of respondents indicated a preference to difficult and specific goals can therefore be seen as positive in terms of task performance and self-efficacy. Locke and Latham (2002:707) explain that self-efficacy improves goal commitment and that it is more likely that employees with high self-efficacy will develop effective task strategies than employees with low self-efficacy. Managers can increase the self-efficacy of their employees by inter alia seeing to it that they receive adequate training to increase mastery that results in achievement (Locke & Latham 2002:707). They can further increase self-efficacy through effective communication that creates a sense of confidence with the employee that the goal can be achieved (Locke & Latham 2002:707). Almost 60% of respondents have expressed a preference to difficult and specific goals, which, combined with high self-efficacy may ultimately in the long term positively impact on the acceptance of e-learning as core function of academics. It is clear, however, that line managers have a responsibility in this regard to provide guidance and to ensure that goals are aligned to organisational goals.

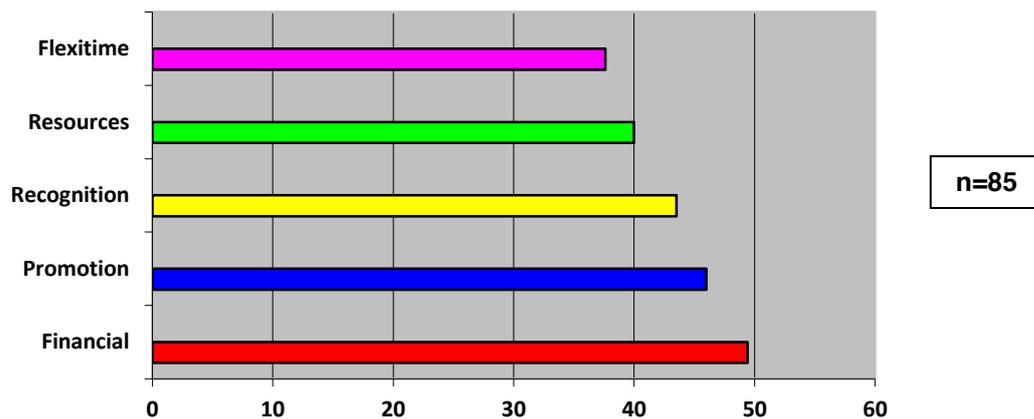
Research further proposes that the associations between goal-setting and performance processes are moderated by many contextual aspects, such as task arrangement and an employee's profile (Perry et al 2006:509). Literature is thus supporting the arguments proposed in this study: key human factors such as personal profile patterns, preferred learning style and pace and style of technology adoption informs an academic's e-profile; and when the e-profile (which reflects the level of e-readiness) is determined, it should guide the e-learning training and development intervention as well as suitable motivational techniques to be used for a particular academic towards the enhancement of e-readiness.

7.4.1.3.3 Motivators in the workplace

In the last question on motivation respondents were asked to indicate the factor by which they would be motivated most in the workplace. Respondents could have indicated more than one motivator. The following results were obtained:

- A financial incentive – 49,4%
- Promotion – 46%
- Recognition from my School Director/Dean – 43,5%
- Support with resources (eg provision of a laptop, cell phone, etc) – 40%
- Flexitime or the opportunity to work from home – 37,6%

Diagram 7.13: Motivators (more than one chosen)



The results indicated in diagram 7.13 that a financial incentive took top priority, although it is not considerably higher. Literature supports the importance of financial incentives to some extent. A good salary assists in attracting quality employees and retaining them (Mason & Watts 2009:1; Lee 2007:1–2). Marshall and Harrison (2005:4) confirm this notion and indicate that financial incentives lead to better work performance.

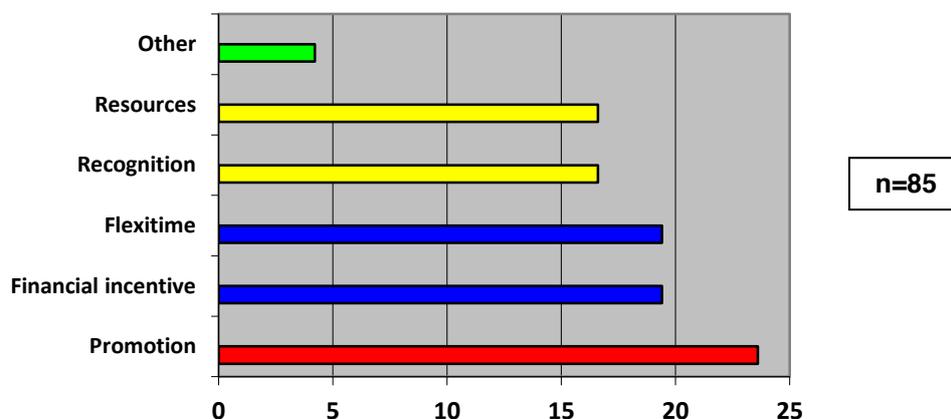
It is, however, surprising since the majority of respondents (67%) are senior academics and one would have expected that other motivators would be more significant if compared to Maslow's hierarchy of needs. Maslow's higher order esteem needs refer to the desire to stability, having a high valuation of oneself, self-

respect, self-esteem, based on true capability, accomplishment and respect from others (Maslow 1946:33). Maslow (1946:33) places esteem needs in two categories: firstly, the need for *strength, success, competence, confidence, autonomy and freedom*; and secondly, the *desire for status, prestige, recognition, attention, importance and appreciation*. Fulfilment of self-esteem results in *self-confidence, value, strength, ability, and competence for being constructive* (Maslow 1946:34). The other higher order need on Maslow’s hierarchy, self-actualisation, refers to the *desire for self-fulfilment, the tendency to become actualised in what one latently is and potentially can be, and to grow to be all one is able of becoming* (Maslow 1946:34). In this framework one would expect motivators such as recognition, promotion and flexitime to have rated higher than financial incentives.

When asked to indicate the single most important motivator of the various motivators indicated by respondents, the following results were obtained:

- Promotion – 23,6%
- A financial incentive –19,4%
- Flexitime or the opportunity to work from home – 19,4%
- Recognition from my School Director/Dean – 16,6%
- Support with resources (eg provision of a laptop, cell phone, etc) – 16,6%
- Other – 4,2%

Diagram 7.14: Motivators: single most important motivator



From diagram 7.14 it is evident that when respondents were forced to choose only one motivator, promotion took precedence over financial incentives. Financial incentives, however, are still rating the second highest with flexitime. A small number of respondents (4,2%) indicated that none of the above motivates them. They are motivated by aspects such as an inner calling, spiritual beliefs and a challenge to make a difference in a subject field. This stance is supported by McDonald et al (2007:334) when they indicate that professional performance is usually intrinsically motivated as professionals perform because they find an activity inherently enjoyable and rewarding; professional performance is usually not due to an external reward. Further, research found that “extremely imposed incentives” can weaken internal motivation (McDonald et al 2007:334). This is of significance as the conventional view of intrinsic motivation is that it is regarded as a significant attribute of excellence in professional practice (McDonald et al 2007:334).

In chapter 2, section 2.3.2, it was also indicated that there is a relationship between incentives and higher self-efficacy (people’s perception of how well they can perform a particular task), as well as higher self-set goals, which is related to intrinsic motivation (Callaghan et al 2003:2518–2519). It was further explained in section 2.3.2 that higher assigned goals lead to higher self-set goals and higher self-efficacy (Locke & Latham 1990:241; Callaghan et al 2003:2515–2517). There is a direct connection between self-efficacy and task performance – individuals with high self-efficacy beliefs perform better, irrespective of the self-set goal level. Self-set goals are also linked directly to task performance (Callaghan et al 2003:2515–2517; cf Madden 1997:412).

In various focus groups (2008a, 2008b, 2008c, 2008d, 2008e, 2009a, 2009b, 2010a, 2010b, 2010c) with senior managers in the Public Service it was indicated that a financial incentive usually is not the most significant motivating factor, in particular amongst senior employees in an organisation. In general senior employees place a higher value on non-financial benefits such as support with resources, flexitime, self-development, acknowledgement, promotion and status (Focus groups 2008a, 2008b, 2008c, 2008d, 2008e, 2009a, 2009b, 2010a, 2010b, 2010c). Although these senior managers and the academics’ work environments, job descriptions and challenges differ, one can, to some extent, make this comparison as it is senior professional

employees with substantial work experience in their field, as is the case with the vast majority of the respondents (Focus groups 2008a, 2008b, 2008c, 2008d, 2008e, 2009a, 2009b, 2010a, 2010b, 2010c). It therefore makes sense that promotion took precedence over financial incentives when respondents had to choose only one motivator.

Motivation remains a challenging task and line managers should take cognisance of their responsibility in this regard. Lincecum (2000:1) reminds managers that it is essential to realise that all human action is determined by a blend of cognitive and motivational factors, including with the use of technology. These factors may be intrinsic and hard to discern (Lincecum 2000:1). It is thus important that managers realise they cannot rely only on their employees' intellectual capacity, but should make an effort in motivating staff and providing incentives.

7.4.1.4 Section D: the use of and perceptions of an e-learning platform

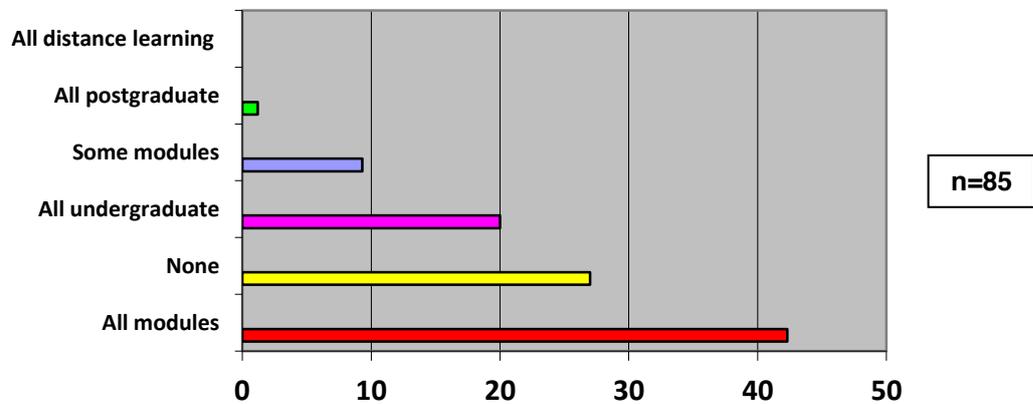
Respondents were requested to indicate the extent of their use of the various tools provided on eFundi, whether they use it for undergraduate and/or postgraduate learners, which tools of the e-platform they use, their level of comfortableness with using the e-platform, their initial reasons for not using the e-platform, their willingness to include cutting edge technology in teaching and learning, and their use of social networks, such as *Facebook*, *Twitter*, etcetera. The aim of these questions was to determine academics' general perceptions on the use of and purpose of e-learning as part of tertiary teaching and learning, as well as their level of comfortableness with technology in teaching and learning.

7.4.1.4.1 The use of eFundi

In the first question of this section respondents were requested to indicate for which type of modules (eg undergraduate modules) they use the e-learning platform. A number of respondents, 42,3%, indicated that they use the e-platform for all of their modules; 20% indicated that they use it for all undergraduate learners; 1,2% indicated that they use it for all postgraduate learners; none indicated that they use it for all distance learning learners; 9,3% indicated that they use it in some of their

modules; and 27% indicated that they use it in none of their modules (see diagram 7.15 below).

Diagram 7.15: The use of eFundi for modules



Respondents that indicated they do not use the e-platform at all (27%) provided reasons such as:

- They never had the opportunity to use eFundi.
- They did not have the time to go for training.
- Academics teaching practical music indicated that they cannot use it in their modules.

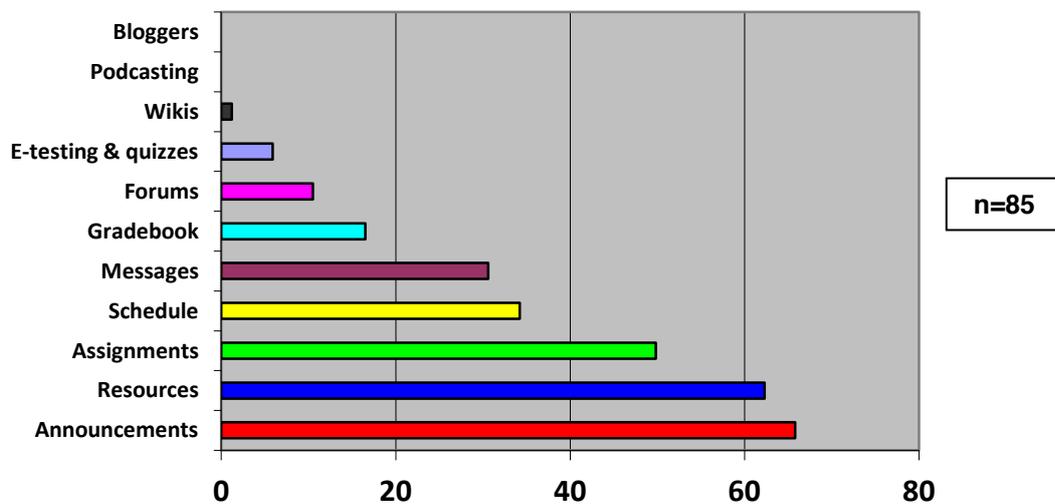
The fact that eFundi is not used optimally, as revealed in the abovementioned statistics, makes it evident that training is necessary. Further, also the fact that a lack of training was indicated as one of the reasons for not using eFundi, emphasises the need for training. It is, however, also necessary that academics realise the importance of e-learning in order to apply better time management to attend training sessions. The role of line managers is also stressed by these responses as it is their responsibility to identify training needs and to provide employees with the opportunity to attend training (Reid, Barrington & Brown 2004:118). Considering respondents indicated that they never had the opportunity to make use of eFundi, there is reason for concern. It is not clear why these employees have been denied the opportunity to make use of eFundi. However, the researcher is of opinion that line managers must support employees in this regard. The ultimate responsibility for the performance of a

particular school or section lies with the line manager and therefore also the responsibility for employees' learning and training (Reid et al 2004:118).

7.4.1.4.2 Use of e-learning platform tools

The next question in this section pertained to the use of the various tools of the e-learning platform. Diagram 7.16 illustrates the results obtained.

Diagram 7.16: The use of eFundi tools



It is evident that the *announcement* and *resources* tools are by far the most used by respondents with 65,8% and 62,3% who respectively indicated the use of these tools. The next most commonly used tools are the *assignment* tool (49,8%), the *schedule* (34,2%), and the *message* tool (30,8%). Tools such as *podcasting* and *bloggers* are not used at all, and *wikis* are used by only 1,5% of the respondents.

From the abovementioned results it is evident that academics still mostly use e-learning tools that are not interactive. The only interactive tool used by respondents is the *forum*, with only 10,5% of respondents that indicated the use of this tool. If the use of e-learning is viewed from an educational perspective, as discussed in chapters 3 and 5, teaching strategies need to be adapted to suit learner needs. It appears that a significant number of academics predominantly still use the traditional approach to teaching and learning. This approach, as indicated in chapter 3, called the objectivist approach, hold the idea that educators serve as channels through

which learners' thoughts and meanings are transferred to the passive learner (Hanley 1994: 3). It is advisable that academics lean more towards the constructivist approach. Whereas the objectivist approach gives emphasis to observable, external behaviours and therefore, steers clear of reference to meaning, representation and thought, constructivism follows a more cognitive approach (Gergen sa). In the constructivism approach educators are coordinators, facilitators, resource advisors, tutors or coaches (Gergen sa). Tu et al (2008:1143) are of the opinion that users with constructivist-oriented epistemological beliefs are inclined to have greater preferences to engage in meta-cognitive thinking in online environments, as opposed to those who do not have constructivist-oriented epistemological beliefs. It is thus necessary for academics to adjust their teaching and learning strategies to accommodate their learners' needs and preferences. This includes the use of technology in teaching and learning that has been identified as significant to Generation Y, which constitute the vast majority of current learners at the NWU.

7.4.1.4.3 Level of comfortableness with e-learning

The following question of this section probed respondents to choose the statement, most applicable to their level of comfortableness with teaching online. The following results were obtained with a frequency of 97%:

- I am not comfortable with teaching online and therefore do not use the e-learning platform – 12,4%
- I am not comfortable teaching online, but use the e-learning platform because it is expected of me by my School Director/Dean – 8,6%
- I was initially not comfortable teaching online, but became more comfortable in time – 11,1%
- I am comfortable with teaching online as long as I can stick to the basics (providing information and resources; assessing assignments; posting details and due dates on the schedule) – 42%
- I am comfortable with teaching online and am using more and more of the online tools – 21%

- I am completely comfortable with teaching online (and use tools such as podcasting and bloggers) – 4,9%

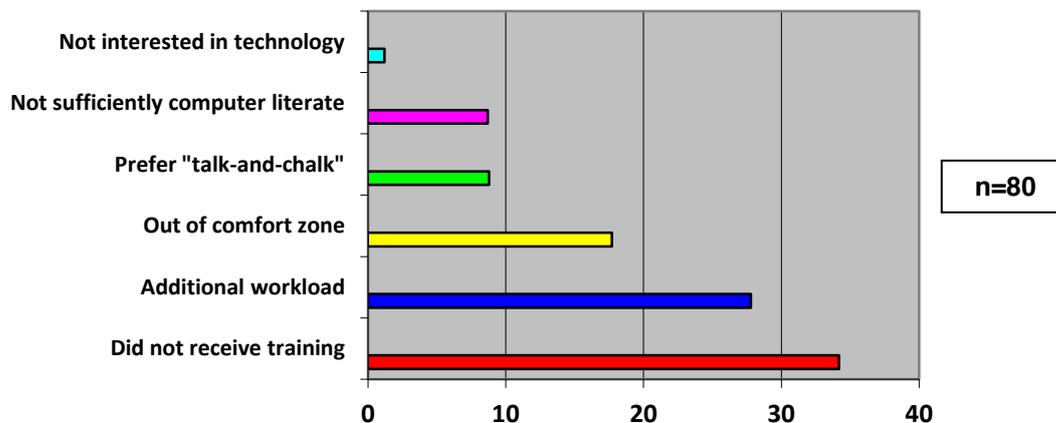
Only 25,9% (21% are comfortable and 4,9% are completely comfortable) of respondents currently portray a comfortableness level that will allow them to use advanced e-learning tools, to use e-learning creatively and to use it interactively. An alarming 42% of respondents indicated that they prefer to make use of the basic tools only. Thus, it is to a great extent used as a distribution mechanism for notes, study material, power point presentations (with the *resources* tool), and one-way communication tools such as the *announcement* tool and the *schedule*. Although the "basic tools" per se is not the issue, it is questionable whether these tools, mostly distributing information and not engaging learners in the learning experience and also not supporting the acquirement of a particular skill, is enhancing learning. E-learning tools should not be used for the sake of including technology in teaching and learning, but to use it as a tool to enhance learning pertaining to a particular skill or concept.

The fact that 4,9% of respondents indicated that they are entirely comfortable with teaching online and are using tools such as podcasting and bloggers, is contradicting to the results obtained in a prior question. At the question where respondents were requested to indicate of which tools on the e-platform they make use, none indicated that they make use of *podcasts* and *bloggers*. One can assume that these respondents currently feel completely comfortable with teaching online and although they are not using tools such as *podcasts* and *bloggers* yet, will make use of it in future. It is also possible that they make use of other cutting edge technology, not mentioned in the questionnaire. (Also see diagram 7.18, indicating respondents' attitude towards and willingness to include cutting edge technology in teaching and learning.)

7.4.1.4.4 Reasons for not using e-learning

The next question probed respondents who do not make use of the e-platform, or who initially did not use it, to provide reasons. Results obtained are indicated in diagram 7.17 below:

Diagram 7.17: Reasons for not using e-learning



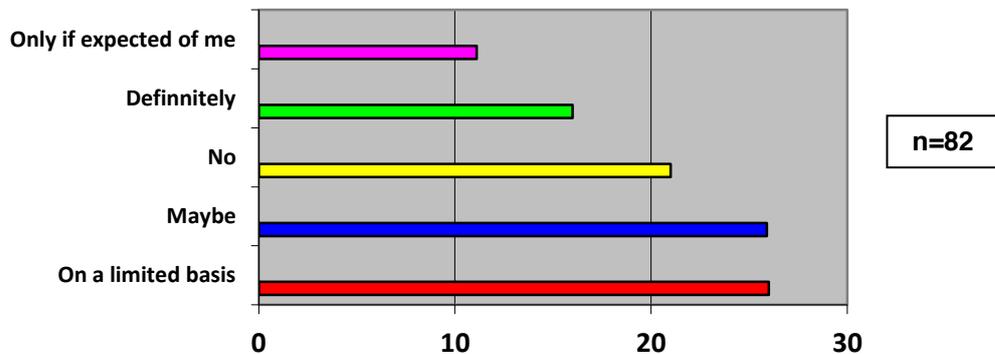
Over 27,8% of respondents indicated they initially resisted (or still are resisting) e-learning because they perceive it to be an additional workload. Although this may be true in some instances, when an online learning facilitator is well-skilled on the e-platform it will not necessarily contribute to an additional workload. The secret lies in using it skilfully to contribute to both teaching and learning. Also interesting in this regard is that 34,2% of respondents indicated that they did not initially use (or are still not using) the e-platform due to a lack of training, making it the biggest reason for respondents not to have used e-learning. It can be argued that the provision of training may also lower the perception in of an additional workload. It is thus clear that the reasons provided by respondents for not using e-learning can be addressed through training. Such training, however should make provision for not only the technical skill, but should also provide schooling in the philosophy and use of e-learning to eliminate misconceptions pertaining to the use of e-learning.

7.4.1.4.5 The use of cutting edge technology

On the question whether respondents are willing to use cutting edge technology, such as podcasting and online games in their courses, 26% indicated that they would use it on a limited basis and none of the respondents indicated that they are already using cutting edge technology in their courses. This again supports the notion that academics are not aware of the possibilities and advantages of technology and teaching and learning, and a lack of skill is probably preventing them

from applying these technologies in their courses, thus emphasising the importance of training and development. Diagram 7.18 illustrates respondents' attitude towards and willingness to include cutting edge technology in teaching and learning.

Diagram 7.18: The use of cutting edge technology



It seems that the majority of respondents are willing to include cutting edge technology in teaching (on a limited basis, 26%; definitely, 16%, maybe, 25,9%). It brings the total of possible users of cutting edge technology amongst the respondents to 67,9%.

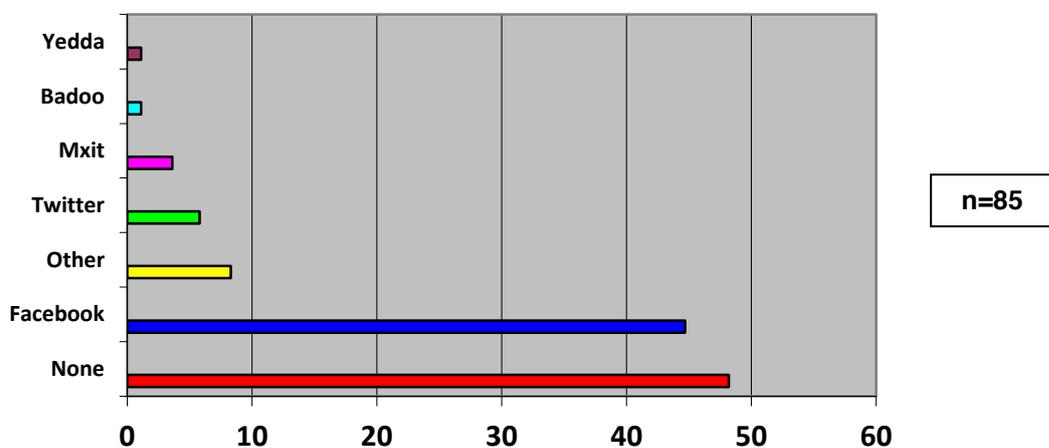
The above results are indicative of the various styles and pace of technology adoption. It can be argued that those who have indicated that they will definitely use it (although not using it yet), 16% can be categorised under the group of *early adopters* that will agree to a new technology, once the concept is proven. As indicated in an earlier section, 49% of respondents fall in this category. Part of this 16% of respondents may also belong to the *Innovators* and merely did not have the opportunity to use it yet. However, one can also argue that an *innovator* will ensure that an opportunity exists to experiment with cutting edge technology as they are risk takers and thrive on new challenges. Respondents who have indicated that they will use it on a limited basis (26%) can in all likelihood be categorised as the *early majority*, the eventual users of technology who do not like to take the risks of pioneering, but see advantages of tested technologies are driven by usability and success of the technology. They are the beginning of the mass market. The group of respondents that have indicated that they may perhaps use it in future (25,9%) can be categorised as the *late majority*, those who adopt when half of the population has already done so. They are followers who dislike the disruptions of new technologies

and are more conservative. From the above results and interpretations thereof, it can be deduced that an academics' style and pace of technology adoption influence their willingness to use cutting edge technology in teaching and learning.

7.4.1.4.6 The use of social networks

The last question of this section requested respondents to indicate which social networks they are using. More than one option could be chosen. Diagram 7.19 indicates the results obtained:

Diagram 7.19: The use of social networks



It is interesting to note that 48,2% of respondents do not make use of any social media. On the other hand 44,7% does make use of *Facebook*. This is almost a 50/50 division. Some of the other social networks are used to a small extent.

One of the ways to increase interactivity in teaching and learning is to make use of the social media such as *Facebook* and *Twitter*. Social media can be well used as communication tool in teaching and learning (Liu 2010b:101–103; Bassendowski 2011:1–2). The use of social media in teaching and learning can be limited to learners enrolled for a specific subject, or learners of various subjects can have access to for example a particular *Facebook* page, depending on the need and applicability. Learners can share their experiences, ask questions to each other and the facilitator, brainstorm and provide information they have found. All on an open

forum, available to all people allowed on the specific *Facebook* page. Through for example *Facebook* and *Twitter* various links to websites with valuable information to the subject can be provided. Both facilitators and learners reading relevant information to the subject on for example a news network or newspaper website, the option to share the information with the *Facebook/Twitter* group can be chosen which will immediately provide the relevant information to all learners on the particular *Facebook/Twitter* page. However, if respondents are not using a social network themselves, it is unlikely that they will use it to enhance their learners' learning. Only one respondent indicated that the use of social media can play a positive role in teaching and learning. Although the use of social media may not be relevant to all subject fields, certain fields will definitely be able to benefit from this type of collaborative learning.

From feedback obtained in this section it became evident that a significant number of academics are using the e-learning platform as a distribution mechanism and not as a learning tool. The e-platform is used interactively by a very small number of employees and the preferred e-tools (announcements, resources) do not make provision for learner participation. A significant number of respondents indicated that they are comfortable with e-learning as long as they can stick to the basics, thus not using interactive tools or cutting edge technology. Further, the fact that almost 50% of respondents do not make use of a social network makes it unlikely that this medium will be applied for learning of learners. From these results it is evident that the majority of respondents do not realise the possibilities and purpose of e-learning, emphasising the need for training.

7.4.1.5 Section E: training and development for e-readiness

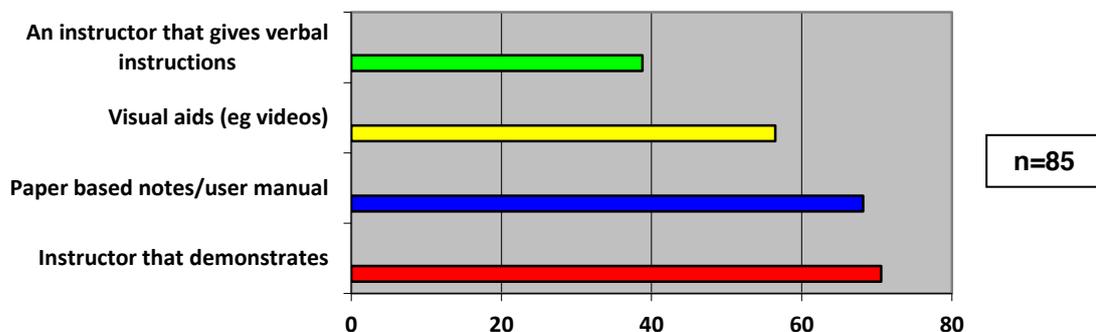
Questions in this section probed respondents' views on the necessity of receiving e-learning training prior to using an e-learning platform, the type/s of instructions, aids, tools, and applications that should be included in e-learning training, and their initial feelings on the matter of online teaching and learning when they were first taught how to use the e-platform. These questions were asked with the purpose of determining respondents' views and preferences pertaining to the purpose and/or need of e-learning training and development.

7.4.1.5.1 The need for training

Questions in this section probed respondents on their perceptions on the need for e-learning training. The first question in this section requested respondents to indicate the importance of receiving training before facilitating online by means of the option they choose. A total of 93% of respondents answered the question. An overwhelming majority of 71% of respondents indicated that training is imperative. It is evident that the vast majority of respondents recognise the importance of being taught how to use e-learning optimally, thus indirectly acknowledging that there is more to it than the manner in which they are currently using it. Further, in section 7.4.1.4.4 34,2% of respondents indicated that a lack of e-learning training was the reason that prevented them from using e-learning.

