

“The conceptualisation of e-Learning at the public sector”

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The conceptualisation of e-Learning in the public sector

Abstract

The South African public sector is faced with many challenges and one of the major challenges is service delivery. This is linked with skills shortage resulting in public service having too many people to train in a short period of time. Training these many employees face-to-face has its challenges, as employees have to be away from their day-to-day duties to attend training and this not only has an impact on productivity, but also maximizes costs. To deal with and to minimize these challenges, the South African government has chosen to introduce e-Learning in public sector. This is aimed at ensuring that larger numbers of government officials are trained at minimum costs and ensuring that training reaches people with different responsibilities such as top management and people with families who cannot afford to be away from home or office for training for long periods of time. This study examined the advantages and disadvantages of the introduction of e-Learning in the public sector, the importance of strategic planning for e-Learning, the challenges faced by the public sector when it comes to training, how other organizations internationally have conceptualized e-Learning and what the public sector is hoping to achieve by introducing e-Learning. The gaps in the conceptualization of e-Learning in the South African public sector were identified and possible solutions including a paradigm shift from a reductionist way of thinking to a systems way of thinking and doing things was recommended.

Keywords: e-Learning, public sector, benchmarking, conceptualization.

JEL Classification: H83, A2, G21.

Introduction

The application of electronically-based technology is advancing dramatically and will increasingly impact our lives. The public sector uses technology in order to deal with multiple challenges faced at local and international levels. These challenges include service delivery at various stages within our communities to improve the quality of life and to improve productivity through empowering employees with the required skills. Electronic learning (e-Learning) is viewed as the cheapest and most effective way in which organizations in the public sector provide their employees with continuous learning opportunities to improve organizational outcomes (Langford & Seaborne, 2003, p. 50). E-Learning, because of the way it is presented, is said to provide equal opportunities, as this is the biggest challenge for South Africa (Bagarukayo & Kalema, 2015, p. 171).

The purpose of this study is to focus on the conceptualization of e-Learning in the South African public sector. This includes identifying and understanding how the concept of e-Learning in the South African public sector came about and what processes were followed in conceptualizing e-Learning.

1. Motivation

Education is a tool that empowers people by giving them the necessary skills and means so that opportunities can be created for personal growth and

growth in the economy (Omer, Klomsri, Tedre, Popova, Klingberg-Allvin & Osman, 2015, p. 268). Many public sectors around the world and some in South Africa have introduced e-Learning within their organizations. According to Hur and Im (2013, p. 192), the Korea Central Officials Training Institute (COTI) introduced e-Learning for Korean government employees in 2009. Langford and Seaborne (2003, p. 59), describe how e-Learning became significant in the Canadian public sector. Tamasane, Patel and Mamogale (2004, p. 3) state that the department of health in Free State province (South Africa) conducted research on how they could increase the number of trained employees while reducing the costs of the face-to-face method. They implemented e-Learning and were successful in increasing the number of trained employees at less cost. The National Treasury developed an e-Learning program which provides risk management support to public entities. This tool is used by the National Treasury to test users within the public institutions in order to understand their level of knowledge, skills and/or awareness regarding the public sector risk management framework.

2. Background to the public sector involvement in e-Learning

The Department of Public Service and Administration (DPSA) is responsible for overseeing all the government's administration. Their mission is to make sure that all standards and norms are followed and to intervene when it comes to maintaining an obedient public service that is functioning. Their role is also to ensure that the public service which relates to the functioning of the public service in relation to organizational structures, creation of departments, labor relations, employee wellness, electronic government, transformation, reform and innovation

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and integrity, ethics and anti-corruption. DPSA has a responsibility to ensure that there are good career development practices in place so that the human potential of their employees can be examined and nurtured. This is one of the reasons why DPSA has looked into introducing e-Learning in the public sector.

The National School of Government (NSG) is a national department which is a training institution for the public servants of South Africa. The main aim of the NSG is to ensure that the public sector is in a position and is capable of delivering services to the public and to address the challenges of poverty and inequality. The NSG plans to do this by designing learning and development programs which will produce a professional, capable and responsive sector. The South African government has identified how critical learning is a necessity for future development. The NSG is, therefore, responsible for ensuring learning and development programs that will improve the performance of the public sector. One of the ways for NSG to improve performance through learning is by introducing e-Learning.

The main aim of the Gauteng City Region Academy (GCRA) is the promotion of quality education through training and skills development in the Gauteng province. It tries to build the relevant skills in the ever growing Gauteng economy. It is also responsible for offering management and leadership as the necessary skills in order to improve public sector employees so that the socio-economic imperatives of Gauteng can be improved.

The provincial government of the Western Cape is responsible for ensuring that sustainable economic and employment growth conditions are created and that they deliver clean, efficient, cost effective, transparent and responsive public administration and public services in the Western Cape Province.

3. Focus of the study

This study was focused on the public services that have conceptualized e-Learning in South Africa and those who have already started implementing e-Learning. These public services include DPSA, NSG, GCRA and the provincial government of the Western Cape. The main focus was to gain an understanding of the conceptualization of the e-Learning process and how decisions were made during the conceptualization phase.

4. Literature review

4.1. What is e-Learning? In order to have an understanding of what e-Learning is, one must understand what learning is, as the process starts with learning. Learning is a process whereby individuals

obtain new skills so that they can increase their knowledge and, in the process, improve their performance and productivity (Kok, 2013, p. 20). The main objective of learning is to improve an employee's performance so that the organization can meet its goals, be it to maximize profit in the private sector or to improve service delivery in the public sector.

