3.1 Introduction

In the previous chapter the researcher discussed the learning theories and the applications of e-Learning. This chapter will outline the concept of professional development, the significance and purpose of professional development, strategies and models of professional development and will conclude with a discussion on e-Learning and professional development.

Reviewing literature regarding e-Learning and professional development can contribute to the understanding of the research problem (De Vos et al., 2008:123). Therefore, the researcher perused the following literature regarding professional development, as discussed below.
3.2 The concept of professional development

Various concepts are used to describe professional development. One of the more traditional concepts is in-service training. According to the Wordweb (2009), in-service training is the teaching and learning of employees to help them develop their competencies in a specific discipline, or occupation. In-service training takes place after an individual has started taking on the usual responsibilities at work. Most typically, in-service training is conducted during a break in the individual's work schedule.

Another concept focusing on professional development is continuous education. In many cases professionals/employers/employees need to or desire to continue with further studies that are relevant or related. Such continued education would include specific learning activities, generally characterised by the issuing of a certificate, or continuing education units (CEU) for the purpose of documenting attendance at a designated seminar, or course of instruction. Licensing bodies in a number of fields enforce continuing education requirements on members who hold licenses to practice within a particular profession. These requirements are intended to motivate professionals to expand their knowledge base and stay updated on new developments. Depending on the field, these requirements may be met through college or university courses, extension courses, or conference and seminar attendance (Wordweb, 2009).

In emulation of the previous definitions, professional development in the context of this research is viewed as the continuous teaching and learning of nurses in a public hospital setting in order to assist them to develop their competencies to render quality service to patients. Professional development activities include formal and informal learning, assisting nurses to remain up-to-date.

Professional development can take place at the workplace, at learning institutions, or during planned conferences and seminars.
3.3 Significance and purpose of professional development for nurses

As derived from the previous discussion, the core purpose of professional development is to stay up-to-date with your professional discipline. On the other hand, there are diverse reasons for nurses to embark on professional development. Obvious reasons are self-motivation for professional development, ethical- and legal enforcement by professional bodies and educational requirements.

According to Anderson (2005:1), the most sustainable reason for learning is self-motivation. This cannot be undermined in professional development. In the researcher's experience, as a professional nurse and nurse educator, learners who embark on continuous education are mostly self-motivated, whether it is linked to promotion or monetary reward. Hence, self-motivation is an important drive for professional development.

Nursing and midwifery practices are governed by the Nursing Act No. 33 of 2005 (South Africa, 2005). This Act stipulates in Chapter one, section 31, that the professional nurse or midwife is an independent practitioner and is responsible and accountable for his or her own acts and omissions (South Africa, 2005). This implies that the professional nurse will be held legally accountable in the case of misconduct. This alerts the attention to the fact that there is no room for professional incompetence and at the same time emphasises the crucial importance of professional development and the availability of up-to-date information.

The same Act, according to Chapter one, section 15(1) (South Africa, 2005), led to the formation of a Professional Conduct Committee. This committee is responsible for conducting hearings of alleged unprofessional conduct of persons registered with the South African Nursing Council under the Nursing Act No. 33 of 2005. Such professional conduct inquiries focus on the
professional and ethical conduct of the nurse in South Africa. The main responsibility of this committee is to protect the public against unprofessional conduct of the nurse. It stands to reason that nurses are strongly recommended to remain adequately trained professionally.

A current regulation in the process of development and in line with this Act, is the scope of practice of the nurse (South Africa, 2005). The purpose of this regulation is to dictate the competencies of the various nursing cadres registered under the Nursing Act No. 33 of 2005. Therefore, again, it is a basic legal requirement for a nurse to pursue adequate professional development.

The Constitution of the Republic of South Africa, Act No. 101 of 1996 (South Africa, 1996), states that 'everyone has a right to have access to health care services'. To ensure that this takes place, the Department of Health published the Patients' Rights Charter, which is visible in all public health establishments (Department of Health, 2000:33). This consumer rights charter raised expectations in the public health sector in South Africa and therefore placed specified responsibilities on the shoulders of the nurse in practice who must then stay abreast of his / her practice through continuous professional development. With every legal framework comes an ethical responsibility, which is why all legal processes have underlying ethical consequences.