The second question in this section requested respondents to indicate what should be included in e-learning in terms of the method of e-learning. More than one option could be chosen. Diagram 7.20 below indicates the results.

Diagram 7.20: Included in e-learning training



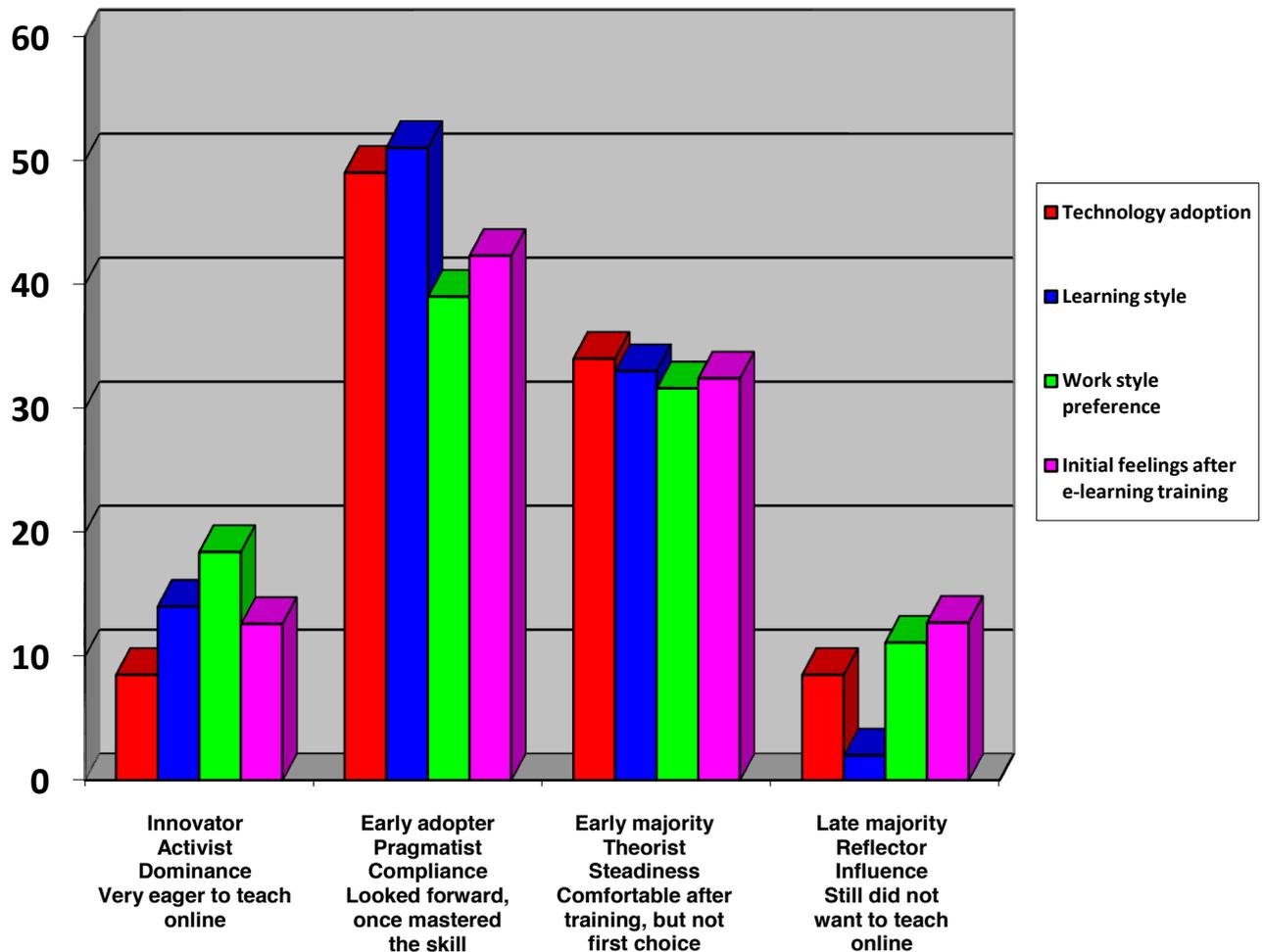
The high rating of visual support – 70,6% of respondents in favour of an instructor that demonstrates and 56,5% of respondents in favour of the use of visual aids such as videos – is noteworthy. It is evident that respondents prefer to see something to support their understanding thereof. It is also interesting to note that 69,2% of respondents indicated that they would also like to receive paper-based notes or a user manual. One can assume this is because it is something known to them that they are comfortable with and to which they can continuously refer back for assistance.

It can thus be deduced that the vast majority of respondents regard training as imperative to the use of technology in teaching and learning. It is also evident that their preference in terms of the manner in which training should be conducted is through visual support, based on their choice of an instructor that demonstrates and the use of visual aids.

7.4.1.5.2 Perceptions when first taught

In the second question in this section respondents were requested to indicate their perceptions/feelings when being taught to teach online for the first time. Eighty five percent (85%) of respondents answered this question. The results again point to the need for training and development, as 42,3% of respondents indicated that they looked forward to start teaching online, once they have mastered the new skill. Another 32,4% indicated that they also felt more comfortable with teaching online once they have obtained the skill, although e-learning would never be their first choice. It brings it to a total of 74,7% that indicated the need for obtaining the skill through training. The 12,6% of respondents who indicated that they could not wait to begin teaching online will in all likelihood portray a high *dominance* factor on the DISC profile, an *activist* learning style and will fall in the *innovator* category of the technology adoption cycle. Only 12,7% of respondents indicated that they still did not want to teach online once they have been taught how. This group of respondents can be considered as the *late majority* on the technology adoption cycle. In diagram 7.21 below a comparison is drawn between the DISC profiles, the learning styles, the pace and style of technology adoption, and these results.

Diagram 7.21: Comparison between the DISC profiles, learning styles, pace and style of technology adoption, and initial feelings/perceptions after e-learning training



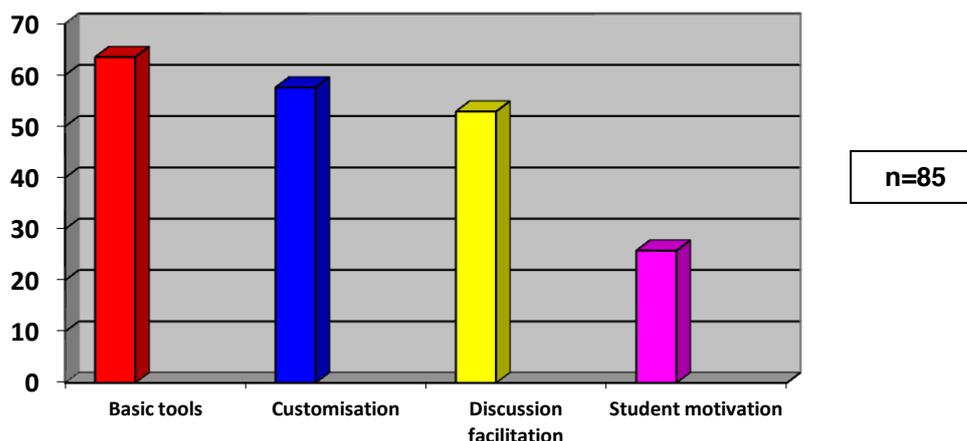
It is evident that the majority of respondents portray an *early adopter-pragmatist-compliance* e-profile, as indicated in a previous section. It can now also be deduced that employees who fall in this category will in all likelihood look forward to teaching online, once they have mastered the new skill. Again the need for training is emphasised as this group of respondents first obtained the skill and then became enthusiastic about e-learning. Once this group of employees, who are not opposed to e-learning and are willing to learn, are trained to use the e-learning platform optimally and couple it to sound educational strategies, it can make a significant positive contribution to learners' experience of the use of technology in teaching and learning and specifically to learners' learning experiences itself.

The second highest profile amongst respondents, also already identified is *the early majority-theorist-steadiness* e-profile. It can now also be deduced that, although e-learning will never be this group's first choice, they will be comfortable with teaching online, once they have mastered the skill. Motivating employees belonging to this group effectively is of particular importance, as they do not naturally lean towards e-learning and make use of it only when half of the population has already done so. It can be argued the only reason they are using technology in teaching and learning is because it is expected of them. Extra time and effort should be taken during the training of employees who fall in this category. It is imperative to provide a rationale (see section 2.4.3) and to constantly encourage these employees towards the role that e-learning plays as educational advantage. In this regard the line manager will have to play a significant role.

7.4.1.5.3 Skills included in e-learning training

The last question in this section requested respondents to indicate the skills they wish to be included in e-learning training. More than one option could be chosen. The following results were obtained:

Diagram 7.22: Included in e-learning training



It is evident that the majority (63,5%) of respondents prefer to know only how to use the basic tools of the e-platform. In section 7.4.1.4.3 it has already been indicated that only using these tools will not necessarily enhance learning and that it merely supports the e-platform to be used as a distribution mechanism. It is, however,

interesting to note that 57,6% of respondents want to be trained to customise an online site. This high percentage in all likelihood reflects one of the causes for the poor and inefficient use of e-learning, a lack of training. It can be argued that once academics are trained to make effective use of e-learning, the use of eFundi and other e-learning mechanisms will increase.

The high percentage of respondents who indicated that they want training on how to facilitate online discussions to ensure optimal participation (52,9%), also signifies that there is a lack of know-how to use the tools and therefore stresses the need for training in this respect. As an important human resource management function, training should be done by the section responsible for academic training and development, Academic Support Services. The line manager, however, also has a role to play in this regard. The responsibility to ensure that employees are trained and developed to ultimately function productively and effectively in the work place lies with the line manager. The line manager can also play a significant role in terms of motivation.

It is disappointing that only 25,8% of respondents indicated that they want pointers on how to motivate learners that resist e-learning. This result calls for concern as it reveals that academics are of the opinion that their online duties do not include motivation. One would hope that all academics would be concerned about getting all learners on board to participate and benefit maximally from any learning opportunity. This result is indicative of academic's ignorance pertaining to e-learning. In chapter 1 the significant role of the online learning facilitator has been emphasised and in chapters 4 and 5 again. Skills required of an online learning facilitator such as being a good listener, providing feedback, communication and encouraging learners and building relationships, mentioned above, all relate to the human nature of e-learning (cf Hootstein 2002). Online learning facilitators should also possess the ability to let learners feel comfortable about participating in online discussions and sharing information (National College for School Leadership 2006; Sutton 2004). It is thus evident that academics are not aware of the human nature of e-learning and that they in all probability still view it as an add-on to traditional classroom teaching and learning. This result highlights the need for e-learning training.

In addition to the abovementioned closed questions discussed, the questionnaire also contains open-ended questions. The open-ended questions are subsequently discussed in the following section.

7.4.1.6 Open-ended questions

The open-ended questions of the questionnaire pertain to the use of and perceptions of academics on an e-learning platform, as well as perceptions on training and development for e-readiness.

7.4.1.6.1 The use of and perceptions pertaining to an e-learning platform

In these questions respondents were asked to indicate whether they use the e-learning platform interactively; they were also requested to indicate in which manner they are using it interactively. Respondents were further requested to indicate whether they are planning on using the e-learning platform interactively, if they do not do so already, and to indicate the manner in which they will do so. Respondents were also requested to indicate their general perception of e-learning.

The rationale behind these questions was to determine whether academics are using the e-platform as an interactive teaching and learning tool, or merely as a distribution mechanism. Answers to these questions will signify employees' perceptions on how e-learning is believed to be used, and what the general personal views pertaining to e-learning are. The answers to these questions can in all probability be linked to an employee's e-readiness and the need for training. As human resources are the university's most important asset, both the unit of Academic Support Services, responsible for academic development, and line managers should take cognisance of the need for training as important human resource development function. The first question in this section posed to respondents is:

- Do you currently use your module/s interactively on eFundi? How?

A total number of 78 respondents (92%) answered the question. The following results were obtained from respondents who use the e-learning platform:

- No – 64,5% of respondents indicated that they do not use eFundi interactively.
- Yes – 36,5% of respondents indicated that they use eFundi interactively. Of these respondents:
 - 9,2% use it for *assignments* and/or *messages*
 - 10,5% use the *forum* for discussions
 - 2,6% use it for *quizzes* and *tests*
 - 1,2% use it for *wikis*
 - 13% indicated that they use eFundi interactively, however, the tools of the e-platform used by them, as indicated in another question, do not correspond with the interactive use of the e-platform

The following deductions can be made from the abovementioned results:

- The actual number of respondents who use eFundi interactively is 23,5%, as 13% who indicated that they use it interactively, does in actual fact not use interactive tools on the e-platform. Thus the number of respondents who do not use eFundi interactively is an alarming 77,5%. This confirms the notion that the e-learning platform is merely used as a distribution mechanism and not as a tool to enhance learning. It is evident that academics do not realise the value of interactivity and collaborative learning as methods to enhance learning. It once again confirms the need for e-learning training of academics, with the focus on using technology to enhance teaching and learning. In previous sections it has already been stated that it is necessary for academics to adjust their teaching and learning strategies to accommodate the “new” type of learner, Generation Y.
- The number of respondents who indicated that they use eFundi interactively with *messages*, *assignments* and *wikis* correspond with the percentages obtained in a previous question pertaining to the use of tools on the e-platform. However, 2,6% indicated that they use eFundi for *quizzes and tests*, whereas 5,9% of respondents indicated that they use *quizzes and tests* in the question pertaining to the tools of the e-platform used. This can be interpreted that 3,3% of the respondents who make use of the *quizzes and tests* tool of eFundi do not realise that it is an interactive tool.

Another aspect of concern is some of the reasons provided by respondents for not using the e-learning platform. Some of the reasons included:

“I am lecturing on postgraduate level.”

“Ek het geen voorgraadse vakke nie daarom gebruik ek nie die stelsel nie.” Freely translated as: “I do not lecture any undergraduate subjects, therefore I do not make use of the system.”

These two comments indicate that a number of academics are under the perception that e-learning cannot be used for postgraduate learners. This again focus the attention to the fact that in many instances academics still prefer to make use of traditional teaching and learning methods only. It also confirms the need for training and awareness of what the possibilities with e-learning are. In particular with postgraduate learners, e-learning can be applied to enhance research skills, provided that the academic is skilled to assist the learner in this regard.

Another comment, illustrating a misconception is:

“Yes, especially for feedback after test(s), discussing general mistakes. Learners often reply to this.”

This comment was made by one of the respondents who indicated that they use eFundi interactively, but judging by the tools of the e-platform used, in actual fact does not use it interactively. One can assume that test feedback is provided via an announcement (which is the only tool used by this respondent, as indicated in a previous question). If this is the case, it is not an interactive tool. It is also not clear in which manner learners reply to the feedback. One can only assume that this must be orally, in a consultation or in class, as no provision for learner replies is made on the e-platform.

The following response emphasises the fact that a number of academics are not aware what is regarded as interactive use of the e-platform. Again this comment is highlighting the need for training and e-learning awareness.

“No I only use it for announcements, schedules and resources. I lecture Financial Accounting to 3rd year and Honours Chartered Accountancy learners, and these modules do not naturally lend themselves to using more "creative" tools like podcasting and bloggers. It is a very technical subject and application of some of the more creative eFundi tools would be very difficult, if not impossible.”

The fact that academics are not always aware of the possibilities with the use of technology, emphasise the need for training. One can understand that the use of eFundi will not be viable with a practical subject such as piano teaching, but surely it can be used for a subject such as Accountancy. It is evident that the lecturer is not aware of links that can be made to the websites of professional associations, scientific journals, and the possibility of subject related discussions on the *forum*, to mention a few. Surely at honours level a learner should be able to do research and the *forum* tool can be valuable for in-depth discussions of complex issues.

In addition to the direct quotes above, a few more interesting aspects came forth during the responses to this question:

- A number of respondents indicated that they use the *gradebook*, but do not make use of either *quizzes and tests* or *assignments*, and will therefore not be able to use the *gradebook* (the *gradebook* only reflects online assessments). This signifies ignorance of the use of the *gradebook* tool.
- One respondent indicated that the learners enrolled for his/her particular subject are part time learners and are not computer literate. He/she could therefore not continue to use eFundi, but intends to make computer literacy and/or internet access a prerequisite as he/she is of opinion that it is a valuable tool, especially for part time learners. This seems to be a sensible decision,

given the fact that the lecturer has limited contact time with part time learners and that especially the *forum* tool can be effectively used in this regard for continuous discussion, communication and direction to learners.

- One respondent indicated that he/she provided the opportunity to learners to add content and discuss topics on the forum, but they did not sufficiently make use thereof. This lack of participation can be due to a number of reasons: These particular learners are not e-ready; they are not sure what is expected of them; they do not find the tools provided valuable; what is discussed on the forum is not linked to learning outcomes and exam preparation; or they are not sufficiently guided and encouraged by the lecturer to participate. If it is one of the last two reasons, this supports the need for training. It thus may also refer to the teaching and learning strategy that needs to be adjusted.

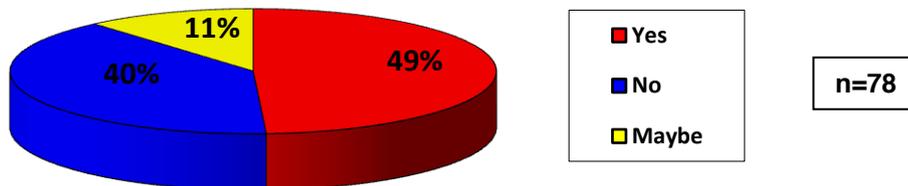
In brief, the feedback obtained from this question confirmed that the majority of academics use the e-platform as a distribution mechanism and not as an interactive learning tool. It further showed that in many instances academics are not aware of what is regarded as interactive e-learning. The feedback emphasised the need for e-learning training for employee development towards optimal performance. In order to optimally use e-learning for an enhanced learning experience, training should firstly focus on creating awareness of the philosophy of e-learning and the possibilities with the use of e-learning, and secondly to provide academics with the skill to do so. Included in the training should be new approaches to teaching and learning. To ensure learners' needs are provided for and that their learning is enhanced through e-learning, it is necessary to create an awareness of the type of learners and their needs and that academics receive training on the best suitable methods to service these learners. Considering the fact that the vast majority of academics are not qualified and trained educationalists but subject experts, it is essential that training is focused on teaching strategies. In this regard the constructivist approach, which is learner centred, can be useful. It remains the responsibility of line managers to ensure that their subordinates are well-trained and capable to provide quality teaching and learning to learners.

The second question in this section posed to respondents is:

- Do you plan to use your module/s on eFundi interactively? How?

Results obtained from this question are indicated in diagram 7.23 below:

Diagram 7.23: Future interactive use of eFundi



Forty percent (40%) of respondents indicated that they do not plan on using eFundi interactively in future. This high percentage signifies a disturbing level of unwillingness to adapt to learners' needs and new teaching and learning strategies. The 11% of respondents who indicated that they may perhaps use eFundi interactively probably are not sure exactly what it entails and therefore are not sure whether they should indicate that they will use it interactively.

Six percent (6%) of respondents indicated they are not sure about the meaning of “interactively”, which supports the deduction made from feedback from the previous questions that all academics are not aware of the possibilities of the use of interactive tools. Of the 49% of respondents who indicated that they will use eFundi interactively, 17% also portrayed ignorance pertaining to the concept of interactivity. Although they have indicated that they will use it *interactively*, judging by their comments on *how* they will do it, it is clear that they will use the basic tools such as *announcements* and *resources*, which are not interactive tools. They have therefore merely indicated that they will use eFundi to some extent and it brings the total of respondents that are willing to use eFundi interactively to 32%.

Another interesting aspect that came forth was that 23% of those who have indicated that they will use eFundi interactively further indicated that they need training and some that they are not sure how to use it interactively. It is thus confirmed that in many instances academics do not use e-learning tools due to a lack of training and ignorance regarding the use and possibilities. It once again emphasises the need for

the Academic Support Services unit, responsible for human resource development of academics, to provide more information and targeted training.

Respondents who indicated that they will use eFundi interactively indicated that it will be used for *wikis, bloggers, podcasts, the forum, assignments, quizzes and tests*, setting up open learning platforms, videos, video conferencing, and *chatrooms*. What is interesting to note is that most respondents indicated the type of e-tool they wish to use, but did not indicate for which reason or in which way it will enhance learning in their specific subject field, with the exception of one respondent. This may be a matter of academics being willing to incorporate interactive technology in their teaching strategies as they realise it is important and expected by their learners in this time and age. However, they will most likely not use it in a focused effective manner without the necessary training of how to use it for enhanced learning, and not merely for the sake of using technology.

Comments from respondents that indicated they will use eFundi interactively portrayed further ignorance. Some indicated they would use it interactively in the same manner as they currently are, which is, judging by the tools they use, not interactive e-learning. Another comment referred to technical problems with eFundi. As the researcher uses eFundi on a daily basis, she is convinced that technical problems cannot be used as an excuse for not using the e-platform as these problems are minimal and the exception. This comment further signifies the need for training.

Another comment supporting the need for better information and awareness of the possibilities of e-learning was made by a respondent who indicated that he/she was not aware that podcasting and blogging is possible through the e-platform. Also a comment referring to computer labs for e-tests not being available underlines the ignorance in this regard as 24 computer labs of various sizes are available on campus (Pienaar 2011). A comment indicating that as soon as part time learners have access to eFundi the respondent will make use of it, further indicates a lack of awareness as all part time learners, as registered learners do have access to eFundi (Le Roux 2009). It is thus evident that judging the feedback of this question from a

human resource management perspective, as well as from a line management perspective, it is imperative to provide e-learning training to academics.

The third question in this section posed to respondents is:

- What is your general perception of e-learning?

A total number of 77 respondents (91%) answered this question. Feedback on this question indicated that 66,2% of respondents perceive it as positive with various degrees of embracing it. Some are extremely positive, others view it as a valuable additional source and some see it as an important communication tool. A number of respondents, 18,2%, portray a fully negative attitude towards e-learning and 15,6% of respondents indicated a view that is neither positive nor negative.

The fact that 19,5% of respondents indicated that e-learning cannot replace a more traditional learning environment or contact classes, and should only be used supplementary to traditional contact or where learners are not available for contact learning, indicates one of the biggest misconceptions about e-learning. These comments signify a fear that e-learning may replace the lecturer's role in teaching and learning and is probably one of the biggest reasons why e-learning is not used or underutilised as teaching and learning tool. A number of respondents also indicated that e-learning is ideal to use for distance learning, which also illustrates the ignorance of the use of e-learning for full time learners as learning tool. As recorded in chapter 1, section 1.1, e-learning is no longer merely associated with distance learning, but is consciously chosen and used to provide the best and most suitable ways to support and encourage effective learning (JISC 2009:9). The "e" in e-learning attaches technology to learning, but the focus remains on learning as the key element (cf JISC 2009:8–9). These misconceptions emphasise the need for not only obtaining the skill, but also creating an awareness of the manner in which e-learning can be integrated with contact learning.

Respondents who indicated a high level of positivity towards the use of e-learning made inter alia, the following comments:

“... more and more important in 21st century.”

“... integral part of teaching today ...”

“The future.”

“It saves time.”

“...necessity to engage with new type of learner.”

“Necessary for new learning environment.”

“Important for era in which we live.”

“Important for netgeneration.”

“Should expand. All lecturers should receive training.”

“Great opportunity if used efficiently.”

“Use of social media”

“I can see how it is a tool that has many advantages and that the new student¹⁸ will prefer this method to more traditional methods. Therefore I am prepared to eventually make more use of it. There are for example master classes in piano conducted via the internet and students can receive valuable input from teachers elsewhere.”

“Platform for instant information, and downloading of resources for students.”

¹⁸ Although the concept *learner* is preferred and used in the study, as opposed to *student* (see chapter 1), the concept *student* has been retained where it is given in a direct quote from a respondent.

“Valuable”; “useful”.

The abovementioned comments indicate that a number of respondents are aware of the need to adjust teaching and learning strategies to suit the non-traditional learner from Generation Y. General comments in favour of e-learning included:

“One should not follow a “one-size-fits-all” approach.”

“The application possibilities vary between various subjects.”

“It has value but should not be overstated.”

“Additional resource and communication method.”

“Useful if all parts available are employed.”

Some comments made in favour of e-learning, but indicating the ignorance with regard to the possibilities of e-learning, or the solutions to the perceived problems are:

“If you have many students registered for your module or if your module is presented part time.”

“It does help as students do not attend the formal classes.”

“Students perceive e-learning as replacement for attending class, and expect all material to be posted online.”

“Positive but not for postgraduate students.”

“Services a certain type of client; short courses easier to administer.”

“Students may find it difficult to get access to computer resources or understand and subsequently use it.”

The majority of the abovementioned comments support the need for focused training and e-learning awareness as part of employee development to deal with misconceptions. It is evident that a number of employees are still under the impression that e-learning is a medium to be used for part time learners and cannot be used for postgraduate learners. The lack of understanding of the type of learners and their needs is once again also emphasised by the abovementioned comments.

Some of the comments made by respondents who perceive e-learning as negative or who stood neutral towards it are:

“Not positive because it is unknown to me.”

“It is very new and I am not very technologically literate.”

“Takes time to set up eFundi.”

“Just another tool to not be overused, overestimate or used for entertainment.”

“Not interested in it although I guess it may be useful.”

“My experience of e-learning is too scanty to make a balanced judgement.”

“It feels to me like the UNISA modules we have to present. The learners are faceless and to me the personal contact is very important.”

“It will only be effective if all learners have regular access to the internet, campuses will update software, it is not realistic

in SA at the moment as SA has one of the lowest computer literacy and internet usage in the world.”

Again the abovementioned comments signify ignorance and need for targeted e-learning training to enhance e-readiness and the use of technology in teaching and learning. Many of the reservations that respondents hold towards e-learning are not based on factual information but perceptions, ignorance and sometimes fear. Fear is a common reaction to change in the workplace. Due to employees' different e-profiles they will not adapt to change in the workplace in the same manner and at the same pace (cf Robbins 2003:559–560; Hunsaker 2001:380). From a human resource management view it is, however, important to ensure that change is managed and that it is ensured that all staff are skilled and prepared to deal with the changes in the workplace, as organisations achieve objectives through its human resources (Ivancevich 2004:4). In this regard motivation from line managers will also play a significant role. Knowing an academic's e-profile can assist managers with regard to employee motivation.

The last comment above, referring to South Africa's computer literacy and Internet access, holds truth to it as indicated by the digital economy rankings of the Economist Intelligence Unit (EIU). The EIU does an annual benchmarking study of countries' digital development and assesses countries' ability to use ICT to develop its economy and to provide in its welfare (Quantec 2010). In the annual digital rankings of the EIU of 2010 South Africa rated 40th in the world in terms of digital economy rankings (EIU 2010:4). In 2009 South Africa rated 41st and have therefore moved up only one place in a year's time (EIU 2009:5). South Africa scored a rating of 5.61 out of 10, compared to 8.49 of Sweden, the highest rating country, and is the highest rating African country on the list (EIU 2010:4). Although South Africa's internet usage and connectivity cannot be compared to those of developed countries, a new Norwegian mobile software company, indicated that webpage-views in Africa's top ten mobile internet markets (which is led by South Africa), increased approximately four times in 2009, and that unique users and the data they used almost doubled (EIU 2010:9).

The Internet World Stats (2009) indicates that 10,8% of the population in South Africa used the internet in 2009. Furthermore, in the year 2009 the internet user base of South Africa grew at a double-digit rate (Research & Markets 2009). Data reveals that the internet user base grew by 15% in 2009, from 4,6-million to 5,3-million (Research & Markets 2009). Thus, although the usage of internet is growing in South Africa, it is still not at an acceptable rate. What is important though is that and that 24 computer laboratories are available, free of charge, for learners' use and that the e-learning platform can be accessed and used free of charge (Pienaar 2011). Further, internet access on campus costs only 20 cents per megabyte between 6:00 am to 5:00 pm, 10 cents per megabyte from 5:00 pm to 12:00 pm, and is free of charge between 12:00 pm and 06:00 am (Pienaar 2011). It is, however, important that learners who are not e-ready be trained. As indicated in chapter 4, training to use the e-learning platform is part of first year learners' orientation in the beginning of their first year.

From the feedback obtained in this section it is evident that the majority of academics does not use the e-platform to optimally enhance learning and is in many instances merely used as a distribution mechanism. This underutilisation or misuse of the e-platform is caused by the high level of ignorance with regard to the possibilities and utilisation of e-learning. The feedback further emphasised the need for e-learning training for employee development towards optimal performance. The training should be focused on providing academics with the skill to teach online and optimally use e-learning strategies, but also to create awareness of the possibilities with the use of e-learning. Included in the training should be new approaches to teaching and learning.