Kok (2013, p. 20) defines e-Learning as an innovative way to enhance learning and education. Stoltenkamp (2012, p. 145) defines e-Learning as occurring when students use electronic technology to simplify the process of learning, which is done by making courses that already exist available online. Behera (2013, p. 65) states that e-Learning includes all methods of electronically supported learning and is the use of knowledge that is expedited mostly by electronic means. He further states that e-Learning is a new innovation that is assisting students and provides greater opportunities for students. According to DPSA (2015, p. 4) and Ellis and Kuznia (2014, p. 1), e-Learning is training which is conducted using Information and Communication Technologies (ICTs) as a tool for learning online. E-Learning has enabled access to new educational opportunities that was not available before, because it breeds a new way of thinking and adds to the improvement of collaboration and interaction between members (Pamfile, Bumbac & Orindaru, 2014, p. 374).

4.2. Why e-Learning as opposed to orthodox learning. There are many reasons why organizations and learning institutions have introduced e-Learning as opposed to orthodox learning. Traditional learning has yielded some successes, but with the technological advances, traditional learning is faced with many challenges, hence, the need to introduce e-Learning so as to deal with these challenges. It is becoming more difficult to get access to information using traditional means (Indereica, 2014, p. 237). According to Cirnu et al. (2014, p. 400), in the modern times that we live in, e-Learning is a way of transferring knowledge and it impacts the operations of organizations.

4.3. Advantages of e-Learning. There are many advantages to organizations of e-Learning, but Sitnikov, Kryk, Zhuravleva and Chupakhina (2010, p. 43), Balasubramanian et al. (2014, p. 5654) and Ellis and Kuznia (2014, pp. 1-2) have narrowed them down to the following:

- ◆ Experts that are identified by instructors can add value by sharing their knowledge in the learning process even when they are across borders.
- ◆ Organizations do not need to hire staff to develop learning material. All of this can be done online.
- ◆ Staff do not have to physically go and attend classes in one location; they can study and learn in the comfort of their homes or at work.

- ◆ Organizations can save costs, because some training courses are very far from the individual's base meaning the organization must pay for accommodation, meals and transport, whereas with e-Learning all those costs are minimized.

4.4. Disadvantages of e-Learning. E-Learning has its own challenges. Ellis and Kuznia (2014, pp. 4-5) mentioned that organizations might face a situation where their employees are not fully equipped technologically, making it hard to introduce and implement e-Learning. Another challenge is resistance. Some employees might be resistant to change and it is very hard to deal with resistance (Ellis & Kuznia, 2014, p. 5). According to Stoltenkamp (2012, p. 146), e-Learning must not replace traditional learning; both traditional and e-Learning should be blended together in order to achieve better production, better service delivery, leading to better equipped and skilled employees.

Tarus, Gichoya and Muumbo (2015, pp. 131-133), writing about the situation in Kenya, highlighted a number of challenges that might have an impact on e-Learning implementation:

- ◆ Not having proper ICT infrastructure such as computer labs, computers and network/internet connectivity.
- ◆ Expense of internet bandwidth.
- ◆ Some universities in Kenya do not have e-Learning policies making it hard to implement e-Learning.
- ◆ Developing e-Learning content takes time and needs a lot of resources such as computers.
- ◆ The teachers and learners might not be committed to use e-Learning, because they might not be motivated and this could be due to them not being involved in the conceptualization of the e-Learning process.
- ◆ e-Learning needs technological skills, as it is conducted using electronic devices. The lack of skill may make it difficult to benefit from the advantages of e-Learning.

4.5. Benchmarking. Benchmarking is comparing standards with the aim of changing an existing state or improving performance by being educated about possible improvements. Bacsich (2010, pp. 9-10) provided some background on where benchmarking originated. Benchmarking was initiated in the United States (US) due to the pressure being experienced in the competitive market. It is important that individual institutions get a clear understanding of their own positions on e-Learning and to measure themselves against organizations with the same goals. Grifoll et al. (2010, p. 33) identified that there are ten good reasons why participating in benchmarking is important and these are:

- ◆ The organization can conduct a self-assessment to gain insight into themselves.
- ◆ Gaining an in-depth understanding of the organizational processes that are currently in place.
- ◆ Measuring and comparing the organization with similar organizations.
- ◆ Being innovative through discovery of new ideas while conducting the benchmarking process.
- ◆ Engaging in research, because data obtained will assist decision makers to make more informed decisions.
- ◆ Setting new targets in order to improve the organization.
- ◆ Strengthening the institution's identity and, in the process, improving the institutions reputation.
- ◆ Gaining insight on how best to formulate strategy and implement it.
- ◆ Improving response to national performance indicators and benchmarks.
- ◆ Being able to set new standards in the learning environment.

Once the e-Learning has been measured for quality standards and has gone through the benchmarking process, organizations must be in a position to be able to know how they are going to measure the success of e-Learning.

4.6. Measuring the success of e-Learning. According to Tarus et al. (2015, p. 121), e-Learning success depends on sufficient technical skills of the instructors and the students in order to use the e-Learning tools in an effective way.

In order for e-Learning to be successful, the e-Learning activities must be linked to an innovative culture (Cirnu et al., 2014, p. 401). According to Cirnu et al. (2014, p. 401), the success of e-Learning is also based on the morals of people that will be participating in e-Learning and how ready these participants are for this type of learning.

Balasubramanian et al. (2014, p. 5653) stated that just as with traditional learning, there are two factors involved in measuring the success of e-Learning: a) is the learning completed at the time it was planned to be completed, b) is the knowledge that was supposed to be acquired from the course actually acquired?