Viewed from the perspective of the health service receiver (patient) and the perspective of the health service provider (in this case the nurse) quality of service is and remains a priority.

The establishment of the South African Qualifications Authority (SAQA), through the SAQA Act No. 58 of 1995, has forced all professionals to revisit their professional development framework (South Africa, 1995). This Act further accredits all professional or statutory bodies to have provisional or full Education and Training Quality Assurer (ETQA) status. The South African Nursing Council (SANC) was granted full ETQA status in 2009 (Mchunu, 2009). Although this is an accomplishment, heavy responsibility rests upon the SANC to govern quality of training and education, teaching and learning
regardless of whether it is pre-occupational or in-service training and education, teaching and learning as both these components are equally important in a rapidly changing health service environment.

In adherence to the ETQA status and in accordance with Chapter one of the Nursing Act No. 33, section 15, two committees were established, namely the Accreditation Committee and the Education Committee of SANC (South Africa, 2005). The Accreditation Committee regulates quality assurance in teaching and learning contexts for nurses, while the Education Committee ensures that SANC stays relevant with recent teaching and learning practices. Professional development is thus a cardinal part of SANC’s function as an organisation carrying ETQA status.

3.4 Strategies for professional development

In the discussion above, the researcher referred to different strategies for professional development (see 3.2). The American Nurses' Association (ANA) summarises the choice of strategies as, *inter alia*, conferences, simposia and seminars; workshops; home study and self-directed projects; teleconferences and clinical practica (Deloughery, 1998:312).

3.4.1 Conferences, simposia and seminars

These are more informal in nature and nurses document their attendance. The onus for learning from these practices rests upon the nurse. This is used especially to introduce new concepts or practices in nursing and must not be seen as less important. Conferences, simposia and seminars can take place in the workplace or outside, e.g. ‘Seminar on the prevention of HIV and AIDS’ (Deloughery, 1998:314).
3.4.2 Workshops
This is more formal than the previous strategy, as clear teaching and learning outcomes are planned for workshops. Workshops can be formally assessed, or the participants can document attendance, e.g. 'Workshop on teaching and learning methodology' (Deloughery, 1998:314).

3.4.3 Home study or self-directed learning projects
In a project, the learning outcomes are clear and there is a definite assessment at the end of this project. The emphasis is on the self-directed learning, which requires motivation from the learner. This may include e-Learning projects (Deloughery, 1998:314).

3.4.4 Teleconferences
Teleconference learning takes place when learners use a telephone as a tool to facilitate learning. Learners have regular telephone discussions and it may include a facilitator (Deloughery, 1998:314).

3.4.5 Clinical practica
Nursing care is mainly based on delicate psycho-motoric practices and therefore requires practical or clinical competence (Deloughery, 1998:314). This means that the facilitator needs to facilitate the theoretical knowledge, demonstrate the skill or procedure and allow the learners to practice the skill until they are competent. The learners, in return, demonstrate the skill in a formal assessment, e.g. the insertion of an intravenous needle.

Professional development generally includes a creative synthesis of the previously discussed strategies to facilitate competence of nurses.

3.5 Models of professional development
In this discussion the researcher focuses on the models available in South Africa, namely the Health Professional model and the Pharmacy Council’s model. Also discussed is as an international nursing model for professional
development, as the South African Nursing Council (SANC) has not to date finalised its professional development strategy. The reason for this discussion is to examine the application of professional development as it is done in the case of other health professionals in South Africa and nurses internationally, in order to depict the same for nursing in South Africa. The models will be discussed while focusing on the purpose, process and envisaged outcome.