It is also necessary that an awareness and sensitivity of the type of learners and their needs is created and that academics receive training on the best suitable methods to service these learners. Considering the fact that the vast majority of academics are not qualified and trained educationalists but subject experts, it is essential that training is focused on teaching strategies. In this regard the constructivist approach, which is learner centred, can be useful. Further, line managers must fulfil their responsibility to ensure that their academics are well-

trained and capable to provide quality teaching and learning of world class to learners.

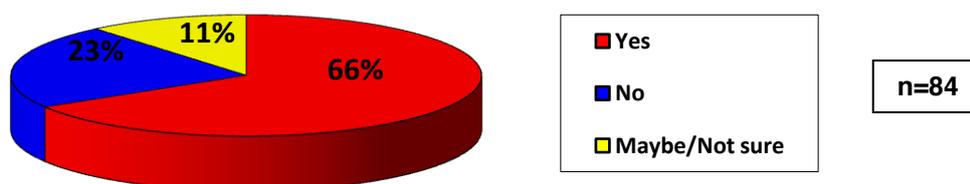
7.4.1.6.2 Training and development for e-readiness

In this section respondents were requested to indicate whether they consider training and development to become an online learning facilitator to be included in their personal career development plans. Respondents were also requested to indicate the type of assistance they need from their School Directors and/or Deans with regard to teaching online. Respondents were further probed to indicate whether they are of the opinion that the e-readiness of academics should be assessed during a performance appraisal and subsequently be included in the development of an academic that is not yet e-ready. They were requested to motivate their answer. The aim of these questions was to determine academics' commitment to, and understanding of the importance of e-learning in the 21st century, the need for their e-readiness, and their willingness to be assessed on it in the same manner in which they are assessed for their (offline) teaching and research competencies and output. The first question posed in this section is:

- Do you think training on becoming an online learning facilitator should be part of your personal career development plan?

The results obtained for this question are indicated in diagram 7.24:

Diagram 7.24: E-learning training as part of personal career development plan



The fact that 23% of respondents do not want e-learning included in an academic's personal career development plan is indicative that they want e-learning to not

become a compulsory job requirement but to remain optional. They will in all likelihood also prefer to stick to traditional methods of teaching and learning. This group of respondents will most likely mostly belong to the *late majority*, with a few perhaps to the *early majority*. Zemsky and Massey (2004:9) describe members of the *late majority* as those who adopt when half of the population has already done so. They are followers who dislike the disruptions of new technologies and are more conservative (Zemsky & Massey 2004:10).

As indicated in diagram 7.24, the high number of respondents that indicated that e-learning should be part of an academic's personal career development plan, which is almost two thirds (66%), points towards a realisation amongst academics of the necessity to be skilled in e-learning. It is also evident that they realise the need to be trained in order to optimally use technology in teaching and learning. The majority of reasons provided by this group of respondents related to the need to keep up with technological advancements, the use of technology is not voluntary any more, and there is a need to keep abreast with new and innovative methods of training.

One of the respondents indicated that it is to the university's advantage when academics embrace technology and that in the long term it has the potential to add great value to the academic environment. The respondent further indicated that

“... we also need to prepare our students for the business environment, where the use of technology forms an important part of doing business.”

This is a very sensible response as the respondent is able to envisage the role of e-learning in the greater whole and the benefits that can be reaped from it. It is also necessary that the NWU position itself in the competitive tertiary environment. As indicated in chapter 5, traditional universities have to adapt to technological changes if they want to survive against other HEIs.

Another significant response was:

“In some respects I feel we are already far behind some of our colleagues at other, comparable teaching institutions. Also, I am aware of different faculties and schools on our own campus that apparently utilise very innovative tools and techniques in conjunction with eFundi. This makes me wonder if there is any coherent vision on campus regarding e-learning for the NWU and how they intend to ensure even-handed and proper implementation of such policy. In a word, I am confused in this respect and somewhat jealous of some of my colleagues across campus.”

It is not clear why this respondent, who is clearly e-ready and realising the value of e-learning, is not able to use technology. The respondent is able to use eFundi as the e-platform is available to all academics. However, it appears that he/she is unable to use additional e-learning tools in combination with eFundi. It can be assumed that the necessary support in terms of resources is not available in this respondent's School/Faculty. This comment stresses the need for line managers to firstly realise the importance of e-learning and secondly support their subordinates to use it effectively in the learning environment. It also points to the need of having a consistent e-learning vision, supported by policy. This is exactly what this study is arguing for, that, in the light of technological development and the 21st century learner, e-learning should be a compulsory part of an academic's duties. It is though necessary to first determine an employee's e-readiness in order to determine the most applicable route to follow in terms of training and developing an employee to become e-ready.

As indicated in chapter 5, section 5.3.2, and earlier in this chapter, in many instances the biggest obstacle to e-readiness is not necessarily a lack of skill, but a lack of willingness, a lack of knowledge (ignorance) and an unwillingness to adapt teaching and learning strategies to suit the new type of learner. It is evident that in many instances the paradigm shift from traditional teaching methods to the incorporation of technology in teaching and learning has not been made. Further, the unfounded fear of being replaced by technology that is prevalent due to ignorance regarding e-learning, causes e-learning to not be optimally used to enhance learning. If the NWU

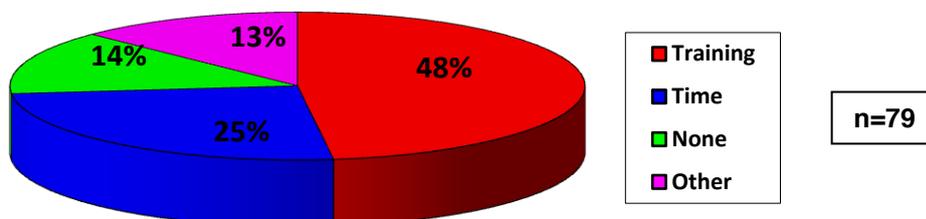
wants to be a world class institution, providing high quality learners, it has to adapt to the global technological advancement.

The second question posed in this section is:

- What type of assistance do you expect from your School Director/Dean to support you for online teaching and learning?

Various types of expectations were indicated by respondents. However, diagram 7.25 indicates those who came forth the most in respondents' replies.

Diagram 7.25: Assistance expected from School Directors/Deans



With almost half of the respondents (48%) indicating the need for opportunity to undergo training, it is evident that there is a definite need for training and that a considerable number of respondents has come to this realisation. Of those that indicated they need the opportunity to attend training, 5,3% specifically made reference to professional training. This is interesting as it implies that they do not perceive the current training provided by Academic Support Services as professional or they are simply not aware of the content of this training and assume that it is not professional. It is also interesting to note that in addition to the opportunity to attend training, respondents also raised the issue of awareness of courses, refresher courses and new updates/possibilities of e-learning. These comments support the notion that more effort should be put in place to create awareness of the possibilities of e-learning, not only by Academic Support Services, but also by line managers. Training and development should be a continuous human resource development function and it is necessary that not only employees realise this, but also line managers and Academic Support Services.

Time, for training and/or to explore and use e-learning or to develop online material was indicated by 25% of respondents, which indicates that a significant number of academics feel they are pressured for time. It is evident that employees are of the opinion that implementing e-learning will be time consuming and add to an already heavy workload. Johannes (2007:71) is of the opinion that the workload demands of teaching online are considerably more than those in traditional teaching practice. Although mind-sets towards e-learning (varying between technophobia and technophilia) will constantly influence the e-learning approach, participation and interest of the academic, it is widely recognised that institutions need policies and benchmarking procedures to provide for changing job demands (Johannes 2007:71). If policies are not in place, making provision for standardisation, the e-readiness of employees, or lack thereof, will continuously determine the use of e-learning.

Once employees have obtained the skill and have a broader understanding and awareness of e-learning and its possibilities, they will have a better understanding that, if well-planned, e-learning does not necessarily create an extra workload. As mentioned earlier, it is also necessary that e-learning training is coupled with teaching and learning strategies. This will assist employees in applying e-learning as a learning tool and not merely a technological tool. This should be regarded as an essential element of employee development.

Fourteen percent (14%) of respondents indicated they don't want any support from their School Director/Dean. It is not clear from their replies whether they are satisfied with current support provided or whether they merely are not interested in any support because they are not interested in e-learning.

Thirteen percent (13%) of respondents indicated other aspects needed with regard to assistance such as inter alia, the provision of resources, hardware and software, soft skills required of managers, motivation and an e-learning policy were also mentioned. Whereas one respondent indicated he/she wants the "option to employ e-learning, or not", another one indicated that it should be made compulsory to all lecturers. The fact that one respondent requested an "assistant that can put my lectures on eFundu" again reflects a lack of e-readiness and an unwillingness to adapt to new teaching and learning strategies.

The following comments indicate the need for the soft skills expected from line managers:

“Motivation and information.”

“Empathy, patience and recognition in the long run ...”

“Encouragement to lecturers to make use of e-learning platforms.”

“I expect of my School Director/Dean to assist me in overcoming any obstacles I might experience in any way possible.”

These soft skills are typically the factors that will motivate some employees. The extent to which these should be applied will depend on an employees' position on the technology adoption cycle, personal profile patterns and learning style preferences.

Another comment that reflects the need for motivation from and soft skills required of line management is:

“... the necessity to undergo such training should not be enforced on individuals, but rather be presented as an opportunity to improve the capabilities of a lecturer (within their own time schedules and based on their own developmental needs within their careers).”

In chapter 2, section 2.3.2, the importance of providing a rationale and not forcing employees to do a certain task has been emphasised. When employees are coerced into doing something, they usually become less attracted to the task and will perform it only as long as there is some form of supervision (Gagné et al 2000:1843). This notion is supported by various authors (Roca & Gagné 2008:1588; Pugno

2008:1332; Vansteenkiste et al 2007:252–253). Cognitive evaluation theory, a sub-theory of self-determination theory, has revealed that an external control such as coercion will most likely reduce an employee's intrinsic motivation (Roca & Gagné 2008:1588). In contrast to coercion, when a rationale is provided for doing a task, people usually become more attracted to doing the task and are more likely to keep on engaging in it (Moller et al 2006:105–106;110; Deci & Ryan 2000:227).

The following comments signify that the use of technology in teaching and learning should become a broader management issue and that policy and uniform policy implementation should be in place:

“A technology-friendly culture – support paper-free initiatives, move from meetings to online conferencing, embrace social media for student- and staff support – in essence, making all staff confident about the positive impact of technology even if it means to take staff out of their comfort zone.”

“It would be mostly financial: buying technology that would improve e-teaching/make it easier to make use of online teaching; paying assistants to help with the input of questions on the database on eFundi.”

“Policy and innovative thought regarding the adoption, availability and use of tools and techniques of e-learning.”

The abovementioned comments also suggest that in cases where academics are e-ready they do not necessarily receive the required support in terms of funds, resources and motivation from line management. If e-learning is included as compulsory job requirement, as part of an academic's service level contract, e-readiness should be assessed, a personal development plan should be drafted, and consequently training should follow. It is, however, important that line managers buy into this process as they will have to steer it, together with Academic Support Services. A lack of understanding, commitment or motivation from line managers will lead to failure and negativity. In this regard the role of line managers pertaining to

employee motivation cannot be emphasised enough. As some academics are already not inclined to the use of e-learning – typically those who fall in the *early majority* and *late majority* categories, it is advisable that this process is handled with empathy, consideration and applicable motivation.

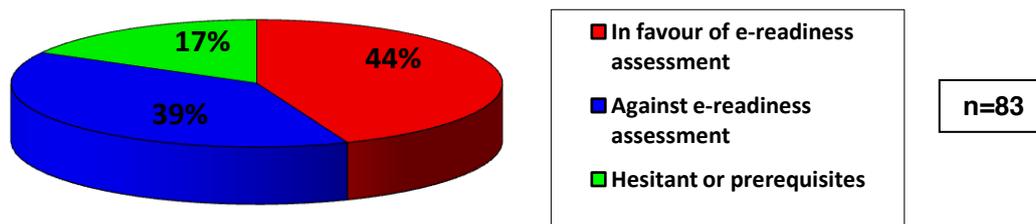
It can be deduced that academics expect their School Directors/Deans to ensure they receive training, as well as time to attend training. Other factors indicated as required by academics from their School Directors/Deans were the provision of resources, hardware and software, policies for e-learning, soft skills of managers, in particular motivation and providing a rationale for e-learning.

The third question posed in this section is:

- Do you think e-readiness should be assessed during a performance appraisal and subsequently be included in the development plan of an academic that is not e-ready?

The results obtained from this question are indicated in diagram 7.26.

Diagram 7.26: E-readiness assessment preference



The number of respondents indicating that they are willing to undergo e-readiness assessment as part of performance appraisal (44%), is very close to the number indicating that is not in favour of e-readiness assessment as part of performance appraisal (39%).

In the following paragraphs respondents' e-readiness assessment preferences are linked to their teaching experience and age with the purpose to determine whether certain trends could be identified.

- **Teaching experience and e-readiness assessment preference**

Of the academics with less than five years teaching experience, almost 70% indicated that they believe the assessment of e-readiness should be part of the performance appraisal of an academic. One respondent indicated that e-readiness assessment should only be included in a performance appraisal if it is clearly indicated as part of an employee's duties in a job description, and another respondent indicated that it should only be included in a performance appraisal if it is connected to an employee's personal development plan. Thirty percent (30%) of respondents indicated that e-readiness assessment should not be part of the performance assessment of an academic. Respondents that indicated a condition for e-readiness assessment or who opposed e-readiness assessment, were mostly between the age of 36 to 40 and one is almost 50 years of age. One can presume that these three employees, irrespective of their age, having less than five years of teaching experience, were probably employed in their respective industries in practice. In their professional practices they were probably not confronted with e-learning and are therefore relatively new to the phenomena. It is also evident that age play a role in the willingness to be assessed for e-readiness as most of the respondents in this group are in their twenties and almost 70% are willing to undergo e-readiness assessment as part of their performance appraisals.

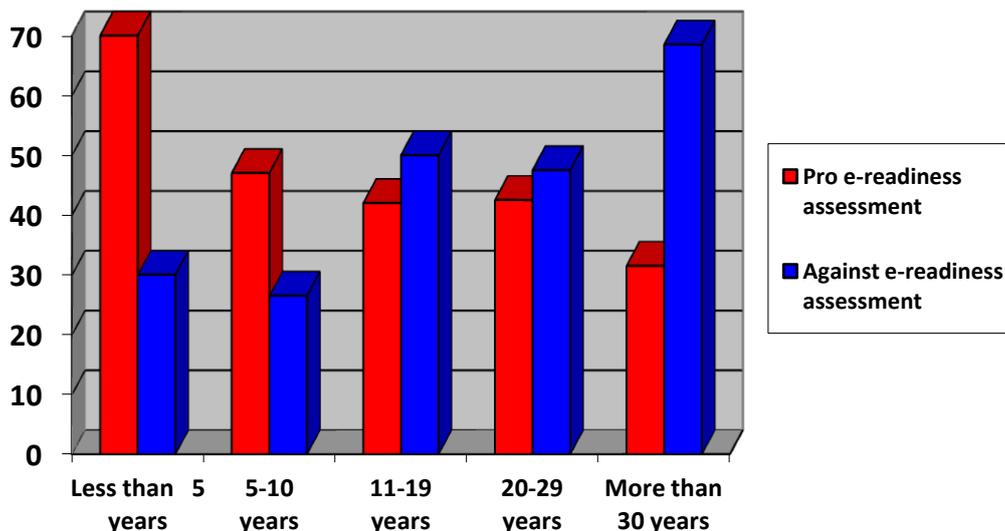
With employees that have teaching experience between five and 10 years, 47% indicated that the assessment of e-readiness should be part of an employee's performance assessment; 26,5% indicated that they are not sure or have reservations of some kind; and another 26,5% indicated that they do not think that the assessment of e-readiness should be part of a performance appraisal. Therefore, in this group (of five to 10 years teaching experience), 53% of respondents were against the assessment of e-readiness or stated conditions to it. The respondents in this group are mostly in their thirties, thus supporting the notion that age plays a role in the willingness to be assessed on e-readiness.

Forty two percent (42%) of those respondents with 11 to 20 years of teaching experience indicated that they believe that e-readiness should be assessed during a

performance appraisal of an academic, 50% indicated that it should not be part of a performance appraisal and 8% indicated that it should only be part of a performance appraisal if the development of e-readiness is part of the personal development plan of an academic.

Of those respondents who have between 21 to 29 years teaching experience, 42,5% of respondents were in favour of an e-readiness assessment, 47,5% were against it and 10% indicated that they do not support such an assessment, but will also not object to it if management decides to follow this route. With the group with teaching experience of 30 years and more 31,5% indicated that they believe e-readiness of academics should be assessed during a performance appraisal and 68,5% indicated that they do not support the idea of e-readiness assessment during a performance appraisal. The notion of younger colleagues, more in favour of e-readiness assessment as opposed to older colleagues, is again confirmed by these results, as employees with more than 30 years teaching experience are mostly in their fifties or sixties. Diagram 7.27 illustrates the relation between teaching experience and willingness to undergo e-readiness assessment.

Diagram 7.27: Teaching experience and e-readiness assessment preference



A total number of 46,6% of respondents, across all years of teaching experience, indicated that they believe e-readiness assessment to be part of a performance appraisal of an academic, whereas over 44,5% of respondents therefore do not

believe that this should be the case. The number of respondents in favour of e-readiness assessment and those against it are therefore divided almost 50/50. If this is representative of the broad spectrum of academics at the NWU, Potchefstroom campus, it can be argued that almost 50% of academics will resist the introduction of e-readiness assessment, if made compulsory. This anticipated resistance implicates that both line managers and institutional managers will be obliged to apply management of change during the initial phases of including e-readiness assessment in performance appraisals. In this respect motivating employees will be crucial. In chapter 2 the importance of keeping employees motivated during changing work circumstances was outlined, in particular providing a rationale for the changed job demand.

It is further evident that with the increase in teaching experience a decline in favour of e-readiness assessment as part of a performance appraisal of an academic has occurred. It can be argued that the longer an employee is teaching, the more they want to stick to what is known and the less they want to be confronted with new challenges, new technologies and new teaching methods. These results, to a great extent, reflect a lack of willingness to be assessed on the use of technology in teaching and learning amongst a significant number of experienced academics. In chapter 4 it has been indicated that a willingness to teach online portrays a significant aspect of e-readiness. One can therefore deduce that a willingness to be assessed on e-skills can be regarded as one of the core components of being e-ready. When the willingness is lacking, it is highly likely that the e-readiness is also lacking and that it will be a challenging task to convince these employees to make use of e-learning, let alone use it interactively.

- **Age and e-readiness assessment preference**

Seventy three percent (73%) of respondents in the age group of 20 to 29 years are in support of e-readiness assessment as part of a performance appraisal, therefore the vast majority of this age group. In the age group of 30 to 39 years, 33% of respondents are in favour of e-readiness assessment, 43% are not in favour of it and another 27% are not sure or will support such an assessment, provided that it is part of an employee's service level agreement and personal development plan. Fifty

percent (50%) of respondents in the age group of 40 to 49 years support e-readiness assessment, whereas the other 50% is opposed to it. In the age group of 50 to 59 years, only 38% of the respondents responded positive to e-readiness assessment and 62% negative. In the age group of 60 years and older 66% are in favour of e-readiness assessment as part of a performance appraisal and 33% are against it.

Diagram 7.28: Age and e-readiness assessment preference

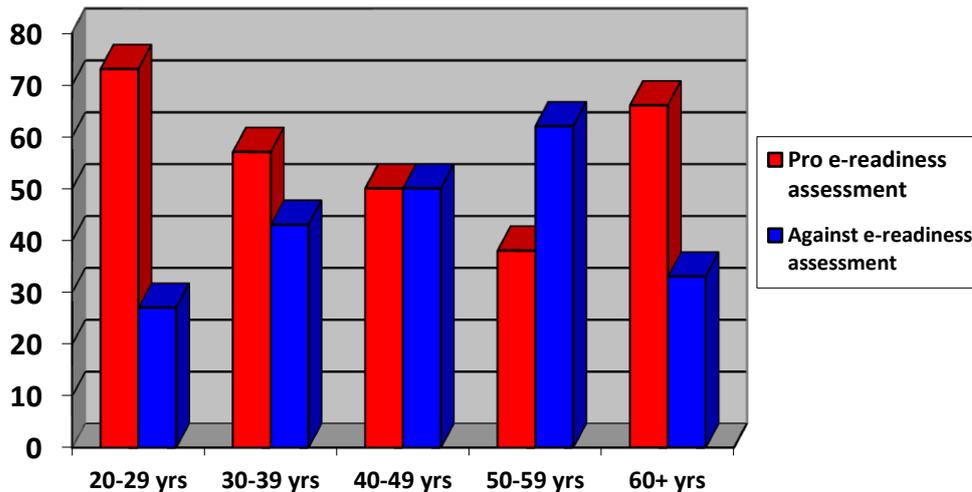


Diagram 7.28 above illustrates that there is a general decrease in support of e-readiness assessment as part of a performance appraisal of academics with the age increase of academics. These results correspond to a great extent with the results pertaining to the years of teaching experience of an academic, indicated in the previous section. It is thus evident that the younger the academics, the more willing they are to be assessed on their e-readiness and the older they become, the less willing they are to be assessed on their e-readiness. It can be argued that the willingness to be assessed on e-readiness is due to the fact that most of the younger employees are already e-ready and are comfortable with using technology in teaching and learning. On the other hand, the older employees are, the less they want to be confronted with a new challenge. This trend is evident in diagram 7.28 above with all the age groups, with the exception of those of 60 years and older. Surprisingly, 66% of the respondents in the age group of 60 years and older responded positively towards e-readiness assessment. This positive attitude amongst this group of respondents can in all likelihood be attributed to the fact that these respondents are all School Directors, and view e-readiness from a strategic

point of view, and therefore has an understanding of the need for and benefits of e-ready academics.

In addition to the deductions that could be made between the influence of respondents' years of teaching experience and age on their e-readiness assessment preference, it is noteworthy that 49% of respondents has been categorised as *early adopters* on the technology adoption cycle in section 7.4.1.2.1. In section 7.4.1.3.1, 49,4% of respondents indicated that they usually embrace the opportunity if new challenging goals are assigned to them as it motivates them to develop their skills and demonstrate competence. However, when confronted with a specific challenging goal in this question (e-learning), the same result is not obtained. Five percent (5%) less of respondents who earlier indicated they will embrace new challenges and new technology relatively fast, do not support the assessment of e-readiness, which will lead to training, preparing them to achieve this goal. Several reasons can be responsible for the 5% of respondents who are willing to get involved in e-learning, but are not in favour of being assessed on their e-readiness. Some of these possible reasons are discussed in the following sections. An aspect that could also have caused the 5% difference is that all respondents did not answer all questions.

Reasons provided by respondents in favour of e-readiness assessment as part of a performance appraisal portrayed that, although indicating in favour of it, some still have reservations about it. A number of respondents indicated that e-readiness assessment should not be compulsory and that academics should have the freedom of choice to make use of e-learning or not. The following comment illustrates this notion:

“Yes, on a voluntary basis. If not voluntary, people will be negative towards e-learning.”

If e-readiness assessment is done voluntary, the status quo will remain and no progress will be made in terms of e-learning. It is, however, of the utmost importance that e-readiness assessment is introduced with care, consideration, a personal development plan and a personalised approach of motivation.

The fear of change again came forth in a number of responses, indicating that e-readiness can be assessed but that e-learning should not replace classroom teaching. As long as academics are not properly trained and informed about the use of e-learning, the perception of it being a distance learning medium or a medium that will replace the lecturer as person, will remain. This in itself causes the underuse of e-learning which could have been effectively applied to enhance learning to the modern learner who thrives on technology.

Some of the respondents indicated that the need for e-readiness assessment depends on the nature of a subject. This can be taken into consideration as it is unlikely that a practical music subject such as violin lessons will find use of e-learning to the extent that it will make a difference in the learning of a learner.

Reasons provided by respondents not in favour of e-readiness again highlighted the resistance to change and the misconceptions regarding the use of e-learning. Aspects such as e-learning not being suitable for postgraduate learners and the importance of personal contact classes have been mentioned. A number of respondents also indicated that they are not interested in e-learning and do not want to use it. However, reasons provided are based on misconceptions such as:

“No, we are not a distance education university. Class attendance is still the most important part of a lecturer’s task.”

Unless it is the aim of an academic to reduce contact time with learners, class attendance is probably poor due to the fact that the e-platform is used as a distribution mechanism where all information is placed, making class attendance unnecessary to a learner. Another reason for poor class attendance may be the approach followed in class. If a lecturer is not using a teaching and learning strategy that is most applicable to the type of learner in his/her class, and also when a valuable proposition is lacking in class, which make it necessary for a learner to attend class in order to fully comprehend the syllabus and answer test and exam questions, it may lead to poor class attendance.

“Students are being spoon-fed too much.”

This comment illustrates the ignorance about how e-learning should be used. This misconception probably originates from the manner in which e-learning is used by most academics, as distribution mechanism. In this sense it can be seen as spoon feeding as notes material and power point presentations are posted on eFundi without any responsibility placed on the learner and no tasks requested from them. By using e-learning correctly, the learner will have to take responsibility for learning as well and a skilled online learning facilitator will be able to give online tasks that are challenging and relevant. An example that can be mentioned is: to place a video clip, relevant to a particular subject matter on eFundi, request learners to watch it and answer certain questions afterwards as preparation for class; or learners can be referred to news websites or subject related websites, researching for specific aspects, based on the assignment and provide feedback by means of an essay, assignment, report, debate, presentation, to name a few.

As indicated in chapter 5, section 5.2.1.2, Bloom’s lower order thinking skills can be developed by repetition and drilling, which can be done through online quizzes, tests, simulations and games. On the other hand, higher order skills can be developed through online assignments and forum discussions. The key to the level of the skill to be obtained still lies within the manner in which the task is articulated (through the action words used) and what is expected of the learner (eg synthesise, evaluate, discuss, compile, draft, analyse). Misconceptions like the one mentioned above, arise due to a lack of e-readiness, a lack of comprehending the role of e-learning and a lack of knowledge regarding different teaching and learning strategies. All these aspects can be addressed through employee development.

Other comments indicating the lack of knowledge of the use of e-learning are:

“I am not sure it will contribute towards anything.”

“Although I realise that we have to keep up with the times, we should be careful that the e-learning approach does not erode the character of a good teacher.”

Clearly, the last comment indicates ignorance regarding the manner in which e-learning can enhance the teaching skills of a good teacher. One can argue that the ability of a good teacher does not lie within being a good teacher in class, but to ask the question, “Did learning take place?” and being able to answer yes without a doubt, irrespective of which teaching and learning medium was used. These comments further highlight the fear of the unknown. Again these misconceptions can be addressed through training and development. It is evident, however, that an employee’s e-profile has to predict the approach followed. The same approach cannot be followed with an employee categorised in the *late majority* category as one in the *early adopter* category as more motivation and more intense training and development will be necessary with the employee in the *late majority* category. In addition to the style and pace of technology adoption, the employee’s personal profile pattern and preferred learning style also needs to be taken into consideration.

Another comment, illustrating ignorance is:

“No. It is not part of core activities.”

It is clear that this respondent does not realise that e-learning is in actual effect teaching and learning, merely with a different medium. If teaching and learning are included in the core business of a university, surely e-learning will also be regarded as core business. Learners, as the core business of HEIs are expecting to learn. If e-learning are withheld from a learner that thrives on using technology, as is the case with Generation Y, it is the responsibility of academics to ensure that they provide a quality service to this type of learners in the manner which will make most sense to them and that is likely to contribute most to learning. As indicated in chapter 4, to expect of these learners, the so-called generation Y, to yield the realities of their world when they enter the classroom is to disregard the global role and place of technology (Amirault & Visser 2009:66). Yet another comment signifying not only the role of e-learning, but also the needs of the learners is:

“No, no it is just there to help lecturers.”

From the majority of comments made by respondents not in favour of e-readiness assessment, it became evident that these comments are founded in fear, ignorance or misconceptions. These comments revealed the following beliefs of respondents: that e-learning does not contribute towards learning; that it may erode the character of a good teacher; that it is meant to be used for distance learning; that learners are spoon-fed through e-learning; and that e-learning will cause a decline in class attendance of learners. A number of comments also illustrated the belief that e-learning is not part of an academic's core activities and should remain optional.

A number of respondents in favour of e-readiness assessment indicated that as they are already spending work time on incorporating e-learning in their subjects, and the fact that it took them time and effort to become e-ready, they are in favour of e-readiness assessment as it will be included in their performance agreement and will affect their performance rating positively.

A number of respondents also indicated the matter of worldwide technological development and trends, the new type of learner, Generation Y, and social media. Some also indicated that e-learning is part of the duties of the modern lecturer and that e-readiness assessment and the consequent training will assist academics in increasing their effectiveness and efficiency with regard to teaching. Some of the comments of respondents in favour of e-readiness were:

“The importance of being able to use web-technology is evident in most disciplines that our students will move into after their studies. Academics should thus also ensure that they have mastered that skill, both to prepare the students for their future careers and also to ensure that the academics themselves stay up to date with the changing times.”