Andronie (2014, p. 34) states that e-Learning is measured in terms of technological performance. There are a number of benefits associated with measuring the performance of educational programs with e-Learning including improving the effectiveness of the training. Measurement shows whether the investment to implement an e-Learning system is justified (Andronie, 2014, p. 34).

4.7. Linking e-Learning to strategic planning. Most organizations have a strategic plan. This is a plan that applies to the whole organization, when the vision of the organization is created and translated into a mission statement that can be used to measure short, medium and long term goals (Brevis & Vrba, 2014, p. 238). Kok (2013, p. 20) mentions how important an integrated learning strategy is for e-Learning to be effective and how some companies have adopted e-Learning without having a strategic view of its development. It is essential for organizations to be able to properly determine their training strategy so that they can meet the demands from their clients/the public (Sitnikov et al., 2010, p. 41). Ellis and Kuznia (2014, p. 3) stated the importance of aligning e-Learning to the company's strategy.

4.8. Systems thinking approach. The literature presented thus far has concentrated on linear, mechanistic and reductionist thinking in trying to understand e-Learning and what it entails, and the conceptualization of the e-Learning process. This section of the literature review takes a different approach and views e-Learning through a systems thinking approach. There must be something that leads to any organization – be it private or public sector – introducing e-Learning and, in most cases, it arises from the need to address certain complex problems such as improvement of technology and its impact in the public sector's way of doing things or addressing the time issue where employees do not have time to go to a classroom away from work to learn. This has led to some authors introducing the systems thinking approach as a way to try and deal with complexity. According to Jackson (2003, p. 3), a system is a whole which is made up of a number of parts that interact and work with each other. A system resides in an environment that has boundaries. Neumann (2013, p. 82) defines a complex problem as a problem where it is hard to predict its future, because it is hard to fully understand the problem. Complexity, on the other hand, involves a huge number of interactions and underlying forces twigs from feedback loops where one variable depends on the other variable (Neumann, 2013, p. 82). This brings us to the definition of systems thinking, which states that systems thinking is a holistic way of looking at problems where one looks at how the parts of the organization interact in order to deal with complexity in a creative way and this brings about change and diversity (Jackson, 2013, p. 3).

4.8.1. From reductionism to systems thinking. Reductionism is the traditional scientific way of understanding and studying systems. This is when a system is understood from the parts leading to the whole. The problem with this way of understanding a

system is that it does not deal with complexity and, in some cases, one may not be able to identify the whole from the parts (Neumann, 2013, p. 82).

4.8.2. System dynamics. Systems dynamics is important in determining the structure of the organization in complex systems, as management must make sure that the behavior of the system is in line with the organization's goals (Jackson, 2003, p. 67). Jackson (2003, p. 67) insists that there must be boundaries that are defined in order to include the parts that interact to influence the behavior and allow for the parts that do not contribute or influence the behavior to be excluded. The key driver of performance and behavior over time of a dynamic complex system is feedback loops (Kunc, 2012, p. 30). These feedback loops can either be positive or negative. The positive feedback loops support change and the negative feedback loops inhibit or hinder change (Caldwell, 2012, p. 152). According to Riley et al. (2015, p. 50), feedback loops are essential in using knowledge to inform action during decision making and they contribute to the generation of factual information that can be used by policy and practice organizations. Through feedback loops, the organization can get an understanding of what the system in focus is and the relationships and interests of the stakeholders.

4.8.3. Hard systems thinking. The birth of operational research, systems analysis and systems engineering and their similarities has led to the emergence of hard systems thinking. According to Jackson (2003, p. 47), hard systems thinking is a way of dealing with real world problems. Hard systems thinking uses models which are intended to capture how the systems work and make it easier to identify problems (Jackson, 2003, p. 50). It is important to note that models do not state that they symbolize or represent anything in the real world, they are simply ways of thinking which lead to ways of improving problematic situations. Hard systems thinking works best when the problem is properly defined and carefully analyzed (Dawidowicz, 2011, p. 2). With hard systems, the problem is known and perhaps what the solution will be is also known; the main aim is to enhance knowledge of the problem by improving models.

4.8.4. Cybernetics. The Viable System Model (VSM) was created by Stafford Beer and is centred on cybernetics (Hildbrand & Bodhanya, 2013, p. 3). The VSM can be applied in any company whether small or large including the public sector. According to Hildbrand and Bodhanya (2013, p. 3), VSM identifies the most important features that make the systems viable meaning the system's ability to

change with its environment, to exist independently and to be able to sustain itself even with the internal and external factors at play.

5. Research methodology

This section outlines the aim of the research and also shows a plan that was used to conduct the study, including the participants and location of the study, research approach, sample size and data analysis methods used.

5.1. Objective of the study. The objectives of the study are:

1. To investigate why the South African public sector introduced the concept of e-Learning as opposed to orthodox learning and whether e-Learning quality standards for consumer protection were conducted?
2. To identify key features of the South African public sector e-Learning strategic plan, who was involved in the conceptualization of e-Learning process and what approach was used?
3. To investigate the challenges facing the South African public sector prior to introduction of the e-Learning concept and whether there was any coordination with the private sector?
4. To investigate what the South African government is hoping to achieve by introducing e-Learning for the public sector and what are the key indicators for measuring the success of this introduction.