3.5.1 Health Professional Council of South Africa

Purpose
The Health Professional Council of South Africa (HPCSA) introduced a system of Continuous Professional Development (CPD) for all medical practitioners in January 1999. The purpose of this CPD system was to achieve improved patient care and to benefit the medical and dental professions as a whole (HPCSA, 2000:3).

Process
The 1999 CPD point system runs over a period of five years. Every medical or dental practitioner has to accumulate 250 points in order to retain his or her registration over a five-year cycle. The minimum points are 25 and the maximum points that can be accumulated per learning activity are 75. Two points per annum are for ethics and cannot be carried over to the following year. Practitioners are advised and informed on the accumulation of their points in the running cycle on an annual basis (HPCSA, 2000:4).

Although the Board HPCSA administer the CPD system, the accreditation and review are outsourced to professional societies and associations. Independent providers, who adhere to a set of criteria, are allowed to provide continuous professional development (HPCSA, 2000:4).

CPD points, according to the HPCSA (2000:7), include organisational activities, e.g. conferences, workshops, lectures, seminars and refresher courses; small group activities like teaching ward rounds, departmental meetings and small group discussions, and individual activities, e.g. self-
study, individual learning, teaching, research and publications. Each of these activities has a rating of ten points, except for ethics, which is allocated only two points.

**Outcome**

This CPD point system has numerous administrative and growth challenges. The advantage is that the HPCSA started a system, which is well supported, because the majority of the practitioners participate in the programme (HPCSA, 2001:31). This system improves annually and functional changes are currently executed to improve the CPD system of HPCSA further.

### 3.5.2 Pharmacy Council

**Purpose**

Although the Pharmacy Council has not announced a formal CPD system yet, parts of their professional development activities are functioning efficiently. The purpose of competence of pharmacists is to keep up with recent developments, master current approaches to practice and maintain and improve their competence (Putter, 2002:6).

**Process**

The Pharmacy Council differentiates between Continuing Education (CE) and Continuing Professional Development (CPD). CE is the attendance of courses, symposia, conferences and scientific professional meetings, whereas CPD is the facilitation of competence and includes CE (Putter, 2002:6).

Pharmacists developed a self-assessment tool to assess competence, which is based on the unit standards for pharmacy practice. The formalisation of an application method for the CPD system for pharmacists was in process of development when the researcher enquired personally from the Pharmacy Council (Putter, 2002:5).
Outcome
The outcome of the CPD system of the Pharmacy Council is to maintain a level of competence to provide effective and efficient care (Putter, 2002:5).

3.5.3 International model for nurses' professional development

Purpose
The purpose of professional development is to enhance the practice of professional nurses and to build on their educational and experiential competence. The practice of the professional nurse includes education, administration, research and hands-on clinical practice (Deloughery, 1998:310).

Process
The process of this system is well developed in the USA, because some of the states, like California, mandated their first Continuous Education (CE) system for nurses in 1971 (Deloughery, 1998:310).

Continuous Education is planned by assessing the needs of the professional nurses. This planning includes interviews with head nurses and supervisors, data collected from clinical nursing care audits of client records, reports from quality assurance committees, recommendations from Joint Commission on Accreditation of Health Care Organisations and needs assessment surveys from professional nurses (Deloughery, 1998:311).

A professional development plan is developed after compilation of this information, and nurses over a period of time are legally bound to attend the appropriate professional development interventions. Providers and instructors are accredited to present the CE for professional nurses (Deloughery, 1998:311).

The different strategies, as described by Deloughery (1998:312), are followed to obtain CPD points in order to be relicensed to practice as a professional
nurse. CPD points are allocated to each strategy as planned and nurses know prior to the session how many points they are accumulating when they attend CPD activities.

**Outcome**

Although professional development is the responsibility of the nurse in the USA, the structure, platform and monitoring system were established in order to safeguard the profession. Professional development is seen as a necessity to practice in the USA and all nurses are geared to maintain and improve their practice. In the USA nurses cannot practice if their license is not renewed, and the license is not renewed if the nurse has no proof of CPD (Deloughary, 1998:310).