“An institution's strength lies in the skills and knowledge of its academics. If any institution wishes to have a competitive edge it, and therefore its employees, need to be on par with international standards and methods of teaching for quality education.”

“... our students expect us to be e-ready.”

These comments reveal that a number of academics are able to view the role and place of e-learning in the broader environment and understand the need for including it in teaching and learning. These respondents are in all probability e-ready to a great extent and will in all likelihood be ready for advanced e-learning training. However, a significant number of academics appear to not be e-ready, mostly because of misconceptions and ignorance and in some instances a lack of skill.

It is apparent that the Academic Support Services unit has a significant role to play with regard to e-readiness training and development. Not only should this training be focused on obtaining an e-learning skill, but it should also be aimed at providing information on the philosophy and possibilities of the use of e-learning. It is further of the utmost importance that academics are trained and developed to understand the role and place of e-learning as part of a broader teaching and learning strategy. It is necessary to school academics in pedagogy as most academics are subject experts and not educationalists.

It is further evident that the majority of academics are not aware of the various teaching and learning strategies and do not realise the need to adjust a teaching and learning strategy to provide for learners' needs and preferences. Training should furthermore significantly place the focus on optimal learner learning as end-result of any teaching and learning strategy, irrespective of the medium used (classroom, e-learning, mobile learning). As indicated in chapter 4, e-learning is no longer only linked to distance or remote learning, and is also no longer regarded as a specialist area, but has become an element in a conscious decision to use the best and most suitable ways to enhance effective learning through the use of suitable technology (JISC 2009:6;9). The “e” in e-learning, referring to “electronic”, adds a technological edge to the “learning”, but the focus remains on learning as the critical element (JISC 2004:8).

The Joint Information Systems Committee (JISC) of the Higher Education Funding Council for England explains that although learners' are familiar and comfortable with technology, they lack the “critical and evaluative skills” required to construe

information from online resources. This highlights the need to support learners in developing digital literacy skills. Thus the skill of the online learning facilitator is vital to the effectiveness of learning. Online learning facilitators need to be aware of the various tools and media that are increasingly available and how to select and use various tools and media to best serve the learning purpose. The blended approach to teaching and learning, with the skilful and suitable incorporation of technology with face-to-face classroom teaching, is a significant element of 21st century teaching and learning practice. When planning and designing learning, online learning facilitators must ensure that they explicitly make use of the most appropriate learning strategies and technology that will have the biggest impact on the way learners learn. (JISC 2009:7.)

It can be assumed that once academics are schooled in teaching and learning strategies, they will be better able to understand and appreciate the value and use of e-learning and the focus will naturally shift to the enhancement of learning and away from the fear of or resistance to technology. The notion of e-learning being a distance learning medium will also be addressed with comprehensive training.

As this venture is broader than merely e-learning training, and will also focus on the complete development of an academic to be a modern, well-skilled, qualified and successful lecturer, providing world class education to learners, a personal development should be drafted for each academic. Line managers should also realise the significant role they have to play in this regard. As line managers are jointly involved with employees in drafting an employee's performance agreement, they have the responsibility to do the same with regard to the personal development plan.

As indicated earlier in this chapter, the majority of respondents portray a pragmatic learning style, combined with a compliance DISC factor and an early adopter technology adoption style, which indicates they want to understand the practical value and use of what are being taught and therefore line managers should ensure that this is clear and understood. Line managers further have the very important role of motivating staff, not an easy task as employees, based on their various learning style preferences, personal profile patterns and pace and style of technology

adoption, are motivated by different factors. For introducing something as e-readiness assessment to performance appraisal for the first time, motivation, communication and rationalising are crucial as many academics that are not e-ready will portray a negative attitude and resist the new job demand.

Academic Support Services currently have an academic staff development programme called the Institutional Teaching Excellence Award (ITEA), which is aimed at developing academics to become excellent teachers, as discussed in chapter 3. The focus of the programme is precisely on the teaching aspects that are argued for in this study: applying innovative teaching strategies, including technology, facilitation rather than lecturing, interactivity and high class participation, teaching on the relevant National Qualifications Framework (NQF) level and applying Bloom's taxonomy applicably to these levels. This programme is however, to a great extent, experienced as negative amongst a significant number of academics and strong resistance to participate in it is experienced. It can be argued that academics strongly resist participating in ITEA as it forces them out of their comfort zones, poses new challenges, expects of them to apply new teaching and learning strategies and provide constructive criticism of how to improve teaching and learning strategies. It will typically be employees portraying a high *dominance* factor on the DISC profile, with an *activist* learning style and an *innovator* technology adoption style and pace who will volunteer to participate in ITEA. Participation in ITEA is at this stage by nomination from the School Directors and the Dean (NWU 2009a:18).

The shortcomings that can be identified, however, is that the use of teaching and learning strategies to enhance the use of e-learning as learning tool is not specifically dealt with in this programme and it is assumed that the academic already is competent in this respect, unless the employee entered the Development ITEA. In the latter case, however, as with the ICNL the development is not specifically targeted on the adjustment of teaching and learning strategies for the use of technology in teaching and learning and is mostly focused on classroom teaching and learning.

Although ITEA highly encourage the use of technology and innovative teaching, it does not make provision for e-learning training. Another section of Academic

Support Services, Information Technology Support, is responsible for e-learning training. This training is, however, only focused on training for the use of the e-learning platform, eFundi (NWU 2009a:11). It does not provide information on the philosophy of e-learning and its role and place in the broader teaching and learning environment. A further shortcoming is that the use of teaching and learning strategies to enhance the use of e-learning as learning tool is not specifically addressed in this programme and it is assumed that the academic already is competent in this respect. From the feedback obtained from the questionnaire, it is evident that more than obtaining a technical skill is necessary. The literature research also confirmed that e-learning is no longer regarded as a distance learning or remote learning tool, or a specialist area, but that it has become part of the broader aim of enhancing teaching and learning through the use of suitable technology (cf Birkbeck 2005:1). The focus of e-learning is therefore not to replace the teacher, but to use technology to increase the focus on pedagogic skills (JISC 2009:5). To a great extent a paradigm shift still needs to be made amongst academics from traditional class room teaching and learning to including more innovative teaching and learning methods with the 21st century learner.

The literature study further indicated that the skills required of an online learning facilitator such as being a good listener, providing feedback, communication and encouraging learners and building relationships, mentioned above, all relate to the human nature of e-learning (cf Hootstein 2002). Online learning facilitators should also possess the ability to let learners feel comfortable about participating in online discussions and sharing information (National College for School Leadership 2006; Sutton 2004). It is thus evident that academics are not aware of the human nature of e-learning and that this awareness should be created during training and development.

The feedback further emphasised the need for e-learning training for employee development towards optimally use e-learning for an enhanced learning experience. Training should firstly focus on creating awareness of the philosophy of e-learning and the possibilities with the use of e-learning, and secondly to provide academics with the skill to do so. Included in the training should be new approaches to teaching and learning. To ensure learners' needs are provided for and that their learning is

enhanced through e-learning, it is necessary to create an awareness of the type of learners and their needs and that academics receive training on the best suitable methods to service these learners. Considering the fact that the vast majority of academics are not qualified and trained educationalists but subject experts, it is essential that training is focused on teaching strategies.

The feedback obtained further revealed that the majority of academics use the e-platform as a distribution mechanism and not as an interactive learning tool. It showed that in many instances academics are not aware of what is regarded as interactive e-learning and should thus be included in the e-learning training and development.

It also became eminent that an academics' age and years of teaching experience influence their preference to e-readiness assessment. Younger employees with less teaching experience are in general more inclined to e-readiness assessment as opposed to older employees with more teaching experience. E-learning training and development programmes for older employees can thus be customised to perhaps follow a slower pace and to focus more attention on the use, philosophy and advantages of e-learning as it can be argued that the resistance to e-readiness assessment may be born out of fear for the new job requirement.

7.4.2 Focus group

As indicated in section 7.3.5.2.1 a focus group discussion was held with academics to determine their perceptions on e-learning, learners' expectations, and the role of the academic in e-learning. The researcher follows an approach of providing the feedback obtained from participants on each question, where after the researcher's interpretation on the feedback follows. The following discussions emerged from the questions posed to participants:

7.4.2.1 Question 1: How do you perceive the current role of e-learning in the higher education environment?

The purpose of the question was to determine focus group participants' views on the role of e-learning in higher education. Their views would give an indication whether they have an accurate understanding of the role and purpose of e-learning.

7.4.2.1.1 Summary of feedback on question 1

The discussion was started by a participant, depicting a strong resistance to e-learning and a significant lack of e-readiness due to technological illiteracy. The participant indicated that he only started using power point presentations in lectures recently and is far from comfortable to engage in e-learning. Throughout the discussion he retained a stance of resistance to e-learning and a preference to a traditional approach to teaching and learning, namely "talk-and-chalk". Another participant indicated that e-learning is intimidating when you are older. This participant left academia for a few years and when he returned was frightened by the idea of mastering e-learning skills.

One participant is of the opinion that e-learning can make the life of both learners and academics easier due to the depth of its resources, but the drawback is the affordability and accessibility of internet connection in South Africa. Other participants also indicate that some of their learners do not have access to the internet and therefore not to the e-learning platform. It is mentioned that two economies or two poles are evident with the learner population: those who portray true Generation Y characteristics (embracing technology) and those who do not have access to various electronic means. An example is given of a learner that searched for something in class quickly on his *Blackberry* smart phone and gave the answer within seconds. However, all learners are not equipped with smart phones and in some instances older learners on postgraduate level, especially those who are employed in the local sphere of government, do not always have access to email, let alone the internet. Further, the context of a computer environment was not known to all learners from a young age, especially those who are from previously disadvantaged groups.

One participant drew the attention to the fact that the higher education environment has changed. Academics learned to become facilitators to adjust to changing teaching and learning expectations. Learners do not receive lectures as before but should take responsibility for their own studies as well. They need to search for information between the richness of sources on the internet and come prepared to class. This participant foresees that the use of e-learning will drastically increase in the next few years and that it will eventually replace contact classes. He received significant resistance from a number of other participants in the group regarding the notion that all classes will become online.

It is also mentioned that e-learning should be regarded as an enabler. It is merely another modus of delivery in addition to classes and can never replace the class situation. It should only carry a weight of approximately 25% to the total teaching and learning at tertiary level. This is supported by another participant, indicating that in-depth learning cannot be obtained through e-learning. The participant gives an example of an interactive approach that was followed with a second year group of learners, making provision for using the study guide as a road map, referring learners to the e-platform and from there to certain activities to be completed. He experienced that it was not successful. He further experienced that learners do not have the ability to think analytically and to refer them to an online source to gather information and to complete online activities would merely confuse them. He stated that lecturers should rather use scheduled class periods to improve learners' skills and higher order thinking. There is a general consensus that learners are perceived to be on a low academic level and the concern is raised that e-learning will not be able to assist in this respect.

During the discussion reference was made to the psyche of Generation Y, indicating that they are not interested in personal relationships and that they will send a text message regarding an important happening in their lives rather than giving the news in person. The concern that social skills will be lost is raised. It is also mentioned that learners are merely interested in passing a subject/course. They are not interested in the depth of a subject, the underlying philosophies and where different aspects really fit into the broader context. It is also mentioned that a sense of curiosity is not

created on school level. They simply want to know what to study to pass the exam. It is further mentioned that learners do not participate in class, which creates a one-way communication. One participant, previously employed as an academic/researcher at a university in the United States of America (USA), stated that one of the problems pertaining to the inefficient use of e-learning is that outcomes-based education (OBE) is not fully functioning in South Africa and that neither learners nor lecturers know how to practice OBE. A number of other participants made comments opposing OBE.

The fact that academics are not trained and qualified educators, but are rather subject specialists, is mentioned as another reason for the insufficient use of e-learning. The participant who raised this issue is, however, of the opinion that the subject content suffers when academics try to improve themselves as educators. It is also mentioned that all academics do not grow and become better with years of teaching experience and that a significant number of academics oppose e-learning.

Another participant mentions the role of the programme ITEA (discussed in section 6.3.1). He is of the opinion that e-learning definitely plays a role in this regard. The participant further indicates that he has completed the ITEA programme but does not really want to use all the tools and methods that are expected of an academic when taking part in ITEA.

The difference between subject content was also mentioned as a cause for not using e-learning. Some academics are of the opinion that e-learning cannot be used for postgraduate learners. Others are of the opinion that due to the nature of the subject it is more important to discuss matters with learners in class. However, one of the participants referred to a particular subject where animation videos were used to illustrate particular aspects, with great success.

Participants are further of the opinion that the type of learner, the level of control an academic has over them (residential vs distance learning), the NQF level and the demography will determine the use of e-learning.

7.4.2.1.2 Researcher's interpretation on question 1

From the abovementioned discussions, emerging from question 1, it is evident that a significant number of misconceptions pertaining to e-learning still persistently stick with academics. The following deductions could be made from the discussion:

- Age plays a role in e-readiness: the participant who openly and honestly resist e-learning in its totality, and the participant who indicated that he finds e-learning intimidating, are both approximately 60 years old. This confirms the trend of the higher the age, the less interest in e-learning, as identified through the questionnaire results.
- The two types of learners, those who perfectly fit the Generation Y profile, and those who are either not e-ready or do not have access to e-learning, is a reality experienced in the higher education environment. However, the participants' discussion pertaining to learners who do not have access or who are not e-ready referred to approximately 20 master's learners in the School of Social and Government Studies. These 20 learners are hardly representative of the majority of the learner population and are mostly mature individuals who are employed and study part time. The statistics given in chapter 6, section 6.4.1 proves the majority of learners (96%) prefer the inclusion of e-learning in their courses to various extents. It is a fact that certain subjects such as practical music, for example piano lessons do not lend itself to e-learning in a manner that will enhance learning in the particular subject field.
- The comment pertaining to the affordability and accessibility of internet connection in South Africa holds truth. The income inequality affects affordability and access to various social resources including ICT services (Oyedemi 2009:153). However, as indicated in section 7.4.1.6.1, all residential learners have access to the e-learning platform on campus (Pienaar 2011).
- Academics do not realise the role that e-learning can play in the higher education environment. Indicating that the university will be a complete virtual campus in a few years is not a realistic expectation. Firstly, the NWU is predominantly a residential university and not a distance learning university. As indicated in previous sections, the aim of e-learning should not be to do away

with contact sessions, rather to enhance the total learning experience and development of particular skills. As indicated in various chapters, e-learning is no longer merely linked to distance or remote learning, but has become an element in a conscious decision to use the best and most suitable ways to enhance effective learning (JISC 2009:9).

- When academics prefer to reduce lectures through the use of e-learning it should be the lecturer's prerogative, provided that the learning outcomes are obtained and that the amount of notional hours, as expected by the South African Quality Authority (SAQA), is still adhered to. As with the results obtained from the questionnaire, feedback from the focus group illustrate that widespread ignorance regarding the role and place of e-learning is evident amongst academics. Very few academics are aware of the possibilities of e-learning and its role and purpose in the broader teaching and learning environment. It is further apparent that focus group participants did not realise that the crux of the matter is to adjust teaching and learning strategies to adapt to modern learners' needs.
- The mentioning of e-learning that should not replace the class situation, which was also evident from the questionnaire feedback, can be interpreted as fear and ignorance regarding the role of e-learning. As recorded in chapters 1, 4 and 5 (sections 1.1, 4.2 and 5.3), it is known that one of the reasons employees resist change is due to fear (Robbins 2003:559–560). This may include fear of job loss, fear of changing expectations, fear of the unknown, fear of technology, and fear of giving up a comfort zone (Proctor & Doukakis 2003:268; Robbins 2003:559–560). In chapter 5 the connection between resistance to change and a lack of e-readiness was made. Bozarth (2006:2) indicates that barriers to change (such as employees' resistance to the inclusion of technology in teaching and learning) can be classified into first order or second order barriers. First order barriers refer to extrinsic factors such as organisational support or access to equipment and second order barriers refer to more emotional, essential, personal issues, which are intrinsic and related to a person's beliefs and attitudes (Bozarth 2006:2). Important to this study is the underlying, second order barriers of resistance to e-learning amongst online learning facilitators. At the NWU (Potchefstroom campus), factors that could cause the first order

barriers are in place: access to equipment, the internet, hardware and software, development support and technical support (Le Roux 2009). The barriers to e-learning are therefore caused by the second order barriers, which refer to the intrinsic personal preference, beliefs and attitudes. Hence, the notion that the key human factors as discussed in chapter 4 have an influence on employees' e-readiness.

- The researcher is of the opinion that putting a percentage limit of 25% to the use of e-learning is defying the purpose. The focus should rather be on how it should be used, for which purposes (which learning outcomes should be achieved), and whether it is the best teaching method to obtain these.
- The notion that in-depth learning cannot be obtained through e-learning, reflects ignorance to what e-learning is and how it can be used. In chapters 3 and 5 it has been indicated that e-learning can be effectively applied to make decisions regarding the use of Bloom's Taxonomy. For the development of higher order skills such as analytical thinking, technologies should be intended to accomplish research, collaboration, information gathering and comprehension, and content construction (Amirault & Visser 2009:76). Constructivist approaches that are characterised by computer based research, collaboration, and content construction tools, are exceedingly effective in achieving Bloom's higher order skills (Amirault & Visser 2009:76).
- The general consensus amongst participants that learners are perceived to be on a low academic level is supported by various authors and other stakeholders (Parliamentary Monitoring Group 2010; Taljard 2010; Gabriel & Flake 2008:1). Globally universities face this concern (NCES 2003:1; Ramsden 2008:3; Ramsden 2003:4). However, the concern that e-learning will not be able to assist in this respect is ungrounded. Chapter 5, section 5.2.1.2, has referred to the fact that technology can play a significant role in the process of preparing underprepared learners for the academic challenges of tertiary education, but is, however, not yet employed to its fullest extent at all universities (Amirault & Visser 2009:72). It is evident that academics are not aware of the ways in which technology (eg practice exercises, quizzes and simulations on the e-platform) can be applied to assist with enhancing particular skills of underprepared

learners. The type of skill to be improved will determine the type of technology to be used and/or the manner in which it should be applied.

- The comment pertaining to the psyche of Generation Y, indicating that they are not interested in personal relationships is another misconception amongst participants. One of the key characteristics of Generation Y is that they are collaborative, extremely social, and desire to be continually connected to their social networks (Gen Y Report 2010:24). This misconception raises concern whether academics are aware of their learners' needs and preferences. It certainly explains why e-learning is not used to a greater extent.
- The notion that learners are merely interested in passing a subject/course and are not interested in the underlying philosophies and broader context can be related to the underpreparedness of learners. As one participant has mentioned it can indeed be due to a lack of curiosity created during their school education. On the other hand it may also be that learners do not find a particular subject interesting or, it may be that the lecturer's teaching strategy does not appeal to learners. As alluded to in a previous section, poor class participation can in all likelihood be attributed to the academic's teaching style and strategy. It has been recorded in chapters 3 and 5 (sections 3.2.3 and 5.2.1.1) that traditional teaching and learning methods are unlikely to appeal to the 21st century learner or enhance learning in the best possible way. In chapter 3 (section 3.2.3) it has been indicated that academics usually continue to teach in the same manner they always have. If an academic therefore believes in the approach of conveying information, he/she will use e-learning to facilitate this manner of learning, and any tools on the e-learning platform that are not aligned with this approach will be either ignored or misrepresented (Elgort 2005:184).
- The perception of OBE not being fully functioning in South Africa and that neither learners nor lecturers know how to practice OBE, may signify a truth. As indicated in chapter 3 (section 3.2.4), the majority of academics appear to still be following the behavioural, objectivist approach to teaching and learning, driven by "talk-and-chalk" (Hanley 1994:3). Objectivists hold the idea that there is a fixed world of knowledge that the learner must come to know and educators serve as channels through which their thoughts and meanings are

transferred to the passive learner (Hanley 1994:3). Whereas the objectivist approach gives emphasis to observable, external behaviours and therefore, steers clear of reference to meaning, representation and thought, constructivism follows a more cognitive approach (Gergen sa). In the constructivism approach educators are coordinators, facilitators, resource advisors, tutors or coaches. (Gergen sa). Literature indicates that people's epistemological beliefs mirror their perceptions about the nature of knowledge and knowing (Tu et al 2008:1143). These perceptions are found to be related to their common learning habits, or their approaches to processing learning tasks (Tu et al 2008:1143). Users' epistemological beliefs direct their cognitive as well as meta-cognitive activities in web environments. Users with constructivist-oriented epistemological beliefs are inclined to have greater preferences to engage in meta-cognitive thinking in online environments, as opposed to those who do not have constructivist-oriented epistemological beliefs (Tu et al 2008:1143).

- A correct observation made by participants is that academics are not trained and qualified educators, but rather subject specialists. However to assume that the subject content suffers when academics try to improve themselves as educators, does not carry weight. If academics do not make themselves available to improve their teaching skills, it may become cause to another comment made by participants: "All academics do not grow and become better with years of teaching experience". It can also be argued that the subject content will not be applied to its fullest extent if approached with a teaching strategy that does not appeal to learners. Ramsden (2003:xii) supports this notion by telling academics that the first step to become a good teacher is to understand learners' experiences of learning. Milliken and Barnes (2002:225) indicate that this implies that teaching and learning strategies may have to be adapted to focus on the enhancement of learners' learning. The application of new technology can be brought into play to improve both the teaching and learning experience (Milliken & Barnes 2002:226).
- The fact that one of the participants refers to the credibility of the ITEA programme, but at the same time indicates an unwillingness to comply with all

its requirements, points towards unwillingness to adapt a teaching and learning strategy when being taken out of a comfort zone.

- Comments referring to the difference between subjects and subject content not always necessarily ideal for the use of e-learning reflect a reality. It can be argued that in a practical music subject (eg practical piano; practical flute; etc), it does not make sense to use e-learning. With the theoretical music subjects, however, one may be able to use e-learning. In some instances academics use subject content as an excuse for not using e-learning. This can be due to the fact that they do not want to use e-learning or do not know how to use it.
- The fact that participants are of the opinion that the NQF level will determine the use of e-learning, further indicates ignorance with regard to e-learning. As indicated earlier in this section, academics are sometimes under the impression that e-learning cannot be used for postgraduate learners. This proves the necessity of e-learning training to create awareness and skill for the use of e-learning for learners at all levels.

The feedback obtained from this question illustrated that participants do not have a clear understanding of the role and purpose of e-learning. It further indicated that a number of misconceptions, rooted in ignorance, are still eminent amongst academics. It is necessary to address these misconceptions by creating awareness of the role of e-learning and its possibilities, coupled with the best suitable teaching and learning strategies for learners.

7.4.2.2 Question 2: How do you perceive the future role of e-learning in the higher education environment?

Question 2 was posed to participants in the focus group discussion to determine their perceptions on the role that e-learning will play in future in the higher education environment. The purpose of the questions was to determine whether their expectations were realistic and also to give an indication of how they perceive the role of e-learning to evolve.

7.4.2.2.1 Summary of feedback on question 2

Participants indicated that e-learning will be more used and more integrated in coursework in future. One of the participants indicated that the section that deals with master's and doctoral learners, are planning on performing all administrative work, including applications for ethical approval, electronically. As indicated in the previous question's feedback, one of the participants foresees a complete virtual classroom. The same participant focused the other participants' attention on the fact that academia are moving away from flipcharts and black boards in class to learners bringing their own laptops and being able to actively engage online during classes.

It is also mentioned by one participant that it is necessary to convince all academics to make use of e-learning. The participant who mentioned this point was of the opinion that a great amount of apathy exists amongst academics.

Participants further indicated that they would like to see the free use of internet for all learners.

7.4.2.2.2 Researcher's interpretation on question 2

The researcher agrees that e-learning will play an increasingly integrated role in future teaching and learning. It is however, of utmost importance that awareness of the use of e-learning is created by academics and that it is followed with thorough training. The researcher is in complete agreement with the statement that academics are apathetic towards matters that they perceive do not influence them, as pointed out earlier in this chapter. An eminent level of unwillingness to change work methods and move from comfort zones is observable.

It is interesting to note that the essence of the feedback on this question was merely focused on the expansion of e-learning to be used to a greater extent in future, with the focus of the discussion on technological features (iPads; smart phones, internet, etc). No mention has been made of the adaptation of teaching and learning strategies or the profile of the future learner. It is evident that academics are not informed about the possibilities of e-learning, and are particularly ignorant as to the

adaptation their teaching and learning strategies to accommodate the 21st century learner.

In chapter 5, section 5.2.2, it was indicated that projected learner enrolments of university learners between the ages of 25 and 34 will far outpace learner enrolments of 18 to 24 year olds over the next decade, due to changing employee and job requirements (NCES 2008:9). It is also expected that enrolments among learners of 35 years or older will increase (NCES 2008:9). Accommodating working adults requires that innovative instructional technologies are effectively brought into play to make university studies possible for this group of learners. It is necessary to keep in mind, however, that merely a change in modality is not enough to meet the learning needs of these learners (Amirault & Visser 2009:70). Merely creating the path to the classroom (in this case, the virtual classroom), is not sufficient, a classroom environment that is attractive to learners to choose time and time again is equally important (Amirault & Visser 2009:70). This is where the need for an e-learning skill of online learning facilitators comes into play. Not to simply provide an online course through making use of the basic applications (making study material available, post announcements, notes or power point presentations), but to know how to actively and effectively facilitate a course online in an interesting and appealing manner to keep the learning experience of the learner valuable and engaging.

7.4.2.3 Question 3: What should be done to ensure that e-learning is able to fulfil this role?

The purpose of this question was to determine participants' views on what should be done for e-learning is to fulfil its role.

7.4.2.3.1 Summary of feedback on question 3

The following were mentioned by participants as essential for e-learning to be successfully implemented:

- A notebook/laptop should be issued to each lecturer.

- The electronic infrastructure in offices should be upgraded; some academics have to use outdated technology.
- The electronic infrastructure in lecture halls should be upgraded; a significant number of lecture halls do not have a data projector installed and none of the lecture halls provides network connectivity.
- Institutional management should move away from the surplus approach and appropriate funds for the upgrade of infrastructure and the provision of free internet access to all learners.
- Management should give the opportunity to experiment with technology in a pilot study (eg if the lecturer and learners both are issued with iPads, it can be explored how to apply this to their learning).
- Learners should indicate how they prefer to use e-learning; this suggestion was opposed by another colleague, indicating that lecturers should not be prescribed by learners on the teaching methods to be used and that the lecturer, as subject expert, should remain the authority in the class.
- Buy-in from institutional management into the uses of e-learning; a number of participants are of the opinion that institutional management is not supporting e-learning as yet and do not make provision for the most recent updated hardware and software (one of the participants disagrees with this opinion).
- There is a need for e-learning training, but also for information sessions on the possibilities of e-learning.

7.4.2.3.2 Researcher's interpretation on question 3

The researcher is in complete agreement with the need for upgraded electronic equipment in offices, as well as data projectors and internet connectivity in all lecture halls. The pilot study also seems like a good idea in principle, if used as best practice example to those academics who lack e-readiness and should still be convinced of its use. Financial viability will also be a concern. However, if the NWU is in support of progressive teaching and learning (as is clear from the ITEA programme), and wants to be a world leader and in the forefront with innovation (as indicated in the university's vision). It becomes imperative to supply its staff with the means to accomplish these goals.

The fact that the suggestion of involving learners to indicate their needs and preferences pertaining to e-learning was opposed emphasises unwillingness to compromise and to adjust teaching strategies. To a great extent academics still cling to the behavioural, objectivist approach (teacher-centred teaching and learning) and judging from the feedback obtained from the questionnaire and focus group, a vast number of academics are not willing (or perhaps ready) to embrace the constructivist approach (learner-centred teaching and learning).

A further matter of concern is that participants are of the opinion that institutional management has not yet bought into the use of e-learning and is supporting old software programmes. In an interview with the HR director of the NWU it became evident that the use of technology in teaching and learning (and for administrative matters) is undoubtedly supported by institutional management (De Wit 2010). Management's support is also demonstrated through their support and promotion of the e-platform's training sessions and the introduction of the ITEA programme. It is however, perceived by participants that management is not committed to e-learning, which is something that management may consider dealing with in order to create a positive spin-off. This possible misconception stresses the importance of better information and communication regarding the use and role of e-learning.

Lastly, participants' expression of the need for training (these comments were in particular from the older participants) is encouraging. A willingness to undergo e-learning training is definitely a positive aspect that should be supported. Participants have however also expressed the need for more information and awareness of e-learning, indicating that Academic Support Services will need to increase and improve their marketing campaigns.

7.4.2.4 Question 4: What are your perceptions pertaining to the expectations of learners in terms of e-learning?

The question was posed to determine participants' perceptions on the expectations of learners in terms of e-learning. The purpose of the question was further to determine whether participants were aware of their learners' expectations.