5.2. Research questions. This study aimed to answer the following research questions:

1. Why did the South African public sector introduce the concept of e-Learning as opposed to orthodox learning and were e-Learning quality standards for consumer protection conducted?
2. What is the South African public sector e-Learning strategic plan, who was involved in the conceptualization of e-Learning process and what approach was used?
3. What were the challenges facing the South African public sector prior to the e-Learning concept and was there any coordination with the private sector?
4. What is the South African government hoping to achieve by introducing e-Learning for the public sector and what are the key indicators for measuring the success of this introduction?

5.3. Participants and location of the study. Since the study is based on understanding the conceptualization of e-Learning in the public sector, the individuals that were selected are the individuals who were involved in the conceptualization of e-Learning in the South African public sector, as they are the ones with an in-depth understanding of the idea behind it and what processes were followed.

The interviews for the study were conducted at the DPSA head office in Gauteng Pretoria, at the NSG head office in Gauteng Pretoria, at GCRA in Johannesburg and telephonically with participants from DPSA head office in Pretoria and telephonically with participants from provincial government of the Western Cape. The study focused on one-on-one interviews with one participant from DPSA, a telephone interview with one participant from DPSA, a focus group with three participants from NSG, one-on-one interview with one participant from GCRA and a telephone interview with one participant from provincial government of the Western Cape. There was a set of 12 open ended questions that guided the interviews.

5.4. Research approach. This research study was conducted using qualitative techniques to collect primary data, as the study required an in-depth understanding of the conceptualization of e-Learning. This study used the case study approach with the aim of understanding what happened in the conceptualization of e-Learning phase. In-depth interviews were conducted where there was a standardized set of open ended questions which the participants were asked. This allowed for clarity and a more detailed explanation from the respondents in order to understand the meaning of the participants answers. This method had the advantage of permitting the information to be analyzed more easily and allowed for the comparison of notes on the views and opinions of the participants. The other method to collect data that was used was reviewing of documents which were obtained from DPSA and GCRA. These documents were very important, as they assisted in strengthening the information gathered through interviews and covered questions that were not answered during the interview process.

5.5. Sampling. This study made use of non-probability sampling. Purposive sampling was applied. Du Plooy-Cilliers et al. (2014, p. 142) state that purposive sampling is when the researcher chooses who to interview (who to include in the sample) based on a set of characteristics. Snowball sampling was applied where the researcher identified the relevant participants from DPSA who gave referrals of participants who were also involved in the conceptualization of the e-Learning in the South African public sector.

The sample covered all the government departments that were involved in the conceptualization of e-Learning in the South African public sector. This included the DPSA, GCRA, provincial government of the Western Cape and the NSG. The following participants were interviewed:

- ◆ Participant 1: DPSA government official (Policy Specialist).
- ◆ Participant 2: DPSA government official.
- ◆ Participant 3: GCRA government official.
- ◆ Participant 4: provincial government of the Western Cape Official.
- ◆ Focus group from the NSG three government officials who were participants A, B and C.

All participants were asked the same questions.

5.6. Pre-testing. Pre-testing was conducted on the interview guide in order to see if the questions were clear and understandable and to assess if the desired outcomes of the interview were achieved. The necessary adjustments were made.

5.7. Data collection. Data were collected from interviews with several participants from DPSA, the NSG, GCRA and provincial government of the Western Cape who were involved in the conceptualization of e-Learning in the South African public sector, in order to get a broader understanding of the topic. Semi-structured interviews based on 12 open-ended questions were conducted on a one-on-one basis, telephonically and with one focus group.

5.8. Data processing. Data processing steps prescribed by Henning, Van Rensburg and Smit (2004) for qualitative research were used. The coding and other steps are outlined in Figure 1.

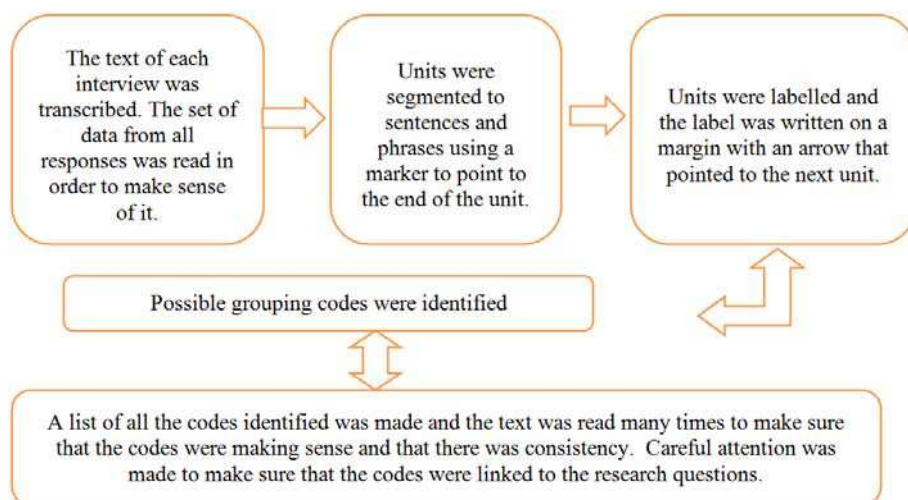


Fig. 1. Qualitative analysis research

Source: Adopted from Henning, van Rensburg and Smit (2004).

The interpretation of data and presentation are presented in the following sections.

6. Presentation of results and data analysis

Data collected from the participants in relation to each research objective are, then, presented. This data presentation shows similarities and differences of participants used in the study. Data are, then, analyzed using codes where responses which were the same were grouped. Findings are analyzed in relation to insights from the literature review.

6.1. Why e-Learning as opposed to orthodox learning? Participants were asked to elaborate on why e-Learning was introduced. The themes that emerged were capacity building, cost effectiveness, and easy access of information.