In reviewing the different models for professional development in the USA and in other medical professions in South Africa, it poses a reality challenge to the SANC that has not yet established a formal professional development system. SANC is the biggest health council in South Africa and in Africa, with a membership of 42% of all health care workers in South Africa. All other processes of the SANC are well developed, except for its professional development system. Research has been done to introduce a CPD system for SANC, therefore a strategic plan for 2008 - 2013 includes the formalisation of the CPD system for SANC (SANC, 2008).

### 3.6 e-Learning and the professional development of nurses

Currently e-Learning is used in a number of settings to facilitate learning in 'hard to reach' contexts (Engelbrecht, 2003:42). It has been noted by the researcher that most of the systems used in South Africa daily are electronic, e.g. at banks, post offices, municipalities and so on. Most educational institutions in South Africa have an e-Learning platform, which is being used more and more by facilitators and learners. Therefore nurse learners and facilitators are moving into a process where they will have no option but to use e-Learning in a teaching and learning context.
Although e-Learning is comfortably used for the professional development in developed countries, it is still a feared concept in developing countries, like South Africa, because nursing is seen as a career dealing with human beings. In the researcher's experience nurses communicated their fear of electro-technology overtly during the installation of the Mindset e-Learning system for professional development.

On the other hand, there are numerous push and pull factors, that force the nursing profession to look at e-Learning as an option for professional development. These factors include the electronic era, legislation and the severe shortage of adequately qualified nurses in South Africa. Although most of these factors have been discussed previously, the core factors are briefly summarised.

3.6.1 Legislation

The White Paper for e-Education is currently in its final stages for promulgation. Once promulgated, this Act will mandate a certain percentage of all learning in South Africa to be e-Learning at school level, which has direct influence on higher education and professional development. It is clear that this legal process to enact e-Learning puts pressure on nurse learners and facilitators to acknowledge e-Learning as an option for professional development (South Africa, 2003).

3.6.2 Shortage of nurses

In South Africa there is a severe shortage of qualified nurses (WHO, 2004:9). This has been recognised by the government in its proposal of reopening nursing colleges. Another challenge being faced is the scarcity of nurse educators to run the day-to-day functions of these colleges. These shortages indeed support the decision towards e-Learning strategies as a way to fill the gap between the shortage of nurse educators and trained nurses. As senior officials in the Department of Health realised the benefits of the scope for using e-Learning in professional development, the Mindset Health e-Learning
system was developed, specifically for training relating to the HIV and AIDS prevention, care and management (Mindset, 2007).

3.7 The Mindset Health e-Learning system for nurses’ professional development

The Mindset Health e-Learning system is an e-Learning system is focused on in this research. As mentioned (see 3.2), this system was specifically developed to alleviate the current demand for the professional development of nurses. Unfortunately, though, the teaching and learning challenges in the application of this e-Learning system were underscored by the developers. In 3.7.1 follows a description of the Mindset Health e-Learning system, depicting the technological description, planned usage of the Mindset Health e-Learning system for professional development, theoretical underpinnings of the Mindset Health e-Learning system and a discussion highlighting the comparison and contrast of the models of e-Learning as reviewed in this research.

3.7.1 Technology description

The Mindset Health Channel, a powerful partnership between Mindset Network, the National Department of Health and Sentech, aims at delivering health education on a mass scale as well as the promotion of critical health issues, including the HIV and AIDS pandemic. All descriptions below are adjusted from the Mindset Network illustration (Mindset Network, 2007).

MindsetNetwork’s Third Generation (3Gen) DataCast Solution
Mindset Network calls its current system the third generation, because the two previous versions were upgraded in order to improve robustness. Mindset Health uses a system that includes the computer and the television system. Educational information is data-casted from its headquarters in Johannesburg to the Mindset Health systems in public hospitals. Mindset Health installs data-dishes on the roofs of public hospitals and subsequently casts the
educational information in the same way as a television channel to public hospitals. The system at a public hospital will not receive an update if it is not plugged into an electricity port and switched on. These updates generally take place three-monthly, depending on the latest developments in the health care environment.