7.4.2.4.1 Summary of feedback on question 4

The underpreparedness (low academic quality), earlier mentioned in the discussion, was emphasised again. Participants are of the opinion that learners are not interested in class participation and want to be spoon-fed. Learners want to be entertained and want all of their senses stimulated for this purpose. It appears that learners do not enjoy the classes and simply comply with requirements as it is expected of them and because they want to pass a subject/course. In the discussion of this question it was evident that participants was unsure about how to respond to the question and the discussion did not flow as with the other questions. Participants eventually confessed that they are actually not sure about what their learners' expectations were.

7.4.2.4.2 Researcher's interpretation on question 4

The underpreparedness of learners has already been dealt with in section 7.4.2.1.2 and is accepted as a current reality. The belief that learners are not interested in class participation and want to be spoon-fed may be true to some extent. However, one has to keep in mind that teaching style and strategy may also play a role in learners' indifference, as indicated in section 6.4.1.6.2. It may be that learners are merely bored and are therefore not enjoying classes. The drawback is that in such cases learners probably also do not listen and/or remember what has been said or done in class. Thus, no learning has taken place. Therefore the belief that they want to be entertained and want all of their senses stimulated for this purpose may be true. As already identified in chapter 5, section 5.2.1.1, and earlier in this chapter, learners belonging to Generation Y learn differently from other generations. They want learning to be fun and relaxed and the traditional approach does not appeal to them (cf Naidoo 2005). Learners belonging to Generation Y are inquisitive, skilful at multi-tasking, think at a high speed and are fervently broad-minded in terms of diversity (Naidoo 2005; cf O'Neill 2010: 8). They are also an astonishingly innovative generation and will seek reinforcement and constant feedback on a regular basis (Naidoo 2005).

What was most evident during this discussion was that academics were not aware of their learners' characteristics and preferences. A logical deduction to be made is that it is impossible to cater for learners' needs if one is not aware of these needs. According to the researcher this, to a great extent, explains learners' indifference and apathy in class. If a stimulation of senses is what they need to be interested in their subjects and classes, it is necessary to trigger their interest and keep their attention. Once an interest and understanding of a subject has been developed the focus can shift to teaching higher order skills. However, as long as academics are persistently lecturing in a manner that is most preferred to them (usually the traditional objectivist teaching and learning approach), and not using strategies that capture learners' attention, learners will remain indifferent. The constructivist approach, mentioned in section 7.4.2.1.2, remains one of the key factors to addressing and motivating the 21st century learner.

7.4.2.5 Question 5: How should the role of academics change to accommodate learners' expectations?

The purpose of this question was to determine participants' perceptions on how the role of academics should change to accommodate learners' expectations. Feedback to the questions would also reveal whether participants know learners' expectations and what is expected of them in this regard.

7.4.2.5.1 Summary of feedback on question 5

A number of the participants indicated that it is difficult to answer the question as they are not aware of learners' expectations. It is further mentioned that Academic Support Services should provide e-learning training to academics, including a refresher course each year. Lecturers need continuous support from Academic Support Services in terms of e-learning. They state that there is no exposure to e-learning wider than eFundi. One of the participants indicated that he was unaware of the fact that e-learning is broader than eFundi.

A number of the participants are of the opinion that eFundi is not user friendly. One participant indicates that eFundi should be an add-on, that it takes too much time

and creates an additional workload. Other participants supported it and added that they have full schedules with lecturing duties, research pressure and administration, and therefore do not get time to explore e-learning as well. It is also indicated that the use of e-learning should not be duplication, but it should play an additional role.

One of the participants mentioned that today's academics, belonging to the older generations, were raised with the perception that children should be seen and not heard. However, in this time and age they are confronted with a new generation of children that question things and they (as academics) do not necessarily have the answers.

The final word came from the participant who to the greatest extent resists e-learning, indicating that he pays someone to post messages and power point presentations on eFundi.

7.4.2.5.2 Researcher's interpretation on question 5

The need for e-learning training is once again confirmed, emphasising the importance thereof. Also considering the fact that one of the participants was not aware of the fact that e-learning is broader than eFundi, and that others realised that they do not know much about e-learning other than eFundi, it is necessary that training, as well as awareness and wider exposure to e-learning is provided.

The fact that participants indicated that they need support from Academic Support Services in terms of e-learning, indicates that they are not aware of the support this department is already providing. Academic Support Services is advertising weekly training sessions on a daily basis on the NWU's intranet. They also can be contacted at a helpdesk throughout the day and an email address is available for after hours enquiries, although e-mails will only be responded to the next working day. What is evident though is that participants are not aware of these services and support available to them.

Comments regarding the lack of ease of use of eFundi demonstrate the extent of the lack of skill. Compared to other LMSs the researcher found eFundi to be significantly

simpler and more user friendly to use than LMSs such as Blackboard and Moodle for example. The researcher is of opinion that the ease of use of eFundi is so good and the navigation system so clear and simple that it can be used without any training.

Comments pertaining to additional workload again indicated an unwillingness to make use of technology in teaching and learning. It also indicates ignorance as the use of e-learning does not necessarily has to mean additional workload. On the other hand, line managers may also benefit by it to take cognisance of employees' comments pertaining to workload and research. The more emphasis is placed on research and the more employees are overloaded with administrative responsibilities, the less time and will is left for the use of e-learning, which is in fact directly related to a university's core business – education. Knowles, Holton III and Swanson (2005:10) define education as an action taken on and/or initiated to result in changes in the knowledge, skills and attitudes of individuals, groups or communities. One can assume that for these changes to be accomplished, learning should take place. E-learning is one of the methods the educator, as change agent (Knowles et al 2005:10), can apply to accomplish these changes. This does not mean that research is not significantly important, but its promotion should not harm teaching and learning practices, including the use of e-learning.

It was also indicated that the use of e-learning should not be duplication, but it should play an additional role. The comment that e-learning should play an additional role was made before. However, it was now indicated that e-learning should not be used as duplication. This is ironic since academics themselves use the e-platform to duplicate. As indicated in chapter 3 and earlier in this chapter, the e-platform is mostly used for the distribution of notes and power point presentations and only 10,5% of academics who completed the questionnaire make use of the forum, which is an interactive tool. No other interactive tools are used and none of the respondents indicated any manner in which they use the e-platform to develop higher order skills. Again this can be related to a lack of skill and ignorance about the possibilities of e-learning.

One of the participants mentioned that today's academics, belonging to the older generations (Generation X and the Baby Boomers), were raised with the perception

that children should be seen and not heard. However, in this time and age they are confronted with a new generation of children that question things and they (as academics) do not necessarily have answers. This is again ironic, as in a previous question participants indicated that this generation of learners are not interested in participating in class and merely want to know what to study to pass. In section 7.4.2.4.2 the importance of knowing the learners' needs and preferences and adjusting teaching strategies accordingly to maximise learning, has already been emphasised.

The remark from the participant indicating that he pays someone to post messages and power point presentations on eFundi is priceless. This remark in itself best demonstrates the lack of e-readiness. The same perceptions and misconceptions held by respondents of the questionnaire surfaced during the focus group discussion. In addition to a lack of technical skill, a resistance to e-learning could also be observed with an age increase. Furthermore, misconceptions and ignorance pertaining to the use and purpose of e-learning is widespread. It is apparent that a fear that technology will take over and to a great extent replace the lecturer is still withholding a significant number of academics from exploring the possibilities of e-learning. This misconception also illustrates that employees are not aware of the human role in e-learning, the requirement of an online learning facilitator to promote communication and motivation online. Thus it illustrates the need for comprehensive training, including awareness of the use, purpose and philosophy of e-learning. Furthermore, respondents who revealed e-readiness in terms of willingness to incorporate technology in teaching and learning dismally failed to use technology as an interactive learning tool. The manner in which the e-platform is currently used by the vast majority of respondents, as a distribution mechanism, does not promote effective learning.

It is further evident that a significant number of academics stubbornly want to stick to traditionally known methods. The resistance to threatening of a comfort zone is supported by literature and needs to be addressed by institutional managers and line managers alike. Institutional managers are responsible to draft an institutional policy to ensure standardisation and implementation. Line managers have a significant role to play in performance appraisals, training identification, providing training and

development opportunities and supporting employees through effective motivation. Overall line managers should take more responsibility for the learning and development of their subordinates.

An interesting paradox can be observed. A 49% rate of *early adopters*, compared to a 39% of respondents who resist e-readiness assessment during performance appraisals, with a further 17% of respondents indecisive or sceptical, which brings the total number of respondents, not unconditionally in favour of e-readiness assessment to 56%. The 44% of respondents that responded positively to the inclusion of e-readiness assessment in the performance appraisals of academics did not necessarily do so without reservation. In many instances it was indicated that such an assessment should not be compulsory. Therefore, although 49% of respondents indicated aspects relating to the *early adopter* category of the technology adoption cycle, it appears that this selection was to a great extent driven by a performance orientation and not necessarily by an eagerness to engage with technology in teaching and e-learning. This notion is supported by Dweck (1990) and Dweck and Leggett (1988), quoted in Whitmore (2000:8) by explaining the unspoken expectations that people hold about self-evaluation when asked to complete difficult tasks. Two focal points are eminent: a focus that is positive, described as the "mastery-orientation"; and a focus that can often be self-defeating, described as the "performance-orientation". Employees who embrace the mastery orientation enthusiastically look for challenges, as the complex challenges are perceived by them as the best opportunities for learning (as with the profile of an *early adopter* and *innovator* on the technology adoption cycle). On the other hand, employees who embrace the performance orientation portray a preference to problems that support their opinion of themselves as primarily intelligent. When performance takes precedence these employees tend to implement strategies that limit the possibility of being unsuccessful, even if that destines them to fairly monotonous and routine pursuits (Dweck 1990; Dweck & Leggett 1988 quoted in Whitmore 2000:8). Thus the high performance culture of academics may be the cause of preferring the old trusted ways of traditional teaching and learning to new innovative methods of teaching and learning.

7.5 SUMMARY AND DEDUCTIONS FROM EMPIRICAL RESULTS

The empirical results obtained through the feedback of the questionnaire and the focus group discussion shed valuable light on the e-readiness of academics. It became evident that a lack of e-readiness is to a great extent evident amongst participants in the study. It is further apparent that a number of misconceptions pertaining to e-learning, its use and purpose remain, in many instances leading to resistance to the use of e-learning. Typical misconceptions include the notion that e-learning is to be used for part time learners and distance learning learners and cannot be used for postgraduate learners or small groups of learners.

Fear of the changed job demand is evident, especially amongst, but not exclusive to, older academics. The fear of change also became eminent in the constant reference to contact education to not being replaced by e-learning, during the questionnaire results and focus group discussion. This feedback supports the notion that academics do not realise the role, purpose and importance of e-learning in residential education. Thus, a fear based on misconceptions withholds academics from exploring the richness and pedagogical value of e-learning.

Feedback and results furthermore reveal that academics are not informed about the needs and preferences of their learners. The majority of learners at the NWU belong to Generation Y, known for their high interest in and preference to the use of technology. This generation thinks differently, act differently, and grew up in different circumstances (the technological age) from previous generations and therefore the traditional classroom approach to teaching and learning does not appeal to them. Educational experts such as Eble (1988:9), Ramsden (2003:xii), and Milliken and Barnes (2002:225–226) underline the importance of teachers adapting to learners' needs and preferences. This adaptation includes the adjusting of teaching and learning strategies. It became evident that a significant number of academics still embrace the objectivist approach to teaching and learning, which is driven by "talk-and-chalk" and strongly depends on textbooks for the structure of the course (Hanley 1994:3; cf Kinchin 2004:302). According to objectivists there is a fixed world of knowledge that the learner must come to know and educators serve as channels through which their thoughts and meanings are transferred to the passive learner

(Hanley 1994: 3). Whereas the objectivist approach gives emphasis to observable, external behaviours and therefore, steers clear of reference to meaning, representation and thought, constructivism follows a more cognitive approach (Gergen sa). In the constructivism approach educators are coordinators, facilitators, resource advisors, tutors or coaches (Gergen sa).

Within the constructivist approach the lecturer will introduce new ideas or cultural tools where necessary and provide the support and guidance for learners to make sense of these for themselves (Murphy sa). The lecturer will also identify the ways in which the instructional activities are being interpreted to inform further action (Murphy sa). Results obtained from the questionnaire and focus group discussion (discussed in section 7.4), indicate that to a great extent academics are struggling to, or resisting to, follow a constructivist approach to teaching. It appears that a significant number of academics are unwilling to change their teaching and learning strategies to suit their learners' needs.

It became clear that e-learning should become a broader management issue. Institutional management should take responsibility for formal e-learning policy. In the absence of policy, e-learning will remain optional and learners would thus be withheld of optimal learning possibilities and experiences. The university may also lose its competitive edge, as well as its learners to other HEIs.

Further, line managers should realise and embrace their responsibility towards employee development. Not only should training needs be identified, but time and opportunity for training should also be granted. One of the most significant roles of line managers, motivation, should take precedence in this endeavour of a changed job demand and in particular if e-readiness assessment is introduced to the performance appraisals of academics. It is imperative that line managers are able to act as skilled change agents and motivate staff. It may be necessary to provide particular training to line managers in this regard. Best practice pertaining to talent management, career management and employee retention showed that incentives such as flexitime, recognition, support with resources, training and mentoring and coaching support not only the retention of talent and their development, but also their performance and sense of belonging (Corporate Leadership Council 2003:3). The

use and importance of both monetary and non-monetary incentives should also not be underestimated and the value of goal-setting should be understood.

It is clear that certain key human factors play a role in an academic’s e-readiness. Key human factors considered for this study are the personal profile patterns of employees, namely employees’ DISC factors, employees’ preferred learning styles, and employees’ position/category on the technology adoption cycle, indicating employees’ pace and style of technology adoption. Certain trends and similarities could be observed between these human factors. For example, a particular learning style revealed by an employee, in most instances typically portrayed a typical DISC factor and a specific category of technology adoption pace and style. The following particular matches became evident, indicated in table 7.1 below:

Table 7.1: Matches between personal profile patterns, learning styles and pace and style of technology adoption

Personal profile pattern (DISC factor)	Learning style	Technology adoption (pace and style)
Dominance	Activist	Innovator
Influence	Reflector	Late majority
Steadiness	Theorist	Early majority
Compliance	Pragmatist	Early adopter

The last two matches indicated in table 7.1, the *early majority-steadiness-theorist* and the *early adopter-pragmatist-compliance* matches represent the e-profiles of the majority of respondents, 79% (also see diagram 7.10). These e-profiles can thus be related to employees’ level of comfortableness with the use of e-learning, as indicated in table 7.2 below (also see diagram 7.21).

Table 7.2: Matches between personal profile patterns, learning styles, pace and style of technology adoption, and e-learning perceptions when trained and first being used

Personal profile pattern (DISC factor)	Learning style	Technology adoption (pace and style)	Perceptions towards e-learning after trained and used for the first time
Dominance	Activist	Innovator	Very eager to teach online
Influence	Reflector	Late majority	Still did not want to teach online
Steadiness	Theorist	Early majority	Comfortable, but will never be first choice
Compliance	Pragmatist	Early adopter	Looked forward, once mastered the skill

Table 7.3 below indicates these profiles, placed in order of the perceived highest level of e-readiness to the lowest level of e-readiness.

Table 7.3: E-readiness levels

E-readiness levels (highest to lowest)	Personal profile pattern (DISC factor)	Learning style	Technology adoption (pace and style)	Perceptions towards e-learning after trained and used for the first time	Percentage of respondents %
Very high	Dominance	Activist	Innovator	Very eager to teach online	13
Relatively high	Compliance	Pragmatist	Early adopter	Looked forward, once mastered the skill	46
Moderate	Steadiness	Theorist	Early majority	Comfortable, but will never be first choice	33
Low	Influence	Reflector	Late majority	Still did not want to teach online	8

Respondents to the questionnaire portrayed a relatively high (46%) or moderate (33%) level of e-readiness. If these results are considered to be generally representative of the academics of the NWU, Potchefstroom campus, it is clear that successfully training and developing employees portraying the *early adopter-compliance-pragmatist* and the *early majority-steadiness-theorist* pertaining to the use and purpose e-learning, the bulk of the academic workforce at the NWU will be well-skilled and able to implement e-learning optimally to support world class learner learning. If the 13% of respondents who portray a dominance-activist-innovator e-profile is considered to the bulk of academics portraying the abovementioned two e-

profiles (79%), it brings the total of e-ready academics to 92%. Undoubtedly this will make a difference in the effectiveness of use of e-learning.

Table 7.4 indicates the matches between personal profile patterns, learning styles, pace and style of technology adoption, e-learning perceptions when trained and first being used and type of motivation.

Table 7.4: Matches between personal profile patterns, learning styles, pace and style of technology adoption, e-learning perceptions when trained and first being used and type of motivation

E-readiness levels (highest to lowest)	Personal profile pattern (DISC factor)	Learning style	Technology adoption (pace and style)	Perceptions towards e-learning after trained and used for the first time	Motivation	Percentage of respondents %
Very high	Dominance	Activist	Innovator	Very eager to teach online	Intrinsic	13
Relatively high	Compliance	Pragmatist	Early adopter	Looked forward, once mastered the skill	Mostly extrinsic, but also intrinsic	46
Moderate	Steadiness	Theorist	Early majority	Comfortable, but will never be first choice	Extrinsic	33
Low	Influence	Reflector	Late majority	Still did not want to teach online	Extrinsic	8

Employees belonging to the *innovator-activist-dominance* profile will be intrinsically motivated. This category of employees will be intrinsically motivated as they perform an activity for its own sake and enjoy performing it (Gagné & Deci 2005:331; Vansteenkiste et al 2007:253). Intrinsic motivation refers to a condition in which an individual feels interest, pleasure and enthusiasm by taking on task-related activities (Gagné & Deci 2005:331; Vansteenkiste et al 2007:253; Ryan & Deci 2000:56). Employees belonging to this profile will not portray a lack of e-readiness and will embrace the challenge of a new job demand.

Another e-profile category that is also intrinsically motivated (to some extent), but can also rely on extrinsic motivation, is the *early adopter-pragmatist-compliance* category, representing 46% of the respondents of the questionnaire. Literature has

identified *early adopters* to be extrinsically motivated, but since they are also regarded as strategic thinkers (Zemsky & Massey 2004:9–10), some of them may be intrinsically motivated. It can be argued that *pragmatists* will be extrinsically motivated as the technology adoption will not be a natural process of grabbing opportunities to them as with the *innovators* or *activists*, as they will first determine the practical value and use of what they are being taught and will require a link between the training and the end-result required of them (Honey & Mumford 1982:25). Further, the *compliance* DISC factor indicates that, an employee portraying this e-profile prefers predictable and consistent outcomes (Thomas International sa) and may therefore need encouragement in the form of incentives or rewards to adapt to the new job demand.

The other e-profile, represented by a significant number of respondents (33%), the *early majority-theorist-steadiness* profile, is mostly extrinsically motivated, implying that external rewards and incentives may be necessary to encourage these employees towards goal accomplishment pertaining to the new job demand. This is due to the fact that the *late majority* only adopt when half of the population has already done so and they dislike the disruptions of new technologies (Zemsky & Massey 2004:10). Therefore, they will need external motivation to adapt to the changed job demand.

If these profiles are considered to be generally representative of the academics of the NWU, Potchefstroom campus, it implies that the categories representing the majority of academics will mostly need extrinsic motivation. If the university lacks the necessary funds to provide financial incentives, they will have to think creatively of other incentives to motivate employees towards goal accomplishment. This also places a significant responsibility on the line manager or support in this respect, as employees will need support and encouragement throughout the learning curve.

It is important to keep in mind that other variations of e-profiles can emerge with e-readiness assessment and that these profiles are used as examples to draft a strategy, as they surfaced as most eminent during the empirical research.

Before the training and development interventions can take place it is necessary to draft a personal development plan for each academic, based on the employee's e-readiness assessment during a performance appraisal. The next section will discuss the implementation of the e-readiness assessment and the subsequent training and development by means of a framework, developed for this purpose.

7.6 FRAMEWORK FOR THE E-READINESS ASSESSMENT OF ACADEMICS

The study argues that due to the nature of technological development, the increasing use of technology in teaching and learning and the profile of the 21st century learner (Generation Y), academics must understand and embrace the importance and role of e-learning and no longer have the option to resist e-learning. For e-learning to become an integral part of an academic's job requirements, it necessitates their e-readiness. Particularly also in the light of the significant role that the online learning facilitator play in e-learning, not only with regard to facilitation, subject content and technical assistance, but also with regard to learner motivation, communication and encouragement.

The study further argues that to determine an academic's e-readiness, it should be assessed during a performance appraisal. As the performance appraisal process consists of not only an evaluative component, but also a development component, the e-readiness assessment should be followed with a personal development plan, indicating uniquely structured training and development opportunities. The study indicated that key human factors (pace and style of technology adoption, preferred learning style and personal work profile patterns) play a role in the e-readiness assessment and therefore argues that these human factors should be included in the e-readiness assessment of academics. An academic's key human factors will be indicative of his/her e-readiness indicators (as explained in chapter 5) and the training and development approach to be followed. An e-readiness construct was constructed to determine the minimum acceptable level of e-readiness for an academic (by means of particular indicators) to effectively be able to use e-learning as pedagogical tool.

Once the key human factors are assessed, and an e-profile is drafted, the employees' e-readiness indicators will be apparent and the training and development interventions can be structured.

Tables 7.5, 7.6 and 7.7 indicate the e-readiness framework, based on the outcome of an employee's e-readiness assessment. Potential matches that may emerge after an academic's key human factors (technology adoption, preferred learning style and personal profile pattern) have been assessed are indicated, as well as the unique training and development approach that should be structured for an employee. The table cells that are not filled are highly unlikely matches:

- Innovator/Influence – the *innovator* is only a logical match with the *dominance* factor due to the shared characteristics of exploring new ideas, being driven by internal motivation and accepting challenges (Zemsky & Massey 2004:9; Thomas International sa).
- Innovator/Steadiness – the *innovator* thrives on challenges and exploring new ideas, whereas the *steadiness* factor portrays a preference for a stable structured environment (Thomas International sa).
- Innovator/Compliance – the *innovator* prefers challenges and new experiences, as opposed to the *compliance* factor that portrays a preference for rules, procedures, structure, predictability and consistency (Zemsky & Massey 2004:9; Thomas International sa).
- Early adopter/Steadiness – an *early adopter* is an opinion leader and decision-maker, matching opportunities with strategic goals, whereas the *steadiness* factor portrays a preference for a stable structured environment and the status quo (Zemsky & Massey 2004:9; Thomas International sa).
- Early majority/Dominance – the *early majority* belongs to the mass market and will be relatively slow to adapt to technological change, whereas the *dominance* factor are part of a minority of competitive, visionary leaders (Zemsky & Massey 2004:10; Thomas International sa).
- Late majority/Dominance – the *late majority* is slow to adapt to technological change, whereas the *dominance* factor are part of a minority of competitive,

visionary leaders who will adapt immediately to technology (Zemsky & Massey 2004:9; Thomas International sa).

- Diehard/Dominance – these two categories are exact opposites, whereas the *diehard* will never adapt to technology and the *dominance* factor will adapt immediately to technology (Zemsky & Massey 2004:10; Thomas International sa).
- Diehard/Influence – the *diehard* will never adapt to technology, but as the *influence* factor portrays an optimistic and outgoing nature, focused on networking and working with others it is likely that the *influence* factor will at some point adapt to technology (Zemsky & Massey 2004:10; Thomas International sa).
- Innovator/Pragmatist – an *innovator* takes challenges, whereas a *pragmatist* wants to see the practical value before engaging into a learning activity (Zemsky & Massey 2004:9; Honey & Mumford 1982:28).
- Innovator/Theorist – an *innovator* takes challenges and new opportunities, whereas a *theorist* carefully thinks things through before engaging in a learning activity (Zemsky & Massey 2004:9; Honey & Mumford 1982:27).
- Innovator/Reflector – An *innovator* takes challenges and new opportunities, whereas a *reflector* spends a significant amount of time to think intensively about the activities and concepts provided to them online (Zemsky & Massey 2004:9; Honey & Mumford 1982:26).
- Early adopter/Theorist – an *early adopter* is an opinion leader and decision-maker, matching opportunities with strategic goals, whereas the *theorist* will first think things through before engaging in an activity (Zemsky & Massey 2004:9; Honey & Mumford 1982:27).
- Early adopter/Reflector – an *early adopter* acts as a decision-maker, matching opportunities with strategic goals, whereas the *reflector* will take a significant amount of time to think intensively about the activities and concepts (Zemsky & Massey 2004:9; Honey & Mumford 1982:26).
- Early majority/activist – whereas the *early majority* adapts to technology relatively slowly, the *activist* will adapt to technology immediately (Zemsky & Massey 2004:10; Honey & Mumford 1982:25).

- Late majority/activist – whereas the *late majority* adapts to technology slowly and only when half the population has already done so, the *activist* will adapt to technology immediately (Zemsky & Massey 2004:10; Honey & Mumford 1982:25).
- Diehard/Activist – these two categories are exact opposites, whereas the *diehard* will never adapt to technology and the *dominance* factor will adapt immediately to technology (Zemsky & Massey 2004:10; Honey & Mumford 1982:25).
- Diehard/pragmatist – whereas the *diehard* will never adapt to technology, the *pragmatist* will adapt to technology as soon as its practical value can be determined (Zemsky & Massey 2004:10; Honey & Mumford 1982:28).
- Dominance/pragmatist – the *dominance* factor is a competitive, visionary leader, taking on challenges without considering the risks involved, whereas the *pragmatist* wants to see the practical value of what being taught before engaging in the learning activity (Thomas International sa; Honey & Mumford 1982:28).
- Dominance/theorist – the *dominance* factor thrives on challenges and will immediately engage in a new opportunity, as opposed to the *theorist* that will think it through before engaging in the activity (Thomas International sa; Honey & Mumford 1982:27).
- Dominance/reflector – the *dominance* factor thrives on challenges and will immediately engage in a new opportunity, whereas the *reflector* will take a significant amount of time to think about the learning activity before engaging in it (Thomas International sa; Honey & Mumford 1982:26).
- Influence/activist – the *influence* factor is people oriented, whereas the *activist* is goal-oriented (Thomas International sa; Honey & Mumford 1982:25).
- Influence/pragmatist – the *influence* factor is concerned with people, as opposed to the pragmatist that is practical and task-focused (Thomas International sa; Honey & Mumford 1982:28).
- Steadiness/activist – the steadiness actor prefers a stable environment, whereas the activist functions best in an unstructured environment where being confronted with new challenges (Thomas International sa; Honey & Mumford 1982:25).

- Compliance/activist – although both these two categories are task-focused, the *compliance* factor is comfortable with rules, procedures, structure, predictability and consistency, as opposed to the *activist* that functions optimally without the constraints of rules and procedures and do not want predictability (Thomas International sa; Honey & Mumford 1982:25).

The rest of the key human factor matches, indicated in the framework (tables 7.5, 7.6 and 7.7) below, are likely matches that may emerge from an e-readiness assessment of academics.