Participant 3: The government needs to train too many public servants and face-to-face training can be very costly. In the orthodox learning, travelling was a problem and also costly so there was a need to save costs and e-Learning has saved up to 20% of the costs of training at Gauteng City Region

Academy (GCRA), since they have implemented e-Learning.

Participant 1: e-Learning was introduced for easy access to information, for self-professionalism and to introduce uniformity standards of e-Learning in government departments. There are 156 government departments and +/- 3 million government employees. There is a need for building capacity so the possible solution was to build capacity using one e-Learning policy framework for standardization.

Participant C: e-Learning was conceptualized with the aim to widen the reach and give more access to people beyond the borders of the traditional classroom.

Literature review: Literature has revealed many reasons why e-Learning is preferred over orthodox learning. According to Sitnikov et al. (2010, p. 43), Balasubramanian et al. (2014, p. 5654) and Ellis and Kuznia (2014, pp. 1-2), with e-Learning, information can be shared across borders and people do not have to be at the same place or area to learn. Everything can be done online without hiring instructors to teach the learning modules. There is

no need for employees to be physically present at a set venue taking them away from work during office hours and they can learn at home. Further, e-Learning can save costs, because, in most cases, when employees attend courses, they have to be accommodated, transported and provided with meals. According to Arthur-Mensah and Shuck (2014, p. 42), e-Learning is used to meet the high demands of consumers.

6.2. Quality standards of e-Learning and benchmarking. When the participants were asked to elaborate on consumer protection, there were mixed responses provided by the participants.

Participant 3: The GCRA did not conduct quality standards for consumer protection, because they converted face-to-face courses directly to e-Learning. The face-to-face courses that they converted to e-Learning have gone through the quality standards for consumer protection. According to the participant, SAQA does not want to recognize online courses. Similar responses were provided by Participant 4.

Participant C: Most of the e-Learning courses offered are accredited with PSETA. The NSG courses go through an internal quality assurance process. Thereafter, it is submitted for approval to the relevant Quality Assurance Authority. National Treasury is an example of a partner; financial and supply chain management programmes are verified by National Treasury to ensure the correctness, usefulness and relevance of the courses for the public sector context. The programs are reviewed internally, but if they do not have the subject matter expertise the NSG sources in.

Literature review: The literature reviewed supports the data gathered from the participants. The quality of education should indicate the relationship between learning, the goals learning outcomes, the standards and demands together with the requirements outlined by the organizations (Grifoll et al., 2010, p. 8). Moreover, they say, quality assessment must include assessing the quality of academic staff, teaching equipment, the program, institution and research. According to Ellis and Kuznia (2014, p. 5), accurate evaluation tools must be utilized to analyze the quality of e-Learning. Neacsu et al. (2014, pp. 527-258) have identified a number of models which can be used for quality standards evaluation and they are:

- ◆ *CFDQ*: checks for accessibility, ease of interpretation, relevance for the end user and accuracy.
- ◆ *EQL*: used to assess the quality in e-Learning.
- ◆ *IDEA*: used to improve the quality of education.

Neacsu et al. (2014, p. 427) stated that in Europe, there are organizations that are responsible for developing quality standards in e-Learning, e.g., EFQUEL which

is responsible for offering the quality certificates for e-Learning, as their main aim is to make sure that the courses offered inline are of high quality standards.

Another way to ensure quality, according to literature, is through benchmarking. Alexander and Golja (2007, p. 18) highlight the importance of benchmarking, as it involves comparing and will lead to measuring e-Learning. According to Grifoll et al. (2010, p. 32), benchmarking is an approach to quality assurance and development.

Participant 1: Benchmarking was conducted with South Korea, Germany and Uganda and they also did their own pilots at a government program called compulsory induction program. This program is for new people joining government for the first time. They have to undergo the program for a year so some components of e-Learning were tested with them.

Participant 3: GCRA did not conduct international benchmarking, but they visited Singapore to see how they conduct their training and to discover how they can get more modern content. Locally, the department attended forums and conferences on e-Learning.

Participant B: Benchmarking was done as the NSG benchmarked with Brazil, Germany and locally they worked with universities who have already rolled out e-Learning.

6.3. Measuring the success of e-Learning. With regards to achievement from e-Learning, all the participants reported positively. They mentioned that more people including disabled people were being trained and educated.

Participant 1: The key indicators of measuring e-Learning success will be: an increase in the number of departments and employees who undertake their program through e-Learning; an increase in the number of departments that recognize qualifications which were obtained through e-Learning, and; to have a large number of people with disability obtaining their qualification through e-Learning.

Participant 3 on success indicators: There is a need to make learning in government more flexible and accessible and to deliver learning in the workplace, and to connect people irrespective of time and space.

Participant C: Success indicators will be the number of people trained, people's reaction to the training, if they actually learnt something and if they make a difference in the workplace. Transferring the learning in the workplace to make a difference and the ultimate aim is to improve service delivery.

Participant 4: e-Learning will be another training methodology to transfer knowledge and skills. The department is hoping to expand e-Learning and to make more modules available to everyone. In other

words, it is to accommodate everyone. The key indicators will be the application of knowledge and skills in the workplace.

Literature review: According to literature, this is in line with what different scholars have identified as the key indicators of success. According to Ellis and Kuznia (2014, p. 3) for e-Learning to be successful, the e-Learning process must benefit all the stakeholders. Balasubramanian et al. (2014, p. 5653), on the other hand, indicate that for e-Learning to be viewed as successful, the learning must be completed in the time that was allocated and the knowledge that was to be gained from training must be gained.