In 2003 Mindset started to migrate from a pure broadcast model to that of a DataCast solution, which encompassed the best of Digital Video Broadcast (DVB) and Internet Protocol (IP) technology. Although, as with all technology advancements, the solution started with certain limitations, Mindset Network has now overcome these with its new 3rd Generation DataCast Solution (3Gen) (see figure 3.2).

![3Gen Video Delivery Model](image)

**Figure 3.2:** Video delivery model (Mindset, 2007).

3Gen provides a dual TV broadcast and web delivery system that combines the benefits of both worlds in one platform. It delivers media to a local server via satellite, which then provides a video-on-demand solution, as well as an interactive TV channel from this server. The TV is controlled via a custom built Set Top Box that activates the channels, as well as the interactive menu for video-on-demand services (see Figure 3.3).
Figure 3.3: DataCast configuration (Mindset, 2007).

This is the technology that Mindset uses as the delivery mode of its education material. As technology is always evolving, Mindset has also evolved in terms of the technology they use to distribute and store educational content. The DataCast "forward and store" model is far more satellite efficient than DVB broadcast, with the added ability to send web and programme files as well (see figure 3.3).

The 3Gen DataCast model also provides a comprehensive data feedback loop via GPRS that enables sponsors and technical supporters to monitor each system and report on usage and technical status of each remote site.
The Mindset 3Gen server can now support an unlimited number of computers (see figure 3.4) and Television sets connected to it. It is possible to send a Video lesson to hundreds of local area network (LAN) workstations in a school simultaneously.

3.7.2 Planned usage of the Mindset Health e-Learning system for professional development

Mindset Health e-Learning developed a professional development system to target health care workers, including nurses. As nurses comprise the majority of health professionals in South Africa, they were identified as the main audience. The health department at Mindset Network sources and creates digital health educational content in video, multimedia and printed material. This material is available in multiple local languages, currently Zulu, Xhosa, Sotho, English and Afrikaans. The initial focus of the professional development material focused on HIV/AIDS and tuberculosis (TB).

The learning content is delivered to nurses’ immediate working environments, including hospitals and clinics via satellite broadcast (daily from 07h30 to 17h30) and satellite data cast (forwarding and storing data to enable access.
“on demand”). Currently, Mindset Health broadcasts to more than 300 sites throughout South Africa, with the potential to reach the rest of Africa also.

This innovative mode of e-Learning delivers quality educational material on a mass scale, which could address the current need of nurses or nursing students, especially in HIV and AIDS management. The Mindset Health e-Learning system is installed in public hospitals to facilitate self-directed learning in the nurses’ work context. Currently it can be used as an asynchronous or as a hybrid mode, where the in-service trainer facilitates the learning.

Mindset Health provides the initial training to introduce the system, with minimal support to the coordinators, who are full-time staff members tasked with other formal duties in the public hospitals where these systems have been installed. At the moment there is no formal coordination of learning. The content has been developed by a dynamic instructional design team with the required acumen. The challenge, however, is the educational use of this e-Learning system for its purpose namely, the professional development of nurses in a public hospital setting.

However, it is noteworthy to mention that limited formal research was done regarding teaching and learning on this e-Learning system. Most previous research focused on the usage and development of the system without emphasizing the teaching and learning aspects. Currently this research is the first baseline study to explore the teaching and learning aspects, therefore the researcher endeavors to build further on this research to answer further research questions relating teaching and learning aspects.

3.7.3 Theoretical underpinnings of the Mindset Health e-Learning system

After perusing the literature the researcher deduced that the theoretical underpinnings of the Mindset Health e-Learning system are embedded in the social constructivist theory (see 2.2.4). Although Mindset Health did not decide on a theoretical framework for the e-Learning system, the researcher
compared Mindset Health's e-Learning system with the core theoretical underpinnings discussed in this research. In social constructivism the main purpose is life-long learning through the construction of knowledge, using information to increase competence and capacities (Gravett, 2006:26). In this context it means that the nurses will use the Mindset Health e-Learning system to construct more knowledge in order to better their practice in public hospitals, therefore it would be the ideal system for teaching and learning, because it focuses on current health issues like HIV and AIDS.