Table 7.5: The technology adoption – personal work profile pattern match

Personal work profile pattern (DISC profile)		Dominance	Influence	Steadiness	Compliance
T E C H N O L O G Y A D O P T I O N	Innovator	Unstructured; freedom to explore; internal motivation; visual aids; fast pace			
	Early Adopter	Structured/unstructured; freedom to explore; internal motivation; visual aids; instructor that demonstrates; relatively fast pace	Structured; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes; opportunity for socialisation; relatively fast pace		Structured, step-by-step approach; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; relatively fast pace
	Early majority		Structured; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes; opportunity for socialisation	Structured, step-by-step approach; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes	Structured, step-by-step approach; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes
	Late majority		Structured; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes; opportunity for socialisation; enough opportunity to reflect and ask questions	Structured, step-by-step approach; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; enough opportunity to reflect and ask questions	Structured, step-by-step approach; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; enough opportunity to reflect and ask questions
	Diehard/Laggard			Structured; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes; enough opportunity to reflect and ask questions	Structured; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes; enough opportunity to reflect and ask questions

Table 7.6: The technology adoption – preferred learning style match

Learning style		Activist	Pragmatist	Theorist	Reflector
TECHNOLOGY ADOPTION	Innovator	Unstructured; trial and error; freedom to explore; internal motivation; visual aids; fast pace			
	Early Adopter	Structured/unstructured; freedom to explore; internal motivation; visual aids; instructor that demonstrates; match strategically; relatively fast pace	Structured; match strategically; holistic picture; future benefits; step-by-step approach; external motivation; instructor that demonstrates; visual aids; relatively fast pace		
	Early majority		Structured; match strategically; picture; future benefits; step-by-step approach; external motivation; instructor that demonstrates; visual aids ; paper-based notes	Structured; external motivation; step-by-step approach; external motivation; instructor that demonstrates; instructor that gives verbal instructions; visual aids; paper-based notes	Structured; unhurried process; ample opportunity to ask questions and review; opportunity to reflect on progress; external motivation; instructor that demonstrates; instructor that gives verbal instructions; visual aids; paper-based notes
	Late majority		Structured; holistic picture; step-by-step approach; external motivation; instructor that gives verbal instructions; instructor that demonstrates; visual aids	Structured; step-by-step approach; external motivation; instructor that demonstrates; instructor that gives verbal instructions; visual aids; paper-based notes	Structured; step-by-step approach; ample opportunity to ask questions and review; opportunity to reflect on progress; external motivation; instructor that demonstrates; instructor that gives verbal instructions; visual aids; paper-based notes
	Diehard/laggard			Structured; step-by-step approach; external motivation; external motivation; instructor that demonstrates; instructor that gives verbal instructions; visual aids; paper-based notes	Structured; unhurried process; ample opportunity to ask questions and review; opportunity to reflect on progress; external motivation; instructor that demonstrates; instructor that gives verbal instructions; visual aids; paper-based notes

Table 7.7: Personal work profile pattern – preferred learning style match

Learning style		Activist	Pragmatist	Theorist	Reflector
DISC	Dominance	Unstructured; trial and error; freedom to explore; internal motivation; visual aids; fast pace			
	Influence			Structured; step-by-step approach; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes; opportunity for socialisation; enough opportunity to ask questions	Structured; step-by-step approach; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes; opportunity for socialisation; enough opportunity to reflect and ask questions
	Steadiness		Structured; match strategically; holistic picture; practical step-by-step approach; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes	Structured; step-by-step approach; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes; enough opportunity to ask questions	Structured; step-by-step approach; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes; enough opportunity to reflect and ask questions
	Compliance		Structured; match strategically; holistic picture; future benefit; practical step-by-step approach; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes	Structured; step-by-step approach; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes; enough opportunity to ask questions	Structured; step-by-step approach; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes; enough opportunity to reflect and ask questions

Once an employee has been plotted within the abovementioned framework (provided by the three tables), the employee's e-profile will be known and uniquely structured training and development interventions for each academic can be planned and implemented. The framework outlines to line managers, human resource managers and Academic Support Services, the training and development approach that should be followed with each academic and the preferred nature and structure of the training and development intervention, that is structured or unstructured; step-by-step or freedom; visual aids, paper-based notes, verbal instructions from an instructor or an instructor that demonstrates; internal or external motivation; and opportunity to ask questions and reflect or a relatively fast pace.

In addition to the abovementioned framework, the e-readiness construct, constructed in chapter 5, should also be taken into consideration, indicating all the indicators and specifications for e-readiness. The indicators and specifications indicated in the e-readiness construct pertain to the content of the training and development interventions and will give an indication of how much time should be spend on which indicators, given employees' e-profiles that will portray for which indicators they will have a natural inclination.

The planning of training and development interventions for academics that portray one of the two most prominent e-profiles, as obtained through the questionnaire results, can be approached as follow, based on the e-readiness framework:

- **Early adopter-compliance-pragmatist e-profile**

An academic with this e-profile would, according to the above framework have been plotted on table 7.5 as an *early adopter-compliance* match, which indicates a structured, step-by-step approach; external motivation; the use of visual aids during training, as well as an instructor that demonstrates and gives verbal instructions; and a relatively fast pace should be followed during training and development.

The employee would have been plotted as an *early adopter-pragmatist* on table 7.6, which indicates a structured step-by-step approach; training should be matched with strategic goals; a holistic picture should be provided; future benefits should be

underlined; external motivation should be provided; training should be given through an instructor that demonstrates, use visual aids and should be at a relatively fast pace.

On table 7.7 the employee would have been plotted as a *compliance-pragmatist*, indicating a structured and practical step-by-step approach; training should be matched with strategic goals; a holistic picture should be provided; the future benefit of the training should be explained; external motivation should be provided; training should be done through the use of visual aids, an instructor that demonstrates and that gives verbal instructions, as well as paper-based notes.

Therefore, the results (*early adopter-compliance*; *early adopter-pragmatist* and *compliance-pragmatist*) obtained from the three tables in the framework reveal an ***early adopter-compliance-pragmatist*** e-profile. This profile was portrayed by 46% of questionnaire respondents. An academic portraying this e-profile should therefore receive e-learning training and development in a structured manner with a practical step-by-step approach. A holistic picture of the role and place of e-learning in the university's teaching and learning framework and goals, as well as within the institutional plan and strategic goals and objectives should be provided. Employees should understand how the training will benefit them in future and why it is imperative to their teaching and learning skills. The person responsible for e-learning training should make use of visual tools such as podcasts and simulations, give verbal instructions, demonstrated the tools to employees and provide paper-based notes for referral when practicing. An employee portraying this e-profile will need to be externally motivated, therefore the line manager and the human resource manager should decide on the method of motivation that will be followed.

An employee that belongs to the *early adopter* category of technology adoption, as well as the *pragmatist* learning style preference of an employee portraying this profile, it can be assumed that an employee with this profile will adapt to e-learning relatively fast, once the skill is mastered. Therefore once the technical skill is obtained, training should focus on e-readiness indicators such as communication, motivation, compassion and counselling (the social nature of e-learning), as these indicators may need to be developed. A focused should also be placed on personal

attribute indicators such as innovation and creativity, commitment and time management. Due to the *compliance* DISC factor of this profile (favouring standard operating procedures and the status quo), attention should be given to the practical use, purpose and philosophy of e-learning.

- **Early majority-steadiness-theorist e-profile**

An academic with this e-profile would, according to the above framework have been plotted on table 7.5 as an *early majority-steadiness* match, which indicates a structured, step-by-step approach; external motivation; the use of visual aids during training, as well as an instructor that demonstrates and gives verbal instructions; and a relatively fast pace during training and development.

The employee would have been plotted as an *early majority-theorist* on table 7.6 and a *steadiness-theorist* on table 7.7, which both indicate a structured step-by-step approach; external motivation should be provided; training should be given through an instructor that demonstrates the use of e-learning tools, the use of visual aids and paper-based notes, and ample opportunity should be given to ask questions.

Therefore, the results (*early majority-steadiness*; *early majority-theorist* and *steadiness-theorist*) obtained from the three tables in the framework reveal an **early majority-steadiness-theorist** e-profile. This profile was portrayed by 33% of questionnaire respondents. An academic with this e-profile should therefore receive e-learning training and development in a structured manner with a practical step-by-step approach. The person responsible for e-learning training should make use of visual tools such as podcasts and simulations, give verbal instructions, demonstrated the tools to employees and provide paper-based notes for referral when practicing. An employee portraying this e-profile will need to be externally motivated, therefore the line manager and the human resource manager should decide on the method of motivation that will be followed.

Training and development for employees that portray the *early majority-steadiness-theorist* e-profile will differ from the *early adopter-compliance-pragmatist* e-profile: Firstly, information on strategic linkages and the practical value of the training will not

be such a high priority for employees that portray the *early majority-steadiness-theorist* e-profile as for those portraying the *early adopter-compliance-pragmatist* e-profile. However, this information should ideally be provided to all employees that receive e-learning training, irrespective of their e-profiles. Secondly, employees that portray the *early majority-steadiness-theorist* e-profile will in all likelihood have a more natural ability for the social nature of e-learning and the personal attribute indicators of e-readiness will be more eminent, due to the *steadiness* DISC factor of the profile, that reflects good people skills and good team players (Thomas International sa). Thirdly, training and development for employees that portray the *early majority-steadiness-theorist* e-profile will follow a slower pace than training and development for employees portraying the *early adopter-compliance-pragmatist* e-profile for two reasons:

- An employee that is categorised in the *early majority* category will portray a bigger lack of e-readiness than an *early adopter* and will be less comfortable with change and new technologies, and will therefore need more technical guidance.
- Secondly, *theorists* will tend to ask more questions than *pragmatists* and will need time to think about activities and challenges posed to them during training.

Only 8% of questionnaire respondents portrayed the ***late majority-influence-reflector*** e-profile. Employees portraying this profile will receive similar training as the *early majority-steadiness-theorist* profile, but even more time must be provided to reflect on activities and challenges and opportunity for socialisation must also be provided. Due to the high *influence* DISC factor employees revealing this profile are likely to do well with the human side of e-learning, as employees with a high *influence* DISC factor are concerned about the manner in which people are dealt with and are typically charming, optimistic, and outgoing, and focused on networking, conversation, and working with others (Thomas International, sa), they will have a natural ability for the following indicators of the e-readiness construct: communication, motivation, compassion and counselling skills. As this category of technology adoption will resist e-learning as long as possible and be hard to

convince of its use, employees in this category should firstly be focused on e-readiness indicators such as the philosophy, use and purpose of e-learning, as well as the needs and preferences of Generation Y learners. A focus on the use and adaptation of teaching and learning strategies is also important. Further, training must be focused on the technical skill due to the *late majority* aspect of this profile, portraying a significant lack of e-readiness. Focus should be placed on training strategies and techniques that will make an employee belonging to this category comfortable, another indicator of the e-readiness construct.

Thirteen percent (13%) of questionnaire respondents portrayed the ***innovator-dominance-activist*** profile. Employees portraying this e-profile will in all likelihood not need to be trained (as they would have explored the e-learning platform on their own, played around and managed to use the tools). Therefore they will in all probability not have a development need or subsequent need for training and development in this regard. However, if these employees did not master all the tools of the e-learning platform on their own, and from a quality control point of view, line managers can consider, together with the employee, to include e-learning training in their personal development plans. An employee with a high *dominance* DISC factor or an *innovator* technology adoption style is likely to do well with the technical skills, subject competency, comfortableness and willingness, as a high *dominance* factor and *innovators* are competitive, with high performance standards, and focused on achieving goals, solving problems, enjoy exploring new ideas and accept challenges (Thomas International sa; Zemsky & Massey 2004:9). The same can be said about an employee with an *activist* learning style that also prefers to deal with challenges (Honey & Mumford 1982). However an employee who is an *innovator*, prefer an *activist* learning style or portray a high *dominance* factor, does not necessarily have good interpersonal skills. Therefore, particular focus can be placed on e-readiness indicators such as learner motivation, communication and compassion.

7.7 CONCLUSION

This chapter outlined the research methodology followed in the study and indicated particular challenges experienced during data collection. Data were obtained through quantitative data collection with a questionnaire and through qualitative data

collection with a focus group discussion. Interviews were held with particular specialists in fields relating to the study. The empirical results obtained shed valuable light on the e-readiness of academics. It became evident that a lack of e-readiness is to a great extent evident amongst academics. It is further apparent that a number of misconceptions pertaining to e-learning, its use and purpose remain in many instances, leading to resistance to the use of e-learning. Fear of the changed job demand is also evident, especially the fear of contact education being replaced by e-learning. This feedback supports the notion that academics do not realise the role, purpose and importance of e-learning in residential education.

Feedback and results furthermore reveal that academics are not informed about the needs and preferences of their learners. The majority of learners at the NWU belong to Generation Y, known for their high interest in and preference for the use of technology. Educationalist experts underlined the importance of teachers adapting to learners' needs and preferences. This adaptation includes the adjusting of teaching and learning strategies. It became evident that a significant number of academics still embrace the objectivist approach to teaching and learning, whereas the study proposes the use of a constructivist approach to teaching and learning.

It further became apparent that e-learning should become a broader management issue and that institutional management should take responsibility for formal e-learning policy. Also, line managers should realise and embrace their responsibility towards employee development. Not only should training needs be identified, but time and opportunity for training should be granted. One of the most significant roles of line managers, motivation, should take precedence in this endeavour of a changed job demand and in particular if e-readiness assessment is introduced to the performance appraisals of academics. It is imperative that line managers are able to act as skilled change agents and motivate staff. It may be necessary to provide particular training to line managers in this regard.

It became clear that certain key human factors (employees' DISC factors, employees' preferred learning styles, and employees' position/category on the technology adoption cycle) play a role in an academic's e-readiness. Certain trends and similarities could be observed between these human factors. The following

particular e-profile categories were revealed through questionnaire results: an *early adopter-compliance-pragmatist* profile, an *early majority-steadiness-theorist* profile, an *innovator-dominance-activist* profile and a *late majority-influence-reflector* profile.

Lastly, an e-readiness framework was drafted in this chapter. After their e-readiness assessment (during which particular key human factors are assessed), academics' results can be plotted on the framework, consisting of three tables. Based on their results, which will indicate a particular e-profile, academics' training and development interventions can be structured to suit their specific profiles.

The next chapter provides a summary of the study and outlines the key findings of the study. Particular recommendations pertaining to the e-readiness of academics, performance appraisals and the use of technology in teaching and e-learning are also made in this chapter.

CHAPTER 8

REFLECTIONS AND RECOMMENDATIONS

8.1 INTRODUCTION

The first five chapters of the study provided a theoretical framework, constructed through an in-depth literature research. The preceding chapter provided results of the empirical research, conducted to verify the theoretical framework and to test the assumptions made in the study. In the previous chapter an e-readiness framework was developed, making provision for determining how academics' e-learning training and development interventions should be structured to suit their particular e-profiles. The aim of the preceding chapters was to achieve the research objectives of the study and to answer the research problem outlined in chapter 1.

In this chapter a summary is provided of the main arguments and topics discussed in each chapter. The most significant conclusions, resulting from the study are indicated and particular recommendations in this regard are made. This chapter also indicates the contribution made by this study, as well as further research that can derive from it.

8.2 SUMMARY OF CHAPTERS

In **chapter 1** the primary objective of the study is indicated: to determine the role of key human factors in the e-readiness of academics, with specific focus on personal work profile patterns, preferred learning style and pace and style of technology adoption. The research problem that the study focused on therefore is: How to determine the role of key human factors in the e-readiness of academics.

Chapter 1 provided an introduction and background to the study. The chapter explained the rationale for the study, indicating why the particular topic for research was chosen by highlighting the importance of e-readiness of academics at higher education institutions (HEIs) and by identifying the shortcomings in the literature of both human resource performance appraisal and e-readiness. The context of

technological development, the increased use of e-learning and the adaptation needs for HEIs were outlined. The NWU's stance on e-learning, as well as its support for e-learning by means of a mission statement and various policies was stated. The use and purpose of e-learning in the 21st century was highlighted, as well as the significant role of the online learning facilitator in this regard. A brief profile of the 21st century learner, known as Generation Y, was provided, emphasising the need for changed teaching and learning approaches to accommodate the needs and preferences of these learners.

It was indicated that the changed job demand (to increasingly incorporate technology in teaching and learning) posed challenges to academics and in some instances resistance to the change is experienced, caused by a lack of e-readiness. It was argued that the e-readiness of academics should be assessed during their performance appraisals and be followed with a personal development plan. Further, it was argued that the e-readiness of academics are influenced by particular key human factors, namely style and pace of technology adoption, preferred learning style and personal work profile patterns, that should be considered during the e-readiness assessment of academics. Once an employee's e-profile has been determined through the assessment of these key human factors, uniquely structured training and development interventions, included in the personal development plan can follow to deal with the perceived lack of e-readiness. It was indicated that a framework should be developed for this purpose (which was done in chapter 6).

The chapter also provided a brief outline of the research methodology followed in the study and indicated ethical aspects considered during the study. Study title concepts and other related concepts were clarified to provide clarity as to what the focus of these concepts are and to highlight the primary areas of discussion of the study. Finally, a chapter outlay was provided, giving an indication of the chapters and respective topics to follow.

In **chapter 2** a literature review of public human resource performance appraisal and its role and place in addressing the e-readiness of academics at HEIs was provided. The chapter explored critical elements of a performance management system and performance appraisals of employees. It was recorded that the performance

management system of an organisation is directly connected to the organisation's vision and objectives and that the performance appraisal process derives from the performance management system of the organisation. It was highlighted that it is therefore also necessary to align individual performance goals and objectives with organisational objectives, and the line manager should provide guidance and assistance in this regard. Emphasis was placed on the performance appraisal process of consisting not only of an assessment component, but also of a developmental component, and that the drafting of a personal development plan should follow a performance appraisal.

Employee performance is directly or indirectly related to motivation, therefore the role and importance of employee motivation was discussed and was brought into relation with the e-readiness of academics. The significance of motivating factors such as incentives, goal-setting, intrinsic and extrinsic motivation and self-determination were outlined. Specific attention was also given to the role of self-determination in the motivation towards technology adoption.

Chapter 3 discussed employee development. As human resource performance appraisal entails a developmental component, attention was given to the role of employee development in increasing the e-readiness of academics. The relevance of competency-based training to enhance the e-readiness of academics was explained, the significance of employee development in increased performance and the role of employee development in the use of technology in teaching and learning, were discussed.

Further the rationale for including e-learning training in employee development, career management programmes and talent management programmes received attention. The role that a talent management programme, integrated with other development practices such as career management, succession planning and mentoring and coaching can play in e-learning training and development of academics was explored. The chapter also reviewed the uniqueness of the academic as an adult learner and highlighted the role of the line manager in employee development.

In **chapter 4** the key human factors that impacts on academics' e-readiness, were outlined and explained, namely personal work profile patterns, preferred learning style and pace and style of technology adoption. The various technology adopter categories were recorded – *innovators, early adopters, early majority, late majority* and *laggards* – and the difference in the pace and style with which employees adapt to technology was explained. It was stressed that an employee's learning style play a significant role in his/her motivation towards training and development and that employees' learning styles differ. The following learning styles were discussed within the context of employee e-readiness: *activist, pragmatist, theorist* and *reflector*. Each learning style indicates unique preferences of an employee in the learning environment which will positively impact on the success of the employee's learning if he/she is allowed to use his/her learning style. Personal work profile patterns were discussed by means of Thomas International's DISC profiles, which are *dominance, influence, steadiness* and *compliance*. Each one of the DISC factors indicates an employee's preferred work style, influencing the employee's behaviour, attitudes and approaches in the workplace.

The interrelatedness of these human factors and how they contribute to an employee's e-profile was also determined and explained. It was argued that these key human factors should e included in the e-readiness assessment of academics during their performance appraisals.

Chapter 5 discussed the 21st century higher education environment and the typical 21st century learner. The chapter also discussed the role and purpose of e-learning in this environment and in relation to the 21st century learner. Several significant challenges faced by modern day HEIs were discussed, including the type of learners (Generation Y) and their expectations; underprepared learners, inadequately equipped for tertiary education; and the focus on lifelong learning within the context of the knowledge economy. It became evident that HEIs will increasingly have to make use of technology in teaching and learning and academics need to adapt, prepare and be ready for the 21st century learner, which requires the e-readiness of academics.

Further, it was explained what e-readiness encompasses. Enabling factors to e-readiness were outlined and discussed and indicators of the e-readiness of academics were established and included in an e-readiness construct. Since a lack of e-readiness usually causes resistance to e-learning, various barriers to e-learning were discussed. The underlying causes for e-learning resistance could be linked to a lack of e-readiness and emphasised the need for adequate and comprehensive e-learning training and development.

Chapter 6 provided a profile of the NWU. Current human resource performance appraisal practices and policies of the NWU were discussed. It appeared that the NWU has sound performance management policies and practices in place, but its performance management system does not make provision for the inclusion of e-readiness assessment of academics. The inclusion of the e-readiness of academics in their performance appraisals is supported by the Director: HRM of the NWU, given the higher education context with technological advancement and the learner profile, in order for the university to remain competitive.

Attention was also given to current employee development and career management practices at the NWU and it was determined that career management, succession planning and mentoring and coaching are not commonplace at the NWU, although it is supported in policies.

The NWU learners have also been profiled in terms of their e-learning preference. It was found that the majority of learners (96%) prefer the inclusion of e-learning in their courses to various extents and that they belong to Generation Y. In a quest to support the needs and preferences of Generation Y learners the NWU, Potchefstroom campus, has launched a pilot project on teaching and learning with technology in the Faculty of Theology. The aim of the project is to determine whether the initiative taken at the Faculty Theology can be expanded to the rest of the campus, based on the successes and failures experienced in this project.

Discussions also revealed that the 21st century learner is increasingly underprepared. The NWU, Potchefstroom campus, has established the Centre for Academic and Professional Language Practice that provides support programmes

such as: learner academic literacy, a reading laboratory and a course in computer and technology skills.

In **chapter 7** research results obtained from the questionnaire and focus group discussion were discussed and interpreted. A framework which can be used to determine an employee's e-profile after academics' e-readiness assessment was developed, making provision for the unique structuring of training and development interventions.

8.3 PRIMARY FINDINGS OF THE STUDY

With the aim of achieving the research objectives and answering the research problem outlined in chapter 1, an in-depth literature study and an empirical study was conducted. The study revealed the following findings in terms of the set research objectives:

- **Determine the role of human resource performance appraisal in addressing the e-readiness of academics**

With the profiling of the NWU in chapter 6 it became evident that the performance management system of the NWU does not make provision for the e-readiness assessment of academics. In chapter 2, section 2.2.1, of the study it was determined that a performance management system is integrated with an organisation's vision and objectives, therefore line managers should ensure that individual performance objectives are aligned to the organisational objectives. Section 2.2.1, further revealed that strategic managers should ensure that policies are in place and complied with to accomplish strategic objectives. The inclusion of the e-readiness assessment of academics in performance appraisals therefore calls for new and adjusted policies.

After profiling the NWU policies and practices pertaining to performance management in chapter 6, section 6.2, it became evident that the current *Performance management policy* of the NWU will have to be adjusted to make provision for the inclusion of e-readiness. E-readiness assessment will also impact

on other human resource policies such as the *Recruitment policy*, the *service contracts of academics* and the *Teaching and learning framework*. In addition to the abovementioned adjustments to policies, a separate policy for the use of technology in teaching and learning should also be drafted. This *E-learning policy* should outline the use and purpose of e-learning, the University's position on e-learning, as well as guidelines and directives of e-learning as teaching and learning tool.

In chapter 7, section 7.4.1.6.2 results from the questionnaire portrayed that 44% of respondents were willing to undergo e-readiness assessment as part of their performance appraisals. This number is very close to the number indicating that they are not in favour of e-readiness assessment as part of a performance appraisal, namely 39%. It further became evident that with an increase in age and teaching experience (which also imply an increase in age), the willingness to be assessed on e-readiness declined. Therefore, thorough consultation and communication will be necessary when e-readiness assessment is introduced to the performance appraisals of academics.

As indicated in various chapters of the study, people tend to resist change for various reasons such as fear of the unknown, habits (comfort zones), inadequate information and communication, threats to status, fear of failure and a lack of perceived benefits. In this case where e-learning is being introduced as new job requirement, a lack of understanding of the use and purpose of e-learning, fear of an increased workload, and a threat to the comfort zone (cf Bozarth 2006:2–4; cf Kottolli 2008:1) may cause resistance to the new job requirement and subsequently to e-readiness assessment. It is thus clear that the process of introducing e-readiness assessment to the performance appraisals of academics should be managed properly and employees should be motivated to obtain optimal results and to enhance positivity towards the endeavour.

- **Determine the role of motivation in employee performance and its relevance to enhancing the e-readiness of academics**

In chapter 2, section 2.3, it was revealed that motivation has a significant impact, positively or negatively, on an employee's performance. Therefore, in the NWU's

endeavour to increase employees' performance it is necessary to understand what specifically motivates employees to optimally perform. Line managers need training for employee motivation and management of change.

In chapter 2, section 2.3.2, it was further determined that goal-setting proved to be one of the best motivational strategies as it leads to enhanced performance, provided that employees remain committed to their goals. Both self-set and assigned goals can lead to increased performance and both are positively connected to self-efficacy, which in return leads to increased performance. Further, difficult and specific goals are more likely to lead to performance than easy goals. Goal-setting should be done in conjunction of line managers, providing clear expectations and a rationale for the changed job and how it fits into the organisational strategy and objectives.

In chapter 7, section 7.4.1.3.3, results obtained from the questionnaire revealed that financial incentives take top priority when respondents could choose more than one motivator, although it was not considerably higher than other motivators. Literature supports the importance of financial incentives to some extent. A good salary assists in attracting quality employees and retaining them and according to research financial incentives lead to better work performance (Shadare & Hammed 2009:7–8; Oyedele 2010; Shadare & Hammed 2009:8; cf Cooke & Meyer 2007:1–2; Bruce & Pepitone 1999:118).

When asked to indicate the single most important motivator of the various motivators indicated by respondents, promotion took top priority with 23,6%. Other motivators indicated by respondents were a financial incentive (19,4%), flexitime or the opportunity to work from home (19,4%), recognition from their School Directors/Deans (16,6%), support with resources, for example provision of a laptop, cell phone, etcetera (16,6%) and other (4,2%).

It was also indicated in chapters 2 and 7 (sections 2.3.2 and 7.4.1.3.2) that there is a relationship between incentives and higher self-efficacy (people's perception of how well they can perform a particular task), as well as higher self-set goals, which is related to intrinsic motivation (Callaghan et al 2003:2518–2519). It was further

explained that higher assigned goals lead to higher self-set goals and higher self-efficacy (Locke & Latham 1990:241; Callaghan et al 2003:2515–2517). There is a direct connection between self-efficacy and task performance – individuals with high self-efficacy beliefs perform better, irrespective of the self-set goal level. Self-set goals are also linked directly to task performance (Callaghan et al 2003:2515–2517; cf Madden 1997:412).

Motivation remains a challenging task and line managers should take cognisance of their responsibility in this regard. In particular as the job requirement of using technology in teaching and learning becomes compulsory, leading to the necessary assessment of academics' e-readiness, it will be necessary to motivate employees in order to successfully implement e-learning as learning tool.

- **Determine the role of employee development in increasing the e-readiness of academics**

The profile of the NWU in chapter 6, section 6.3.1, revealed that the current employee development programmes at the NWU do not address most of the aspects causing a lack of e-readiness. Employee development programmes should make provision for e-readiness training and development. These training and development interventions should not only focus on the technical skill of e-learning, but follow a broader teaching and learning approach, also including the philosophy of e-learning and the use and adaptation of teaching and learning strategies to obtain optimal learner learning. It is also argued that these training and development opportunities can be incorporated in a career management programme or a talent management programme.

It was further determined in chapter 6 that career management programmes and talent management programmes can play a positive role in employee performance. The integrated approach of a talent management programme, as currently planned by the NWU, including human resource management development practices such as career management, succession planning and mentoring and coaching, is expected to have a positive effect on developing the e-readiness of academics. The holistic

approach of a talent management programme will ensure that all relevant aspects of an academic's job requirements are addressed (see chapter 3).

Results obtained from the questionnaire in chapter 7, section 7.4.1.5.1, indicated that an overwhelming majority of 71% of respondents indicated that e-learning training is imperative. It is evident that the vast majority of respondents recognise the importance of being taught how to use e-learning optimally, thus indirectly acknowledging that there is more than the manner in which they are currently using it. Furthermore, 34,2% of respondents indicated that a lack of e-learning training was the reason that prevented them from using e-learning. These results obtained from the questionnaire, together with results obtained from the focus group discussion in chapter 7, section 7.4.2, as well as the current employee development policies and practices at the NWU, emphasised the importance of training and development.

- **Determine the role of key human factors in the e-readiness of academics, with specific focus on personal work profile patterns, preferred learning style and style and pace of technology adoption**

In chapter 4, section 4.2, it was determined that particular key human factors play a significant role in determining the indicators for e-readiness. These key human factors are an employee's pace and style of technology adoption, preferred learning style and personal work profile pattern (DISC factor). It became evident that the traits portrayed by a person belonging to a certain technology adoption category show similarities to traits portrayed by particular learning styles and personal work profile patterns. Certain profiles could be identified, based on trends and similarities pertaining to interpersonal traits, for example an employee who is an *innovator* on the technology adoption cycle will most likely prefer and *activist* learning style and will display a strong *dominance* factor on the DISC profile. These are high achievers who embrace challenges and new opportunities.

Another likely connection that could be identified in chapter 4 was that an *early adopter* on the technology cycle may also portray an *activist* learning style and a *dominance* factor on the DISC profile, as these employees also adapt to technology relatively fast. The *early majority* and *late majority* technology adoption categories

will most likely be related to the *theorist* or reflector style and will correlate with the *steadiness* and *compliance* factors of the DISC profile. Employees falling in these categories need more time to think about a changed job demand and will only adapt when most others have already done so or when it is expected of them. It is thus evident that these combinations imply various levels of e-readiness.

The following prominent e-profiles could be identified in chapter 7, section 7.4.1.2.3, for respondents of the questionnaire: The majority of respondents portrayed an *early adopter-pragmatist-compliance* e-profile. This implies that the majority of respondents will adopt to a new technology/innovation in the workplace, once the concept is proven (*early adopter*); they want to see the practical value of e-learning and would like to see a link between what they are taught and the end-result (*pragmatist*); and they have high standards, particularly for themselves, can be perfectionists, and prefer systems, processes, procedures, as well as predictable and consistent outcomes (*compliance*).