6.4. Private public partnerships in e-Learning. Coordination with the private sector is an important issue. With regards to e-Learning, there were positive and negative responses received from the participants when asked if coordination took place with the private sector or not.

Participant 1: in his interview reported: There was no coordination with the private sector they just took learning's from them. In Germany, they went to a private institution and the reason for the visit was to learn and to benchmark. The whole plan is for government to have their own e-Learning, because part of it is to provide mechanisms to protect the public sector from potential abuse.

Participant B: There was coordination with the private sector in terms of consultation. For example when the NSG had their first e-Learning indaba ETD specialists from Absa were invited to see how they do compulsory training by means of e-Learning. The NSG only consulted and they do not currently have private public partnerships. The NSG received funding to enhance and support e-Learning in the public sector.

Literature review: Literature supported the importance of PPP's. Tarus et al. (2015, p. 134) highlighted that PPP's are important, because the private sector and the public sector can work together to address educational and developmental issues. Although PPP's are important, the challenge of PPP's in the public sector is the issue of information security.

6.5. Strategic planning for e-Learning. There were mixed responses with regards to strategic planning for e-Learning.

Participant 3: GCRA has an e-Learning strategic plan. The e-Learning strategic plan does not talk to the overall government human resource development strategic plan because of the silos mentality in the public sector.

Participant C: The NSG has an e-Learning strategic plan which guides the implementation of e-Learning

by the NSG. The aim of the plan is to guide e-Learning and to achieve the objectives. The e-Learning plan is aligned with the overall NSG strategic plan.

Participant 1: The NSG will be rolling out the implementation of the e-Learning strategy as part of their mandate and other government departments will also take it forward. Each government department or government learning institution is to use the e-Learning policy framework to draw up their own e-Learning strategy from the bigger Human Resource Development Strategy.

Literature review: The literature highlighted the importance of a strategic plan. Kok (2013, p. 20) notes the criticality of having an integrated learning strategy for e-Learning to ensure that e-Learning is effective. According to Ellis and Kuznia (2014, p. 3), it is vital to align the e-Learning strategy to the overall strategy of the company, because everything that is done in organizations should be informed by the organizations strategy. Singh (2014, p. 560) indicates that it is important for organizations to include all stakeholders in the development of e-Learning strategy so that there will be minimum resistance in the implementation of e-Learning phase. Singh (2014, p. 558) also warns against the use of a top-down planning approach, as it eliminates the people who will implement the strategy.

6.6. Conceptualization process of e-Learning. With regards to the process followed to conceptualize the phase, there were different views manifested.

Participant 4: The provincial government of the Western Cape has no knowledge about the process that was done by DSPA to conceptualize e-Learning and the drafting of the e-Learning guidelines. DSPA does their own thing without consulting people who are doing the e-Learning e.g., the provincial government of the Western Cape.

Participant 1: The departments that were involved in the conceptualization of e-Learning phase are the NSG, DPSA, Office of Government Chief Information Officer (OGCIO), State Information Technology Agency (SITA), Gauteng City Region Academy, Department of communications and Department of Corporate and Governance. The other departments in the steering committee were there to assist with the approach and their experiences and they informed what was to be part of the document.

Participant 3: The process that was followed in the conceptualization of the e-Learning process was that government exposed themselves to e-Learning by going to the institutions that were implementing e-Learning to learn more about it and to see how it works. This was a process of conducting environmental scanning. When they bought into the

idea, the next step was to sell it to management and when management bought the idea, planning, in this regard, was done and documented.

Literature review: The review on literature up to some extent has similar processes that should be followed. Stoltenkam (2012, pp. 149-151) introduces an integrated e-Learning process which says that the process to be followed in e-Learning is: obtain the theoretical background of e-Learning; create awareness of e-Learning and develop an integrated e-Learning model.

Conclusions and recommendations

The main aim of this study was to understand the reasoning behind the conceptualization of e-Learning in the South African public sector. This was achieved by engaging literature and data collection through interviews with government officials who were involved in the conceptualization of e-Learning. The study explained a number of concepts with the aim of answering the research questions. This section concludes the study by highlighting how the research questions were answered. The section also looks at how the public sector can use a systems thinking approach to e-Learning. The implications of the research are emphasized and recommendations arising from the study are presented.

Research objectives addressed in this study.

A literature review was conducted in an effort to address the research questions with an aim to understand what scholars have to say about it. However, the literature did not cover the research questions in the South African context. This led to a more in-depth study, where qualitative research was conducted through collection of data which resulted in the findings discussed below.

The public service decided to introduce e-Learning in the South African public sector, because there is a need to build capacity. The public sector has too many government officials who must be trained and the training cost for orthodox learning is too expensive. E-Learning provides convenience, as one can study anywhere at any time and it accommodates all types of people from management to people with disabilities. Many scholars concur with the views of Sitnikov (2010, p. 43), Balasubramanian et al. (2014, p. 5654) and Ellis et al. (2014, pp. 1-2) that e-Learning does not require the students to be physically present, saves costs and keeps staff members skills up to date increasing the performance of employees.

According to Barker (2007, p. 109), quality standards are important, because they provide assurance of good quality. Quality standards of e-Learning are conducted in the South African public sector, as most of the public sector courses are

accredited by Public Sector Education and Training Authority (PSETA). Information gathered also reveals that there has been an extensive international benchmarking process involving South Korea, Germany, Uganda, Brazil, local and international universities. Benchmarking assists in comparing standards so as to encourage improvement.