The four domains covered by knowledge construction are the addition, integration, or modifying of pre-existing knowledge, re-examination of previous experiences, all of which would influence our attitudes, critically reflecting on assumptions, and accommodating or rejecting new assumptions (Gravett, 2006:27). The latter therefore implies active involvement of nurse educators to facilitate professional development, using the Mindset Health e-Learning system. The four domains also emphasise self-directed learning, an inherent part of social constructivism, because the learner directs his or her own learning. Alluding from the previous discussion (see 3.7.2), Mindset Health also envisages the promotion of self-directed learning. This is evident in the Mindset Health e-Learning system's content, comprising video case studies in the hospital context, the video lesson, reading material, self-assessment activities and summative assessments. This package supports all styles of learning by using different tools, e.g. visual, audio, etc.

The Mindset Health e-Learning system also facilitates reflexive learning through the activities in the teaching and learning processes. These activities include video case studies, followed by reflexive questioning in the form of electronic games.

Lastly, the Mindset e-Learning system supports both individual and collaborative learning, because the adult learner can go through the lessons individually, using the computer platform, or in a group, using the TV/DVD-platform.
3.7.4 Comparative discussion of the e-Learning models reviewed in this research

In evaluating the Mindset Health e-Learning system on the basis of the three models being reviewed in this study (see 2.3.1), the researcher found facilitating and impeding factors, which could be used to improve the Mindset Health e-Learning system.

Starting with Salmon's five stage model (see 2.3.2), the foundation aspects are Access and Motivation. In the researcher's experience, access depends on the place where the system is installed, as well as the functionality of the system. The system is often installed in the tea-room, or in the nursing service manager's office, which makes the system less accessible to users. As for motivation, the immediate question that arises is: "Who is supposed to motivate the nurses to use the system?". Currently, both Mindset Network and the public hospitals grapple with this responsibility. If access and motivation in the use of the system are not sustained from the beginning, progression for e-Learning, using this model, becomes a challenge. It is the opinion of the researcher that the foundation of a house is key in keeping the house standing.

The next stages (see figure 2.3), namely online socialisation, information exchange and collaborative learning are all built into the Mindset Health e-Learning system. Socialisation can be realised through the internet contact in planning, contact with developers at the Mindset Network offices and collaborative learning sessions, if there is a structured programme for using the Mindset Health e-Learning system.

Compared to the demand-driven model, which focuses more on the experts and academics, the delivery of effective, user-friendly services poses similar impeding aspects (see figure 2.4). According to the superior structure in figure 2.4, learner needs, programme goals and learner evaluation are addressed, while the learner motivation, learning environment, pedagogical strategies, as well as learner convenience are neglected, reflecting again on the previous
discussion concerning the Salmon five stage model. Compared to this model, the content is appropriate and necessary, while the delivery is innovative and acceptable. However, this e-Learning system is not utilised in order to facilitate professional development.

From a comparison of the Mindset e-Learning system with Garrison and Anderson’s community inquiry model (see figure 2.5), it is evident that the system is developed to create a cognitive presence, if the social and teaching presences are formalised, because the content is indeed present for learning. However, as mentioned before, if the learner identifies himself / herself as an adult learner, using the Mindset Health e-Learning system for professional development, motivated by the learning presence, which focuses on teaching and learning strategies for his / her professional development, the Mindset e-Learning system can be an ideal platform for professional development.

3.8 Summary

Emphasised by the need, legislation and ethical convictions for professional development, Mindset Network developed and installed an e-Learning system for nurses’ professional development at public hospitals. Although this system is an ideal learning tool, it is minimally utilised by nurses in their professional development. The researcher subsequently scientifically explored the deeper reasons for the poor usage of this e-Learning system. The methodology for this research follows in the next chapter.