It can be deduced that employees who fall in this category will in all likelihood look forward to teaching online, once they have mastered the new skill. Again the need for training is emphasised as this group of respondents first obtained the skill and then became enthusiastic about e-learning. Once this group of employees, who is not opposed to e-learning and is willing to learn, is trained to use the e-learning platform optimally and couple it to sound educational strategies, it can make a significant positive contribution to learners' experience of the use of technology in teaching and learning and specifically to learners' learning experiences itself.

The second highest profile amongst respondents identified in chapter 7, section 7.4.1.2.3, was *the early majority-theorist-steadiness* e-profile. This implies that employees belonging to this profile are the eventual users of technology who do not like to take the risks of pioneering, but see advantages of tested technologies, and are driven by usability and success of the technology (*early majority*); they require good structure and sufficient time to explore the relevance between ideas and scenarios, are analytical and detail-conscious and need to think things through in a logical step-by-step manner (*theorist*); and they are sympathetic, friendly, good

listeners, “finisher completers”, and team players, who work hard and create a stable environment (*steadiness*).

It can be deduced that, although e-learning will never be this group’s first choice, they will be comfortable with teaching online, once they have mastered the skill. Motivating employees belonging to this group effectively is of particular importance, as they do not naturally lean towards e-learning and make use of it only when half of the population has already done so. It can be argued the only reason they are using technology in teaching and learning is because it is expected of them. Extra time and effort should be taken during the training of employees who fall in this category. It is necessary to provide a rationale and to constantly encourage these employees towards the role that e-learning play as educational advantage. In this regard the line manager will have to play a significant role.

It became evident that the key human factors highlighted in the study influence the e-readiness of academics. It was further revealed that the traits portrayed by a person belonging to a certain technology adoption category show similarities to traits portrayed by particular learning styles and personal work profile patterns. Thus an e-learning profile for each academic can be drafted.

- **Determine the reasons for resistance to e-learning and a lack of e-readiness of academics**

As indicated above, people tend to resist change. The introduction of technology in teaching and learning is no exception. Chapter 5, section 5.3.3, revealed that e-learning brought a shift from the traditional view of the teacher as authority and expert, to a role of the teacher as guide and the learner as explorer (Bozarth 2006:3–4). Many facilitators fear that their specialised status and position as "expert" will be downgraded to the roles of production worker and customer service representative that should be available 24/7 to assist learners with technical problems (Bozarth 2006:3–4).

Also creating resistance, as determined in section 5.3.3, is a belief of loss of routine and the ‘old way’ of doing things, losing control and a fear of being replaced by

technology (Bozarth 2006:3–4; cf Billings sa). These misconceptions and more in many instances withhold academics from making use of e-learning as teaching and learning tool. This supports the notion, mentioned earlier in this section, that the process should be managed with care and that employees should be kept motivated throughout the process, placing a significant responsibility on line managers.

Section 5.3.3 further revealed that online learning facilitators that are regarded as technologically advanced, judged by the extent and manner of their use of technology and online learning approaches, tend to use constructivist strategies such as inquiry learning and collaborative learning (Bozarth 2006:4–5). It appears that the majority of academics still tend to follow the objectivist (teacher-centred approach) and that many do not use the constructivist (learner-centred approach) or does not have adequate knowledge of the constructivist approach to apply it to their teaching and learning strategies. Further, academics are subject experts, not trained educationalists, and therefore in most instances lack the know-how to apply e-learning for pedagogical purposes. A lack of willingness to adapt teaching and learning strategies also appears to be eminent.

As determined in chapter 5, section 5.3.1, for many academics, the start of e-learning brought many challenges and many ideas and philosophies about adult learning and what constitute up-to-standard acceptable teaching (Robertson 2008:824). Implementation of e-learning also often requires that academics should challenge their belief systems and ideas regarding what comprise teaching and learning (Sharpe et al 2006:135; Robertson 2008:824). All academics did not adapt to including technology in teaching and learning and in many instances the paradigm shift should still take place. Again, the need for training and development, coupled with employee motivation, should be emphasised.

Chapter 4, section 4.2, also revealed that distinct patterns between personality traits and approaches to work relative to the use of technology in teaching and learning can be seen. Online learning facilitators who successfully integrate technology in teaching and learning have a common belief that technology provided a valuable tool to realise their visions of teaching and learning. These facilitators have strong visions of classroom technology use and therefore do not appear to be easily disturbed by

typical implementation obstacles. On the contrary, many of these online learning facilitators achieve high levels of use despite the lack of equipment, training, or time (Bozarth 2006:8). Based on both the literature research and the empirical research of the study, these type of facilitators will in all likelihood belong to the *innovator* category of technology adoption (employees who immediately adapt to technology and change and thrive on challenges and new opportunities), and perhaps to the *early adopter* category of technology adoption (employees who adapt once the concept is proven and the strategic linkages have been made).

On the other hand, online learning facilitators who view technology as a presentation tool, or “add-on”, rather than the means of enhancing practice, are far more likely to resist e-learning (Bozarth 2006:8). These will in all likelihood be facilitators who can be categorised as the early majority category of technology adoption (the mass market that will initially resist the introduction of a new technology, but that will eventually adapt to it), and the late majority category of technology adoption (employees that will strongly resist the introduction of a new technology for a long period of time and will adapt to the use of the technology very slowly).

Results obtained from the questionnaire and focus group discussion in chapter 7, sections 7.4.1 and 7.4.2, revealed that in some instances academics place the focus of e-learning on the technology instead of on learning. It became evident that academics are not familiar with the philosophy of e-learning and do not know how to optimally use it as learning tool with residential learners. The perception that e-learning should be used for distance learning learners only remains steadfast in many instances.

Further in chapter 7, sections 7.4.1.4, 7.4.1.5.3, 7.4.1.6 and 7.4.2, results obtained from both the questionnaire and focus group discussion revealed that academics are ignorant about the profile of their learners, namely Generation Y. This generation is known for their high interest in and preference for the use of technology. They think differently, act differently, and grew up in different circumstances (the technological age) from previous generations and therefore the traditional classroom approach to teaching and learning does not appeal to them. Yet, in many instances, provision is not made for their needs and preferences by academics, belonging to different

generations. A significant result, emanating from the focus group discussion was that academics are not necessarily willing to adapt their teaching and learning strategies to provide for the needs and preferences of their learners.

It became evident that the causes for a lack of e-readiness and resistance to the use of technology in teaching and learning can be addressed through employee development. Training and development interventions should, however, not only focus on technical skill, but should also focus on the philosophy of e-learning and the use of technology as learning tool. Training and development should further guide academics in the use and adaptation of teaching and learning strategies.

- **Determine the indicators for e-readiness of academics by creating an e-readiness construct**

The e-readiness construct, constructed for this study in chapter 5, section 5.3.2, consists of the attributes/indicators that provide an indication of an employee's level of e-readiness, systematically arranged as a set of standards regarding e-readiness. This arranged set of ideas can be compared to other constructs, in this case key human factors of academics. The e-readiness construct assisted the researcher in understanding the contributing factors to the e-readiness of academics. Thus it could be determined what the solutions are to a lack of e-readiness. As the e-readiness construct specifies people attributes pertaining to e-readiness, it will relate to the key human factors discussed in this study. Therefore, when these key human factors are assessed during the performance appraisals of academics, employees' e-profiles can be determined, that will give an indication of the presence or lack of the indicators, showed in the e-readiness construct below.

Table 8.1: E-readiness construct

Indicator	Specifications
Technical skill	<ul style="list-style-type: none"> • Basic computer skills • Skill to use the e-learning platform tools <ul style="list-style-type: none"> ▪ Basic tools – announcements, messages, schedule, resources, assignments, gradebook ▪ Interactive/advanced – forum, e-testing, podcasts, wikis, bloggers, simulations • Technical support to learners
Subject competency	<ul style="list-style-type: none"> • Subject expert – knowledge • Curriculum development • Development of course material • Facilitate knowledge construction • Well-structured assessments • Guidance and assistance in terms of subject related problems • Providing feedback
Comfortableness	<ul style="list-style-type: none"> • Ease of use • Lack of fear/resistance • Enjoyment of online activities
Willingness	<ul style="list-style-type: none"> • Positive attitude • Adaptability and flexibility to adjust to change • Focusing on outcome of learning • Considering learner profile
Understand use and purpose of e-learning	<ul style="list-style-type: none"> • Philosophy of e-learning – understand e-learning as pedagogical tool • Use technology to achieve learning
Knowledge and use of teaching and learning strategies	<ul style="list-style-type: none"> • Knowledge and skill of pedagogical strategies and approaches • Flexibility with teaching and learning strategies • Educational “savvy” • Considering learner profile
Interpersonal skills	<ul style="list-style-type: none"> • Communication – sharing information; provide direction and support; online charisma • Motivation – encourage learners • Providing feedback • Accommodating • Counselling skills • Good rapport with learners • Ability to bridge the gap – building relationships • Mental flexibility • Compassion/empathy
Personal attributes	<ul style="list-style-type: none"> • Diligence • Perseverance • Commitment • Openness • Creativity and innovation • Time management

Based on the e-readiness construct, the minimum required level of e-readiness of an academic can be regarded as the inclusion of the following indicators: technical skill in the form of basic computer skills and basic e-learning platform skills; subject competency; willingness; comfortableness; an understanding of the use and purpose of e-learning; and knowledge and skill to use various teaching and learning strategies. These indicators are linked to an employees' e-profile, that will be determined during e-readiness assessment (by assessing the employee's key human factors), and will provide insight into which attributes will need attention during training and development interventions.

- **Develop a framework in for e-readiness assessment of academics during performance appraisals to determine their level of e-readiness and subsequent training and development needs that will be specified in a personal development plan**

As the study argues for the inclusion of e-readiness assessment of academics during their performance appraisals, the research was focused on how this could be done and which role particular key human factors play in this regard. It became evident that particular key human factors (pace and style of technology adoption, preferred learning style and personal work profile patterns) impacts on an academic's e-readiness. Thus, when these key human factors are assessed, an e-profile can be drafted for each academic. In chapter 7, section 7.6, a framework was developed for this purpose. Once the employees have been assessed, their results can be plotted on the framework (consisting of three matrixes), which provides an employee's e-profile. The e-profile in return provides an indication of the presence or lack of particular e-readiness indicators of the employee, as outlined in the e-readiness construct. Once the employee's e-profile is known, training and development interventions, best suitable for the employee can be planned and implemented. Tables 8.2, 8.3 and 8.4 indicate the e-readiness framework.

Table 8.2: The technology adoption – personal work profile pattern match

Personal work profile pattern (DISC profile)		Dominance	Influence	Steadiness	Compliance
T E C H N O L O G Y A D O P T I O N	Innovator	Unstructured; freedom to explore; internal motivation; visual aids; fast pace			
	Early Adopter	Structured/unstructured; freedom to explore; internal motivation; visual aids; instructor that demonstrates; relatively fast pace	Structured; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes; opportunity for socialisation; relatively fast pace		Structured, step-by-step approach; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; relatively fast pace
	Early majority		Structured; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes; opportunity for socialisation	Structured, step-by-step approach; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes	Structured, step-by-step approach; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes
	Late majority		Structured; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes; opportunity for socialisation; enough opportunity to reflect and ask questions	Structured, step-by-step approach; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; enough opportunity to reflect and ask questions	Structured, step-by-step approach; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; enough opportunity to reflect and ask questions
	Diehard/Laggard			Structured; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes; enough opportunity to reflect and ask questions	Structured; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes; enough opportunity to reflect and ask questions

Table 8.3: The technology adoption – preferred learning style match

Learning style		Activist	Pragmatist	Theorist	Reflector
TECHNOLOGY ADOPTION	Innovator	Unstructured; trial and error; freedom to explore; internal motivation; visual aids; fast pace			
	Early Adopter	Structured/unstructured; freedom to explore; internal motivation; visual aids; instructor that demonstrates; match strategically; relatively fast pace	Structured; match strategically; holistic picture; future benefits; step-by-step approach; external motivation; instructor that demonstrates; visual aids; relatively fast pace		
	Early majority		Structured; match strategically; picture; future benefits; step-by-step approach; external motivation; instructor that demonstrates; visual aids ; paper-based notes	Structured; external motivation; step-by-step approach; external motivation; instructor that demonstrates; instructor that gives verbal instructions; visual aids; paper-based notes	Structured; unhurried process; ample opportunity to ask questions and review; opportunity to reflect on progress; external motivation; instructor that demonstrates; instructor that gives verbal instructions; visual aids; paper-based notes
	Late majority		Structured; holistic picture; step-by-step approach; external motivation; instructor that gives verbal instructions; instructor that demonstrates; visual aids	Structured; step-by-step approach; external motivation; instructor that demonstrates; instructor that gives verbal instructions; visual aids; paper-based notes	Structured; step-by-step approach; ample opportunity to ask questions and review; opportunity to reflect on progress; external motivation; instructor that demonstrates; instructor that gives verbal instructions; visual aids; paper-based notes
	Diehard/laggard			Structured; step-by-step approach; external motivation; external motivation; instructor that demonstrates; instructor that gives verbal instructions; visual aids; paper-based notes	Structured; unhurried process; ample opportunity to ask questions and review; opportunity to reflect on progress; external motivation; instructor that demonstrates; instructor that gives verbal instructions; visual aids; paper-based notes

Table 8.4: Personal work profile pattern – preferred learning style match

Learning style		Activist	Pragmatist	Theorist	Reflector
DISC	Dominance	Unstructured; trial and error; freedom to explore; internal motivation; visual aids; fast pace			
	Influence			Structured; step-by-step approach; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes; opportunity for socialisation; enough opportunity to ask questions	Structured; step-by-step approach; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes; opportunity for socialisation; enough opportunity to reflect and ask questions
	Steadiness		Structured; match strategically; holistic picture; practical step-by-step approach; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes	Structured; step-by-step approach; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes; enough opportunity to ask questions	Structured; step-by-step approach; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes; enough opportunity to reflect and ask questions
	Compliance		Structured; match strategically; holistic picture; future benefit; practical step-by-step approach; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes	Structured; step-by-step approach; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes; enough opportunity to ask questions	Structured; step-by-step approach; external motivation; visual aids; instructor that demonstrates; instructor that gives verbal instructions; paper-based notes; enough opportunity to reflect and ask questions

8.4 CONCLUSION

Given the technological advancement of the 21st century, the needs and preferences of the 21st century learner, the increasing use of technology in teaching and learning and the significant role of the online learning facilitator in e-learning, the e-readiness of academics became crucial to successful teaching and learning in the 21st century and for universities to remain competitive. For academics to effectively use e-learning tools to optimally enhance learning, necessitates their e-readiness.

The study argued for the inclusion of e-readiness assessment during the performance appraisals of academics. During the e-readiness assessment particular key human factors (pace and style of technology adoption, preferred learning style and personal work profile pattern) should be assessed. The results from this assessment will be plotted on the e-readiness framework to determine the employee's e-profile. Once an academic's e-profile has been determined, the most suitable training and development interventions can be planned and included in the employees personal development plan. In this regard the indicators, outlined in the e-readiness construct, can to a greater or lesser extent be included in employees' training and development, based on their e-profiles.

From the questionnaire results it was clear that respondents portrayed a relatively high (46%) or moderate (33%) level of e-readiness. If these results are considered to be generally representative of the academics of the NWU, Potchefstroom campus, it is clear that successfully training and developing employees portraying the *early adopter-compliance-pragmatist* and the *early majority-steadiness-theorist* pertaining to the use and purpose e-learning, the bulk of the academic workforce at the NWU (79%) will be well-skilled and able to implement e-learning optimally to support world class learner learning. If the 13% of respondents who portray a *dominance-activist-innovator* e-profile is considered to the bulk of academics portraying the abovementioned two e-profiles (79%), it brings the total of e-ready academics to 92%. Undoubtedly this will make a difference in the effectiveness of the use of e-learning.

8.5 CONTRIBUTION OF THE STUDY

The study addresses the gap in the literature of both human resource performance appraisal and e-readiness by making provision for the e-readiness assessment of academics during performance appraisals, thus contributing to the scholarly knowledge in the field of human resource performance appraisal.

The importance of key human factors, impacting on the e-readiness of academics at HEIs, has been recognised, providing for addressing the resistance to e-learning as the assessment of the key human factors provides an e-profile of the employee. The e-profile will indicate the employee's shortcomings in terms of e-readiness indicators, as outlined in the e-readiness construct, thus revealing where the training and development focus should be placed and what the minimum accepted level of e-readiness is. A framework has been developed for this purpose.

The results obtained from the study can be used during institutional planning of the NWU for e-learning and in the drafting of an e-learning policy. It can also be used for the incorporation of e-readiness assessment during the performance appraisals of academics, as well as for planning and drafting their personal development plans and subsequent training and development interventions.

8.6 RECOMMENDATIONS

Given the research problem, to determine the role of particular key human factors in the e-readiness of academics, to establish a framework for the assessment of the e-readiness of academics and to structure unique training and development interventions to enhance their level of e-readiness, and the research objectives, outlined in chapter 1, the following recommendations can be made:

- **The assessment of academics' e-readiness during their performance appraisals**

Presently the higher education environment is faced with technological advancement, 21st century learners (predominantly belonging to Generation Y),

preferring the use of technology in teaching and learning and not comfortable with the traditional teaching and learning environment, underprepared learners, the growing needs of non-traditional learners, the paradigm shift from “one time” learning to “lifelong learning”, and an increasingly competitive higher education environment. These factors necessitated the increasing use of technology in teaching and learning. The online learning facilitator plays a significant role in this regard, thus highlighting the need for the e-readiness of academics. Given these realities, the e-readiness of academics at higher education institutions must be assessed during their performance appraisals.

- **The assessment of particular key human factors to determine an academic’s e-readiness**

A framework should be used to assess the e-readiness of academics. The study proposes that particular key human factors (pace and style of technology adoption, preferred learning style and personal work profile patterns) be assessed to determine and employee’s e-profile by plotting the results on a framework (consisting of three matrixes), developed by the researcher for this purpose.

- **The drafting of a development plan, including suitable e-readiness training and development interventions for each academic**

Once an academic’s e-readiness assessment results have been plotted on the framework, training and development interventions, suitable for each employee can be planned and implemented. Line managers should play an important role in identifying training needs, providing opportunities to attend training and development sessions, assist the employee in goal-setting, ensuring that performance goals are aligned to the university’s strategic goals and objectives, communicating, supporting and motivating the employee.

- **Suitable training and development interventions to enhance the e-readiness of academics**

Training and development to enhance the e-readiness of academics should include the philosophy of e-learning. This will provide academics with a better understanding of the use and purpose of e-learning and will create awareness of its benefits. Further, it will eliminate ignorance and resistance to e-learning, which to ultimately enhance the e-readiness of academics which in return will result in the optimal use of e-learning as pedagogical tool, maximising the learning experience for learners and addressing their needs and preferences.

The presence or absence of e-readiness indicators, outlined in the e-readiness construct, which will be revealed by an employee's e-profile, should be included in their training and development. E-readiness training and development should also focus on particular teaching and learning strategies that can be used and how these strategies can be adapted and applied to suit the needs and preferences of learners to optimally enhance learning.

Training and development strategies should be incorporated into broader career management and talent management plans, ensuring that all the areas of an academic's job requirements will be addressed during training and development interventions. By incorporating employee development in a talent management programme, provision can also be made for succession planning which will enhance employee motivation and retention.

Academic Support Services should be responsible for the course development of training and development interventions. They should also take responsibility for the training of academics. Training and development can take place in various phases, from basic training, progressing through the levels to the most advanced phase. Further, teaching and learning advisors at Academic Support Services can act as coaches to academics who are struggling with e-learning.

- **The drafting of policies for e-learning and adjustment of performance management policies**

Although the NWU has sound performance management policies, none of these policies make provision for the inclusion of e-readiness assessment of academics during their performance appraisals. The inclusion of the e-readiness assessment of academics in performance appraisals therefore calls for new and adjusted policies. The current *Performance management policy* of the NWU will have to be adjusted to make provision for the inclusion of e-readiness. E-readiness assessment will also impact on other human resource policies:

- *Recruitment policy* – If e-learning becomes a critical evaluation area for academics, their job specifications (indicating the competencies to perform their job successfully), need to be adjusted. It will thus implicate that the matter of an e-ready academic should already be addressed in the recruitment and selection phases. Academics will have to be assessed on their e-readiness before they are appointed or they should be appointed on a probationary period and their permanent appointment should be subject to an acceptable level of e-readiness. In the latter case an academic can undergo a development programme, once he or she is appointed. The *Recruitment policy* should thus make provision for e-learning and e-readiness to fulfil the job requirements and should be indicated in job advertisements.
- *Service contracts of academics* – If compulsory, e-learning should be included in the service contracts of academics and be described in *Human resource management policy* of the NWU.
- *Teaching and Learning Framework* – The current *Teaching and learning framework* should be adjusted to make provision for the e-learning training and development of academics, broader than providing merely basic technical skills. Academics should also be trained how to incorporate and adjust new teaching and learning strategies and what the most appropriate ways of the use of e-learning will be to enhance teaching and learning training should be incorporated of a broader teaching. These aspects should be reflected in the *Teaching and learning framework* of the NWU.

In addition to the above mentioned adjustments to policies, a separate policy for the use of technology in teaching and learning should also be drafted. This *E-learning policy* should outline the use and purpose of e-learning, the University's position on e-learning, as well as guidelines and directives of e-learning as teaching and learning tool. Prior to the adjustment or introduction of the above mentioned policies, it is necessary for Institutional Management of the NWU to consult all stakeholders, including the workplace forums and labour unions (SA 1995:63,64).

8.7 FURTHER RESEARCH

Further research can include the drafting of an instrument that makes provision for the assessment of all three key human factors discussed in this study (if current instruments for assessing each of these human factors separately will not be used). Further, a study can be done to determining the effectiveness of an e-ready academic as opposed to an academic that portrays a lack of e-readiness on the successful use of e-learning.

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Dear Prof XXXXX

I am currently busy with my doctoral studies. The title of my thesis is: *Key human factors in the e-readiness of academic employees at higher education institutions.*

I am hereby kindly requesting your permission to distribute my questionnaire amongst employees in your School. I am interested in feedback from both employees that make use of eFundi, as well as those who do not make use of eFundi. Input from both these groups will be valuable to my study.

It will be highly appreciated if you can grant my request.

Kind regards

Luni Vermeulen

Dear Colleague

I am busy with my D Litt et Phil Degree, titled: *Key human factors in the e-readiness of academic employees at higher education institutions*. I am currently in the data collection phase.

Prof XXXXX granted me permission to distribute my questionnaire in your School. If you are willing to participate, it will be highly appreciated if you can complete the attached questionnaire. I am interested in feedback from both employees that make use of eFundi, as well as those who do not make use of eFundi. Input from both these groups will be valuable to my study.

If you prefer to complete a hard copy of the questionnaire, please let me know and I will gladly forward it to you. You can return the questionnaire via e-mail to Luni.Vermeulen@nwu.ac.za or send it via internal mail to box 322, before 21 October 2009.

Kindly note that completion of the questionnaire is anonymous and voluntary and that your contribution to this discussion will be treated as part of collective feedback; you will therefore not be identified as an individual.

Kind regards

Luni Vermeulen



**QUESTIONNAIRE
DOCTORAL STUDY:
Luni Vermeulen**



Innovation through diversity™



QUESTIONNAIRE FOR DOCTORAL STUDY: LUNI VERMEULEN

Dear Participant

The questionnaire forms part of the data collection for a doctoral thesis titled *Key human factors in the e-readiness of academic employees at higher education institutions*. The North-West University (NWU), Potchefstroom campus, serves as case study for the research. As an academic employee at the NWU your input is valuable and significant to the empirical research component of the study. Your answers and comments will be highly appreciated.

Generally e-learning refers to learning that can be accessed by any electronic means (Alessi & Trollip, 2001:377). For the purpose of this study, the e-learning focus is particularly on web-based teaching and learning. Whereas e-learning makes use of a variety of ICT tools, including the internet, web-based teaching and learning refers to learning specifically through the use of the internet/web-based applications (*White Paper on e-Education*, 2004:16).

The questionnaire comprises of two parts: **Section A**, which deals with questions pertaining to biographical information; and **Sections B to E**, which deals with questions pertaining to work style profiles, motivation, e-learning and employee training and development respectively. Sections B to E consist of both structured and open-ended questions.

Instructions:

- At the *structured questions*: kindly **choose only one option**, unless otherwise indicated

- At the *open-ended questions*: you are requested to give your personal opinion/experience/perception as academic employee. **Please note that the space provided for your answer (_____) is unlimited. Therefore you do not need to limit your answer.**

It will take approximately 15-20 minutes to complete the questionnaire.

Thanking you in advance

Luni Vermeulen

Lecturer: Public Management and Governance

School for Social and Development Studies

Luni.Vermeulen@nwu.ac.za / 082 373 1589

SECTION A: BIOGRAPHICAL INFORMATION

Designation:

School & Faculty:

Years of teaching experience:

Highest qualification:

Age:

SECTION B: WORK STYLE PREFERENCES

Please answer all questions by *ticking* only one option, unless indicated otherwise.

1. When I am confronted with a new technology/innovation in the work environment, I will:

- A Immediately embrace and welcome the new technology/innovation
- B Adapt to the new technology/innovation relatively fast
- C Immediately see the risks involved, but will eventually see advantages of the technology/innovation over a period of time when the usability and success of the technology/innovation is proven.
- D Dislike the disruptions of new technology/innovations and will be very slow to adapt
- E Never adapt to a new technology/innovation

2. My preferred approach and attitude towards learning a new skill such as teaching online will be:

- A I adapt easily and prefer to deal with new challenges and experiences
- B I want to understand the practical value and use of what I am being taught first
- C I want to see good structure and a logical step-by-step approach
- D I want to have ample time to think intensively about the activities and concepts provided to me

3. The following statement describes me best:

- A I am concerned with results, competitive, focused on achieving goals, like to solve problems, and love challenges
- B I like people and want to be liked in return, am optimistic and outgoing
- C I am sympathetic, friendly, a good listener, a great team player, work hard and create a stable environment
- D I have high standards, am a perfectionist, and prefer systems, processes and procedures and consistency

SECTION C: MOTIVATION

4. When new challenging goals are assigned to me, I:

- A resist it, because I already carry a heavy workload
- B resist it because it is given in brief abrupt instructions
- C resist it because a rationale is not provided
- D do it because it is expected of me
- E embrace the opportunity as it motivates me to develop my skills and demonstrate competence

5. I prefer to receive:

- A Difficult and specific goals
- B Difficult and general goals
- C Easy and specific goals
- D Easy and general goals

6. I am best motivated by (more than one option can be chosen at this question):

- A A financial incentive
- B Promotion
- C Recognition from my School Director/Dean
- D Flexi time or the opportunity to work from home
- E Support with resources (eg. provision of a laptop; cell phone)

If you have chosen more than one option, kindly indicate which one is most important to you:

SECTION D: USE OF AND PERCEPTIONS ON e-LEARNING PLATFORM

7. I use eFundi to the following extent for my modules:

- A All my modules (undergraduate, postgraduate, full time and distance learning)
- B All undergraduate students
- C All postgraduate students
- D All distance learning students
- E Some of my modules

Please specify (eg, two undergraduate, one postgraduate):

- F None of my modules

Please provide a reason:

8. I use the following tools of eFundi for my modules (more than one tool can be chosen at this question):

- A Announcements
- B Resources
- C Schedule
- D Assignments
- E Gradebook
- F Forums
- G Messages
- H Podcasting
- I Wikis
- J e-Testing & Quizzes
- K Bloggers

9. The following statement describes my level of comfortableness with teaching online best:

- A I am not comfortable with teaching online and therefore do not use the e-learning platform
- B I am not comfortable with teaching online, but use the e-learning platform because it is expected of me by my School Director/Dean
- C I was initially not comfortable with teaching online, but became more comfortable in time

- D I am comfortable with teaching online as long as I can stick to the basics (providing information and resources; assessing assignments; posting details and due dates on the schedule)
- E I am comfortable with teaching online and am using more and more of the online tools
- F I am completely comfortable with teaching online (and use tools such as podcasting and bloggers)

10. I do not use the e-learning platform (or initially did not use it) because (more than one option can be chosen at this question):

- A It is out of my comfort zone
- B I am not sufficiently computer literate
- C I did not receive training
- D It is an additional workload
- E I prefer “talk-and chalk”
- F I am not interested in technology

11. I am ready and willing to include cutting edge technology such as podcasting and online games in my modules on eFundi:

- A Definitely
- B On a limited basis
- C Maybe
- D Only if it is expected of me

F No

G I already include it

12. I use the following social network/s (more than one option can be chosen at this question):

A Facebook

B Twitter

C Badoo

D Yedda

E MXit

F Other

Please specify:

G None

Please note that the space provided for your answers (_____) is unlimited. Therefore you do not need to limit your answers.