A strategic plan provides guidelines that can be used for implementation. The study revealed that the South African public sector does not yet have a national e-Learning strategic plan. The DPSA has drawn up a policy and guidelines on e-Learning in the public sector, but this document has not yet been approved. This document, however, is not an e-Learning strategic plan, as DPSA has advised that each government department should draw up their own strategic plan drawing from the policy and guidelines on e-Learning in the public sector document.

Literature indicates that the process of conceptualization should include partners/shareholders right from the beginning of conceptualization to make sure that everyone understands what needs to be achieved. Singh (2014, p. 558) warns against using a top-down approach in developing learning strategies, as this may lead to resistance from the people who will be the ones implementing the program. It is clear from the data collected in this study that the conceptualization process followed a top-down approach, as there was no mention of engagements with the government officials who will be learning through e-Learning. Other public services do not have an idea that the DPSA has drawn up policy and guidelines on e-Learning in the public sector and an official indicated that the DPSA does things in silos. The DPSA did not involve all the government departments that have been involved in e-Learning in their planning session to draw up the abovementioned document.

There are many challenges faced by the South African public sector when it comes to learning. The training that they offer becomes more about money that the officials can get (subsistence allowance) from going to the training when they have to train away from home rather than the content. There are too many riots due to the public not being happy with service delivery and according to data collected this could be because of unskilled government officials. The public sector is hoping to minimize these challenges with introducing e-Learning.

The South African public sector did not coordinate with the private sector in conceptualizing e-Learning but did consult that sector. The government departments that are currently coordinating with the private sector are planning to source all the expertise

and services internally. Kebaetse et al. (2014, pp. 46-47), Gherman and Predonu (2013, p. 405) and Debande (2004, pp. 201-202) emphasized the importance of private public partnerships in order to meet public needs. Although the abovementioned scholars support private public partnerships with the public sector, there is a concern regarding information security in such partnerships.

There are many benefits that the South African public sector can achieve from introducing e-Learning, namely, having productive, efficient and effective government officials. This will lead to an improvement in service delivery, as more officials will be equipped with the necessary skills to perform their duties.

E-Learning success can be measured by the value it has for all its stakeholders (Ellis & Kuznia, 2014, p. 3). From the interviews conducted with government officials in this study, it is not clear whether they have a way of measuring the success of e-Learning. This could be because some of them do not have a strategic plan which outlines the objectives to be achieved.

Systems thinking in e-Learning. The challenges facing the public sector are complex problems. Certain scholars have come up with a way to deal with complexity which is known as systems thinking. According to Neumann (2013, p. 82), complexity is when there is a large number of interactions where there are feedback loops and the variables depend on each other. It is, therefore, important to look at the public sector in a systems thinking way meaning that it should be looked at in a holistic view moving away from the traditional reductionist way of studying problems. The systems approach is going to challenge the way in which the South African public sector has conceptualized e-Learning up until now, which is to predict expectations, guarantees and the final answer, which is to assume that patterns repeat themselves (a linear process).

According to Riley et al. (2015, p. 50), complex problems do not contain patterns that repeat themselves so one cannot guarantee the results. Because of this, using a formula based approach is not ideal, because situations are never exactly the same. The systems thinking approach assists in moving away from a silo mentality. The public sector exists in an ever changing complex environment and, therefore, there needs to be a paradigm shift. Jackson (2003, p. 67) states that management must ensure that the behavior of the system is in line with the organization's goal. With dynamic complex systems the key driver of performance and behavior over time is feedback loops (Kunc, 2012, p. 30). According to Caldwell (2012, p. 152), there are both positive and negative feedback loops where the positive feedback loops support change and negative feedback loops are

against change. In e-Learning, feedback loops are important, as they inform decision making which can be used by policy and practice organizations and in understanding the relationship and interests of the stakeholders.

Hard systems thinking is another method that can be used in e-Learning, as it is a way of dealing with real world problems through the use of models. With hard systems, the problem is known and sometimes even the solution is also predicted. One of the models that can be utilized for e-Learning is the VSM which, according to Hildbrand & Bodhanya (2013, p. 11), is suitable, as it supports management when they have to deal with complexity and, in this case, e-Learning.

As much as management can adopt hard systems in e-Learning, it would be more advantageous for management to adopt a soft systems methodology, as this deals with wicked problems and is more able to accommodate the human aspect. Challenges faced by the public services are wicked, because there challenges all the time which lead to disastrous impacts. According to Jackson (2003, p. 181) with SSM, there are different models that the public sector can use which draw a rich picture to visualize the problem.

Limitations. There were a number of limitations in this study:

- ◆ Resources, e.g., funding were a constraint, because a key participant was a government official based in Cape Town. This official had been part of the conceptualization of e-Learning in the public sector. There were no funds to travel to Cape Town to conduct a face-to-face interview so a telephonic interview was conducted instead.
- ◆ One of the participants had an unforeseen circumstance and could not be interviewed on a face-to-face basis and this resulted in a telephone interview.
- ◆ A certain government department did not allow for one-on-one interviews and, instead, arranged for the whole team to be interviewed, leading to a focus group interview being set up.
- ◆ The intention was to interview ten participants, but due to the unavailability of some government official's, only four participants were interviewed on a one-on-one basis and one focus group was conducted which consisted of three participants.

Implications of this research. This study is going to benefit the South African public sector, as e-Learning is new in the South African government. There have been very limited studies on e-Learning in the public sector so the study will give an insight into e-Learning and will assist the South African government to identify gaps in the conceptualization

of e-Learning. The literature review identified several sources that can be helpful to the development of e-Learning in the South African public sector including how to measure progress and identify any causes of failure or challenges in the implementation phase.