13. Do you *currently use* your module/s on eFundi interactively? How?

14. Do you *plan* to use your module/s on eFundi interactively? How?

15. What is your general perception of e-learning?

SECTION E: TRAINING AND DEVELOPMENT

16. I view training for the use of an e-learning platform as online learning facilitator as:

- A Imperative
- B Important, but not necessary for myself
- C Not necessary, these days everybody knows how to find their way online

17. The following should be included in training for the use of an e-learning platform (*more than one option can be chosen at this question*):

- A Paper-based notes/user manual
- B An instructor that gives verbal instructions
- C An instructor which demonstrates
- D Visual aids (eg. video's; simulations)

If you have chosen more than one option, kindly indicate which one you perceive to be most important:

18. When being taught how to teach online for the first time, I:

- A loved it and could not wait to begin teaching online
- B looked forward to start teaching online, once I have mastered the new skill
- C felt more comfortable to teach online once I have obtained the skill, although e-learning will never be my first choice
- D still did not want to teach online

19. I want the following to be included in e-learning training (more than one option can be chosen at this question):

- A How to use the tools of the e-platform (eg. posting of messages and information, assessment of assignments)
- B How to customise a module site (add photos, images, banners; change colours and fonts; add voice clips, podcasts, simulations)
- C How to facilitate discussions to ensure optimal participation
- D Pointers on how to motivate learners that resist e-learning

20. Do you think training on becoming an online learning facilitator should be included in your personal career development plan?

21. What type of assistance do you expect from your School Director/Dean to support you for online teaching and learning?

22. Do you think e-readiness should be assessed during a performance appraisal and subsequently be included in the development plan of an academic employee that is not e-ready.?Please motivate your answer.

Thank you for your time and your participation in this study!

FOCUS GROUP DISCUSSION

Researcher: Luni Vermeulen

Research: D Litt et Phill degree in Public Administration (UNISA)

Place: North-West University, Potchefstroom Campus, Building F13, Room 106

Time: 10:30 – 12:30

Date: 10 December 2010

I hereby confirm that my participation in this focus group is voluntary and that I may quit participating in the discussion at any time. I give my consent to participate in this focus group discussion, provided that my contribution to this discussion will be treated as part of collective feedback and that I will not be identified as an individual.

Signature: Participant

Signature: Researcher

FOCUS GROUP DISCUSSION

10 December 2010
North-West University (Potchefstroom campus)

RESEARCHER: LUNI VERMEULEN
D Litt et Phil degree in Public Administration (UNISA)



CONSENT

- ▶ Voluntary
- ▶ Can quit participation at any time
- ▶ Confidential – no individual will be identified



INTRODUCTION

▶ Title of thesis:

- **KEY HUMAN FACTORS IN THE E-READINESS OF ACADEMIC EMPLOYEES AT HIGHER EDUCATION INSTITUTIONS**
 - Performance appraisal
 - Employee Development; Career Development
 - Key human factors:
 - Personal profile patterns (DISC factors – Thomas International)
 - Learning style
 - Pace and style of technology adoption
 - Motivators



E-LEARNING

- ▶ e-Learning refers to learning that can be accessed by any electronic means

(Alessi & Trollip, 2001:377)

- ▶ e-Learning involves the use of a computer or electronic device (e.g. a mobile phone) in some way (to a bigger or lesser extent) to teach or provide learning material

(Stockley, 2003)



E-READINESS

- ▶ E-readiness implies that the circumstances or features of being ready for e-learning are in place

(Rautenbach, 2007:iv)

- ▶ E-readiness is not limited to physical readiness (infrastructure, hardware, software), but also consists of the non-physical readiness of an organisation such as *inter alia* psychological readiness

(Rautenbach, 2007:iv)

- Comfortability
- Willingness
- Knowledge and adaptability of teaching and learning strategies



E-READINESS ASSESSMENT

- ▶ Assessment tools were primarily used to assess e-readiness of:
 - countries (especially developing countries),
 - governments,
 - companies (e.g. banking; property)
 - to a limited extent HEIs

- Current e-readiness assessment tools –facilities, connectivity, accessibility, hardware, software, the digital divide, technological status, policies and regulations

(Machado, 2007:73-75)

- No e-readiness assessment tool for academic employees



CONTEXT

- ▶ The technology revolution of the 21st century presents HEIs with one of the biggest adaptation challenges in its history.
- ▶ HEIs should either adjust to this innovative reality or they will be in danger of losing its standing as a principal educational institution

(Amirault & Visser, 2009: 62)



GENERATION Y

- ▶ Born between 1980–1990; SA from 1990
- ▶ fun and relaxed
- ▶ absorbed with technology
- ▶ a traditional approach does not appeal
- ▶ “stimulus junkies” who gets bored easily
- ▶ skilful at multi-tasking, think at a high speed and are fervently broad-minded in terms of diversity
- ▶ an astonishingly innovative generation
- ▶ will seek reinforcement and constant feedback on a regular basis (Business Report, 2005:1)
- ▶ high level of technical literacy
- ▶ some of the most used technologies of Gen Y – live virtual classrooms, podcasts, blogs, social networks and collaborative editing

(Halse & Mallinson, 2008:1)



GENERATION Y (Cont.)

HEMIS

Age	2008 Enrolment		2009 Enrolment	
	Total	%	Total	%
18	82 742	10.3	93 614	11.2
19	76 665	9.6	80 935	9.7
20	78 780	9.8	80 424	9.6
21	72 855	9.1	72 480	8.6
22	60 339	7.5	60 097	7.5
Total:	799 490	46.3	837 779	46.6



GENERATION Y (Cont.)

NWU

Year of birth	2010 Undergraduate contact learners (Potchefstroom)		2010 Undergraduate contact learners (All campuses)	
	Total	%	Total	%
1992	89	1.2	555	4.4
1991	2 774	37.8	4 033	32.2
1990	876	11.9	1 668	13.3
1989	298	4.1	730	5.8
1988	605	8.2	919	7.3
1987	383	5.2	623	5
Total	5 025	68.4	8 528	68
Total undergraduate registrations	7 342			





Video clip: Generation Y



DISCUSSION QUESTIONS

1. How do you perceive the current role of e-learning in the higher education environment?
 2. How do you perceive the future role of e-learning in the higher education environment?
 3. What should be done to ensure that e-learning is able to fulfil this role?
 4. What are your perceptions pertaining to the expectations of learners in terms of e-learning?
 5. How should the role of academic employees change to accommodate learners' expectations?
- 

FOCUS GROUP DISCUSSION

Researcher: Luni Vermeulen

Research: D Litt et Phill degree in Public Administration (UNISA)

Place: North-West University, Potchefstroom Campus, Building F13, Room 106

Time: 10:30 – 12:30

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1. How do you perceive the current role of e-learning in the higher education environment?
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HR/P 03



NORTH-WEST UNIVERSITY
 YUNIBESITI YA BOKONE-BOPHIRIMA
 NOORDWES-UNIVERSITEIT
 INSTITUTIONAL OFFICE

Personal development plan for academic staff

Title, initials and surname: _____

University number: _____

Faculty/school/section: _____

- 1 Which of the following fields of competence require further development in terms of the strategies and priorities of the division, thus making it essential for the position?

Areas of competence		According to judgment of staff member	According to judgment of manager
Teaching-learning			
Research and post graduate training			
Organisational and management tasks			
Academic and professional qualifications and registrations			
Contribution to foundation, value system and science practice			
Professional behaviour			

2 Identify four (4) areas for development of skills and do planning for the achievement thereof

	Development priorities (focus on the four most important development priorities)	Action plan	
		Internal/external training opportunity, in-service training and/or formal study	Supply full details
Priority 1:			
Priority 2:			
Priority 3:			
Priority 4:			

Signature of staff member

Signature of manager

Date



HR/P 01

PERFORMANCE AGREEMENT FORM FOR ACADEMIC STAFF

THE OBJECTIVE OF THIS PERFORMANCE AGREEMENT FORM IS:

- To use joint planning and dialogue between the dean/director(s) and the academic staff member to reach an agreement about the participation and goals of the staff member regarding his/her teaching, research and other functions, in order to achieve the goals and targets of the faculty, school and research entity.
- To serve as a basis for dialogue to identify objectives for staff development.
- To serve as a basis for self-appraisal by the staff member and for evaluation of work performance of the staff member by the dean/director(s).

GUIDELINES FOR USING THE FORM:

- The form is completed annually by the staff member him/herself, and it is then finalised after dialogue with his/her director(s).
- Only categories relevant to the staff member in question are completed.

Name of staff member	School and subject group/programme	Year

1. TEACHING

Time =		%
--------	--	---

1.1 Under- and postgraduate (including honours and master's course units, but excluding theses)

Course unit	Section of course unit presented by the staff member	Estimated number of students

1.2 Way in which teaching will be implemented and developed (e.g. via development/revision of study guides, study material, teaching methods, utilisation of information technology) and the expected outcomes:

1.3 Marketing of expertise with regard to teaching, in order to generate a third stream of income (e.g. further training, short courses):

1.4 Particular tasks and related objectives regarding teaching (e.g. subject chair, programme co-ordinator, writing of SAQA unit standards):

1.5 Personal development objectives regarding teaching (e.g. obtaining particular knowledge and skills) and methods to achieve them (e.g. attending courses, improving qualifications, undertaking study trips):

2. **RESEARCH AND POSTGRADUATE TRAINING**

Time =	%
--------	---

2.1 Participation in research:

2.1.1(a) Research focus area/unit in which you do your research:

2.1.1(b) If your research currently does not resort under a focus area, indicate the focus area with which you plan to link it (where applicable).

2.1.2 Research objectives for the year of this task agreement:

2.1.3 Main points of research objectives for the following three years:

2.1.4 Planned research outputs upon which are agreed, e.g. articles, books or contributions in books, conference presentations (including participation in workshops and symposiums), research reports or project reports, patents:

2.1.5 Objectives for the year regarding managerial inputs in terms of research (only for members of a managerial structure in a focus area/unit and/or a leader of a sub-programme):

2.2 Supervision of M- and D-students regarding dissertations and theses (kindly attach a detailed form if this space is insufficient):

Name of student	Degree	On which level has the title been approved (i.e., faculty board or senate)?	Capacity, i.e. supervisor, co-supervisor, assistant supervisor, promoter, co-promoter, assistant promoter	Expected date of submission

2.3 Marketing of research expertise (e.g. projects to generate a third stream of income):

2.4 Development objectives as researcher (obtaining knowledge and skills) and methods to implement them (courses, improving qualifications, study trips):

2.5 Participation in activities of the academic and research community at large (e.g. subject associations, editorial boards, professional boards):

3. **OTHER IMPORTANT FUNCTIONS/TASKS FOCUSED ON THE STRATEGIC OBJECTIVES OF THE FACULTY/SCHOOL/ RESEARCH ENTITY**

Time =	%
--------	---

NB: The total agreed estimated time expenditure for all three categories must add up to 100%

Signature of staff member

Name and signature of dean* / school director

Name and signature of director of research entity (if applicable)

Date

* The performance agreement of directors regarding their academic task is made with the dean.

HR/P 02



NORTH-WEST UNIVERSITY
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NOORDWES-UNIVERSITEIT
INSTITUTIONAL OFFICE

SELF-EVALUATION FOR ACADEMIC STAFF

NAME	FACULTY/SCHOOL

Use this form to evaluate your job performance for the past year. Please refer to the performance agreement which you signed with your dean/director(s). After completion you must arrange a meeting with your dean/director(s) in order to complete the personal development plan and plan your performance agreement for the following year.

1. TEACHING

1.1 Self evaluation scale for teaching

You evaluate your own teaching on the 7-point scale.

If your performance in a certain aspect is excellent/superior/magnificent/100%, you will award yourself 7. If you think that you did not perform at all in a certain aspect, you will award yourself 1. The ratings between 1 and 7 on the scale reflect positions between these extremes. Mark the appropriate block with an X.

	1	2	3	4	5	6	7
1. How students experience my teaching according to the teaching-evaluation scale.....							
2. Quality and availability of study guides							
3. Appropriateness of my teaching methods.....							
4. Appropriateness of my prescribed study material.....							
5. My contribution to course development							
6. The extent to which I stimulate independent study							
7. Quality and frequency of evaluation (tests, examinations and assignments).....							
8. Effective use of appropriate teaching media.....							

	1	2	3	4	5	6	7
9. The extent to which I integrate the following education principles during my teaching (award a rating for each)							
◇ Purposefulness							
◇ Planning							
◇ Motivation							
◇ Individualising							
◇ Independent working by students							
◇ Experience/concretising							
◇ Mastering							
◇ Communication							
◇ Evaluation							

1.2 Briefly state what you consider to be your strengths in undergraduate teaching during the past year.

.....

.....

.....

1.3 Write down what you consider to be your weaknesses in undergraduate teaching for the past year.

.....

.....

.....

1.4 Read the performance agreement you signed a year ago with your director/dean. Indicate to which extent you were successful in the undergraduate teaching you agreed on. (Use a separate sheet of paper if necessary).

.....

.....

.....

.....

.....

1.5 Write down the obstacles/limitations you experienced in the execution of your teaching duties as agreed upon.

.....

2. RESEARCH AND POSTGRADUATE TEACHING

2.1 Read the performance agreement for the past year. To which extent do you think you were successful?

.....

2.2 Which obstacles and/or limitations did you experience in this aspect of your task?

.....

2.3 SUPERVISION OF M- AND D-STUDENTS

Read 2.2 of the performance agreement for the past year. Write down the number of students who completed their M- and D-studies under your supervision in the past year, as well as the capacity in which you were involved (supervisor, co-supervisor, assistant supervisor, promoter, co-promoter, assistant promoter).

.....

2.4 RESEARCH

2.4.1 Write down your research outputs in the past year for the performance areas below:

	NUMBER
• research articles which are recognised for subsidy	
• other research articles	
	NUMBER
• books	
• contributions in books	
• conference presentations published in conference proceedings	

• approved research reports and/or project reports	
• patents	
• presentations about research and development work.....	
• research grants for research and development work: institutions and amounts	
• any other research performance you would like to mention.	

2.4.2 If you did not perform in research as agreed upon, briefly supply reasons.

.....

2.4.3 Which obstacles/limitations (if any) did you experience in the execution of your research task?

.....

3. OTHER IMPORTANT FUNCTIONS/TASKS FOCUSED ON THE STRATEGIC GOALS OF THE FACULTY/SCHOOL/RESEARCH ENTITY

3.1 Write down how you reached your goals that were planned in the performance agreement.

.....

3.2 If you did not perform as agreed upon, briefly supply reasons.

.....
.....
.....

3.3 Which obstacles/limitations did you experience regarding this aspect?

.....
.....
.....
.....

4. SUBJECT-SPECIFIC, PROFESSIONAL AND PERSONAL DEVELOPMENT

4.1 Briefly describe your main activities and results thereof in terms of knowledge/skills with regard to subject-specific, professional and personal development during the past year?

.....
.....
.....

4.2 Write down any obstacles/limitations that you experienced

.....
.....
.....

.....
SIGNATURE STAFF MEMBER

.....
DATE



Academic Development and Support

FEEDBACK FORM - MINI-CONTACT SESSION

Criteria for the evaluation of a mini-contact session presented by a newly-appointed colleague during CNL

Instructions

1. Please use this form to give feedback to your colleague on his/her presentation of a mini-contact session.
2. Complete the feedback form directly after the mini-contact session and give it to the colleague you assessed

Name of presenter of mini-contact session:

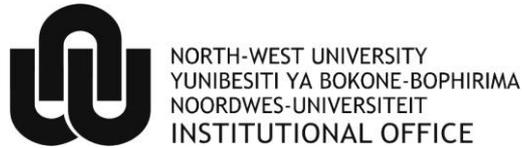
.....

Use the following scale to assess the various aspects of facilitation

1	2	3
Not competent	Competent	Excellent <i>("more than competent")</i>

You are requested to use the *"column for comment"* for more particular feedback to your colleague.

ASPECT OF FACILITATION	GRADE	COMMENT
ORGANISATION OF THE CONTACT SESSION		
1. Have the outcomes for the mini-contact session been stated clearly?		
2. Have the outcomes been attained by the end of the session?		
3. Has the session run its course within the given 15 minutes?		
FACILITATION AND ASSESSMENT SKILLS		
4. Ability to involve learners actively during the contact session (demonstration of group work techniques)		
5. Ability to integrate formative assessment during the contact session		
DEMONSTRATION OF MEDIA USAGE		
6. Applicability of media selection		
7. Skills in using media		
TOTAL	/ 21	
General Comments		
Strong point		
Area to be developed		



Institutional Teaching Excellence Award (ITEA)

Guidelines for panel evaluation of contact sessions

ITEA: Assessment of teaching and learning during the contact situation with students

The NWU is aware that teaching and learning differ between small and large class groups, as well as between faculties and different subject disciplines. These differences should as far as possible be taken into account during the assessment of submissions. It is proposed that subject experts serve on the assessment panel, so that the uniqueness of each subject may be adequately dealt with.

It is also proposed that teaching and learning in the class situation and other teaching opportunities should be evaluated according to the guidelines below. For each category the bottom and top ends of success are indicated to serve as a guideline for the awarding of a score on a five-point scale.

1. Course of teaching

1.1 Introduction

- The material was not linked to students' prior knowledge; there was no problem description / introduction to the subject; no clear objective and learning outcomes were identified. The lecturer plunged into the new material.
- There was efficient linking with previous contact periods by means of the testing of prior knowledge; students were motivated and interest was stimulated; the problem description / introduction was clearly formulated; the objective and learning outcomes of the contact session were logically explained and well formulated.

1.2 Development

- There was no logical structure / pattern; less relevant contents were not distinguished; core concepts and essences were not provided; no familiar examples were used to which new contents could be linked. Learning activities were not referred to at all in the study guide.
- During the presentation of new learning content clear structure and relationships were identified; core concepts were repeatedly highlighted and essences were emphasised; perspective was provided; sufficient and very appropriate examples (pegs) were used to establish links with new contents. There was continuous feedback regarding learning activities in the study guide, as well as additional applications. Students see the specialist in action.

1.3 Conclusion

- No summary and application of the discussed subject content were provided; learning gains were not assessed; no follow-up activities were given. Contents were left hanging in the air.
- Discussed contents were summarised and applied; achievement of identified learning outcomes (learning gains) was assessed; thoroughly planned follow-up activities (assignments) were given.

2. Integration of education principles

2.1 Purposefulness

- Vague; nobody knows what the lecturer is trying to achieve.
- Clear learning outcomes were identified and all learning activities are directed at achieving the learning outcomes.

2.2 Planning

- Presentation was incoherent and disordered.
- The entire presentation reflected thorough planning – the content was presented in a logically ordered manner. Learning activities during the contact session logically linked up with information as explained in the study guide.

2.3 Level of presentation

- Development was slow, level of content low and simple, outcomes incorrectly pitched and students were uninvolved and disinterested.
- An outstandingly high level of content presentation with the outcomes correctly pitched. Students literally had no choice but to be interested and to pay attention.

2.4 Individualisation

- The class was treated as a homogenous entity and students were not involved as individuals.
- The lecturer also worked with and put questions to individuals. Recognition was clearly given to different learning styles and abilities. The lecturer knows the students in smaller classes by name.

2.5 Learner self-activity

- Students were totally passive. There is no guarantee that learning took place.
- The lecturer constantly involved students. Ample opportunity was created to experience theoretical knowledge in practical form.

2.6 Comprehensive view

- Only the essential information was provided, without making any connections whatsoever.
- The lecturer made a real attempt to explain the relevance of every piece of information in the context of the more comprehensive structure.

2.7 Experience

- The content was restricted to the theoretical level. Facts, descriptions and information were simply communicated verbally.
- The content was explained by means of examples, demonstrations, illustrations etc. The students experienced the content.

2.8 Mastering

- The lecturer does not accept that mastering of the subject material is his responsibility as well. He/she took no steps to ensure that students had mastered the work.
- The lecturer went to considerable trouble to ensure that mastering took place, by asking questions, incorporating self-assessment opportunities, summarising, revising, etc.

2.9 Socialisation and group work

- There was a rigid, formal atmosphere in which no or little interpersonal reactions took place.
- The lecturer created much opportunity for interpersonal reaction and exchange of ideas in groups. Two-way communication was encouraged.

2.10 Assessment

- No assessment was done. It was simply taken for granted that the students learned something.
- The lecturer constantly assessed the mastering of the identified learning outcomes. After the contact session summative assessment was done.

3. Appropriateness and variety of teaching-learning methods

- The lecturer is lecture-oriented. The teaching-learning methods used are in general not appropriate for achieving the learning outcomes.
- The lecturer used a variety of strategies, such as group work, video teaching, case studies, lecturing, discussion, questions-and-answers, visual representation etc. The methods used by the lecturer promoted learning and the mastering of learning outcomes.

4. Preparation and use of teaching media

- A logical scheme did not unfold on the writing board. Transparencies are mostly hand-written. Information could just as well have been written on the board.
- The lecturer used the most appropriate teaching medium for the presentation and discussion of learning contents. Transparencies and other media contributed to the promotion of learning, the achieving of outcomes and the clear transmission of the message. During the presentation and discussion a logical scheme unfolded on the writing board.

5. Teaching communication

5.1 Verbal communication

- There were defects in the lecturer's speech, such as talking too loudly, too softly and/or too fast or swallowing words. Strange terms and expressions were used to the point of irritation, such as "good", "right", "okay" etc.
- The lecturer could be heard clearly. Language use was exquisite and marked by good expression.

5.2 Non-verbal communication

- Certain irritating habits which distract students' attention were displayed. No contact with students could be observed.
- Appropriate facial expressions and body movements were used. The lecturer made eye contact and achieved constant contact with students.

Approved: IM – 26 April 2006

Approved by Institutional Senate on 10 May 2006

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ITEA: Assessment of contact opportunity at NWU

CANDIDATE:		EVALUATOR:					Date:
FACULTY:		SUBJECT GROUP/DEPARTMENT					
CATEGORY	FACTORS	SCORE					Total
		Poor 1	Below average 2	Average 3	Good 4	Excellent 5	
Course of teaching-learning	• Introduction						
	• Development						
	• Conclusion						
Integration of education Principles	• Purposefulness						
	• Planning						
	• Level of presentation						
	• Individualisation						
	• Learner self-activity						
	• Experience						
	• Mastering						
	• Socialisation and group work						
	• Comprehensive view						

	<ul style="list-style-type: none"> • Assessment 						
Appropriateness and variety of teaching-learning methods	<ul style="list-style-type: none"> • Appropriateness 						
	<ul style="list-style-type: none"> • Variety 						
Preparation and use of teaching media	<ul style="list-style-type: none"> • Planning 						
	<ul style="list-style-type: none"> • Applicability and effectiveness ... 						
	<ul style="list-style-type: none"> • Readability 						
Teaching communication	<ul style="list-style-type: none"> • Verbal 						
	<ul style="list-style-type: none"> • Non-verbal 						
TOTAL							



ITEA: Guidelines for the ITEA portfolio to be submitted as part of the ITEA evaluation process

1. Introduction

The award for *outstanding teaching and learning* is made to a lecturer with consideration of *the entire spectrum of activities pertaining to teaching and learning*. A portfolio is compiled during the course of the year and submitted for assessment by the end of October. The portfolio must show evidence of sound content and teaching strategies, and provide details on assessment policies and practices.

2. Elements required in the portfolio

The following elements must be included in the portfolio:

2.1 Teaching Philosophy

Each candidate is to submit a statement of no more than two pages on his/her teaching philosophy. The statement should provide information on

- personal innovation in the development of a well designed learning environment and how such innovative ideas have contributed to student learning.
- choice of teaching methods that suit the outcomes, subject matter, the learners' needs and learning styles,
- consistency between outcomes, teaching strategies and forms of assessment,
- enthusiasm for a subject and its impact on learners,
- the use of learning activities and how the success of these are measured,
- how learners are encouraged to study,
- how learners are encouraged to develop critical thinking strategies,
- feedback to learners to enhance their learning,
- teaching and learning approach and the outcomes as well as reasons for failure and success and what changes are made to enhance learning,
- professional development and leadership. (Candidates can outline how he/she keeps their knowledge and understanding of the subject up to date, and describe strategies that are used to reflect on teaching practice and develop new skills and continually improve teaching and learning.),
- effective participation in curriculum design and development.

2.2 Study guides

- Study guides for all modules the candidate presents during the relevant year, should be submitted to the evaluation panel.
- Each study guide must contain the following:
 - administrative matters;
 - clear learning outcomes at different levels (amongst others, critical outcomes);
 - study guidance;

- learning activities;
- assignments to stimulate independent study; and
- self-assessment exercises.

If a candidate did not develop a study guide him/herself, he/she may explain how and why he/she plans certain changes.

2.3 Assessment

- For every module that is presented two of the most recent examination papers, semester tests and class tests must be submitted. In this category the following aspects are assessed:
 - The quality and frequency of tests and assignments.
 - The variation of question types in question papers (questions at different levels of thinking according to Bloom's taxonomy).
 - A written report from the internal/external moderator on examination papers, memorandums and marks allocated. The moderator must be a senior subject expert.
 - The marking scheme or memorandum of each exam paper and test.
 - The relation between assignments and questions in exam papers and tests with the identified learning outcomes.
 - The methods to control independent study and to assess the written work of students.
 - The quality of feedback given to students regarding their work, e.g. tests, assignments and homework.
 - The opportunities for self-assessment.
 - The pass rate that should be an indication of the extent to which students were successful in achieving the identified outcomes.

2.4 How students experience the lecturer's teaching/facilitation

- The questionnaire, section A, with 15 questions, as proposed by the Institutional Office, must be used. (See appendix F)
- Lecturers must be assessed by students in all the modules they present during the course of the relevant year. A member of the faculty's teaching committee, the programme manager/leader or the school director must conduct these assessments.
- Results must be processed and included in the portfolio together with written remarks from the students.
- As students are the clients or target group of the entire teaching and learning programme, an award can only be made if the student feedback indicates that the students also experience the lecturer as outstanding (at least 75% on the teaching feedback scale).

2.5 Peer assessment

- At least 3 contact sessions must be assessed by peers (i.e. the evaluation panel). One of these assessments is conducted by prior arrangement.
- The proposed guidelines will be used as criteria. (See appendix G)
- The extent to which teaching principles are applied during class sessions or other teaching opportunities will be taken into consideration.
- In order to obtain the award, the applicant must be assessed by his/her peers as outstanding, and must obtain a score of at least 75%.
- The teaching advisor from the campus ADS-office will provide the final marks and feedback for this category when the portfolio is assessed.

2.6 For the final assessment, the different categories carry the following weights:

<i>Category</i>	<i>Weight</i>
Student assessment of teaching	20
Peer assessment	20
Study material evaluation	15
Evaluation of assessment (questionnaires, memoranda, etc.)	15
Appropriate choice and use of teaching media	5
Suitable variety of teaching-and-learning strategies	10
Innovative contribution to programme/module development; exceptional contribution to development of a learning environment; proof of attendance of teaching development activities (e.g. attendance of free campus workshops or other relevant activities aimed at teaching development sponsored by the faculty)	15
TOTAL	100

Approved: IM: 26 April 2006
 Approved by Institutional Senate on 10 May 2008

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Score card for evaluation of ITEA teaching portfolio at the NWU (2010)

Name of participant:

School / Department:

Faculty:

Campus:

Category	Weight		Mark	Comments
Student evaluation of teaching	20	Average achieved on questionnaire – see Appendix F		Comments from evaluation panel will be added at appropriate time
Peer evaluation	20	The average mark awarded by evaluation panel (3 members) will be added at appropriate time		Comments from evaluation panel will be added at appropriate time
Study guides and study material	15	1. Module information: outcomes, credits, assessment, study material, module plan 2. Teaching and learning		

Category	Weight		Mark	Comments
		design: support, exercises, monitoring, self evaluation, exam questions 3. Relevance and variation of materials		

Category	Weight		Mark	Comments
Assessment (exam papers, memorandums, marks etc.)	15	<ol style="list-style-type: none"> 1. Formative assessment. 2. Assessment techniques. 3. Relation between outcomes, assignments, exam questions. 4. Variation of questions on different levels; Bloom's taxonomy. 5. Allocation of marks. 6. Feedback. 7. Memorandums. 8. Students' performance 9. Examples of students' work 		
Suitable choice and use of teaching media	5	<ol style="list-style-type: none"> 1. Quality of media 2. Is learning promoted. 3. Effectiveness in helping students to master outcomes . 4. Variation: tranparancies, video material, slides, powerpoint slides, computer programmes, simulations, etc. 		
Variation in effective teaching and learning strategies	10	<ol style="list-style-type: none"> 1. Is active learning promoted. 2. Is mastering of outcomes promoted. 3. Is collaborative learning promoted. 4. E-learning 		

Category	Weight		Mark	Comments
Other innovative contributions in the teaching and learning environment	15	<ol style="list-style-type: none"> 1. Innovation in designing of the learning environment 2. Design / development of a new/ existing program/module 3. Acquisition of critical and specific outcomes 		
TOTAL	100			

Approved: IM – 26 April 2006

Approved by Institutional Senate on 10 May 2006

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