Recommendations

Based on the literature review, the information gathered from the participants and analysis of the findings, the following recommendations are proposed by the researcher:

- ◆ The public service needs to revisit the conceptualization phase to assess what can be accomplished better during the process and consider how to including all public services that have introduced and are implementing e-Learning in the overall conceptualization phase. This will be beneficial, as more understanding of e-Learning can be gained from all departments who have implemented it, because they are the ones with experience of what works and what does not.
- ◆ A national strategic e-Learning plan should be drafted, as this will assist in measuring the success of e-Learning in terms of the objectives of e-Learning and establish standardization in the public sector when it comes to training. A strategic plan is a roadmap and which can also provide guidelines for measuring outcomes. At present, all the public services that are implementing e-Learning are doing their own thing (working in silos) and have different views on the reasoning behind introducing e-Learning.
- ◆ The public service should look into a systems thinking approach as a way of diagnosing and dealing with the challenges facing the public sector, because the study has proven that these challenges cannot be solved using a linear process as they are wicked complex problems which are beyond just the training of public servants.

References

1. Alexander, S. and Golja, T. (2007). Using students experiences to derive quality in an eLearning system: An institutions perspective, *Educational technology & society*, 10 (2), pp. 17-33.
2. Andronie, M. (2014). Measuring the eLearning and distance learning systems performance, *Proceedings of the 11th international scientific conference eLearning and software for education Bucharest*, April 24-25, Volume 1, pp. 33-40.
3. Andronie, M.I. and Andronie, M.A. (2014). Quality management systems and standards for education, *Proceedings of the 10th international scientific conference eLearning and software for education, Bucharest*, April 24-25, Volume 3, pp. 442-447.
4. Arthur-Mensah, N. and Shuck, B. (2014). Perspective in HRD-eLearning in developing countries: Implications for workforce training and development in Africa, *New horizon in adult education and Human resource development*, 26 (4), pp. 41-46.
5. Bacsich, P. (2010). Benchmarking eLearning in UK Universities: Lessons From and for the International Context, *Open praxis*, 4 (1), pp. 9-17.
6. Bagarukayo, E. and Kalema, B. (2015). Evaluation of eLearning usage in South Africa universities: A critical review, *International journal of education and development using information and communication technology (IJEDICT)*, 1 (2), pp. 168-183.

Contribution of study. This study aimed to make a meaningful contribution to e-Learning in the public sector. The conceptualization process presented provides a framework and guidelines for the public sector in South Africa. For the South African public sector to deal with skills shortage, more innovative ways need to be established.

This study contributes to e-Learning practice in the public sector, firstly, by highlighting processes that needs to be followed in order to conceptualize e-Learning in an effective and efficient way. Furthermore, the study provides a framework and guidelines of the conceptualization process which have proven to be successful as it has led to a more flexible way of learning for the public sector.

Secondly, this study gives a more in-depth understanding of e-Learning practices in the South African public sector which, in turn, contributes to the current body of knowledge. The study shows a deeper understanding of theoretical underpinning for e-Learning practices.

Lastly, the conceptualization process above shows the need for a paradigm shift. E-Learning must be conceptualized using a systems thinking approach which is the holistic approach. We must move away from using the reductionist approach, because it fails to cope with the problems of complexity.

Recommendations for future research. This study recommends that an assessment of the implementation of e-Learning in the South African public sector be conducted, since some public sectors have implemented e-Learning since 2007. This will assist is assessing if the objectives outlined in the conceptualization phase of e-Learning are met or not with the aim of improving and filling in the gaps of the conceptualization phase so that better quality training can be provided to South African public officials.

7. Balasubramanian, S., Badrinath, V., Vijayabanu, C. and Vijayanand, V. (2014). E-Learning drivers – An empirical study with special reference to Indian IT Organizations, *International journal of applied engineering research*, 9 (19), pp. 5653-5662. Available at: <http://www.ripublication.com>.
8. Barker, K.C. (2007). ELearning quality standards for consumer protection and consumer confidence: A Canadian case study in eLearning quality assurance, *Educational technology & society*, 10 (2), pp. 109-119.
9. Behera, S.K. (2013). E- and M-Learning: A comparative study, *International journal on new trends in education and their implications*, 4 (3), pp. 65-78.
10. Brevis, T. and Vrba, M. (2014). *Contemporary management principles*. Cape Town: Juta & Co. Ltd.
11. Caldwell, R. (2012). Systems thinking, organizational change and agency: A practice theory critique of Senge's learning organization, *Journal of change management*, 12 (2), pp. 145-164. Available at: <http://dx.doi.org/10.1080/14697017.2011.647923>.
12. Cirnu, C.E., Nedelko, V. and Potocan, Z. (2014). Economic culture as a necessary base for the development of eLearning in enterprises, Proceedings of the 10th international scientific conference eLearning and software for education, Bucharest, April 24-25, Volume 4, pp. 400-406.
13. Dawidowicz, P. (2011). The person on the street's understanding of systems thinking, *Systems research and behavioral science*, 29 (1), pp. 2-13.
14. Department of Public Service and Administration (DPSA). (2015). Policy and guidelines on eLearning in the public sector, ver. 5.0.
15. Du Plooy-Cilliers, F., Davis, C. and Bezuidenhout, R. (2014). *Research matters*. Cape Town: Juta and Co. Ltd.
16. Ellis, P.F. and Kuznia, K.D. (2014). Corporate eLearning impact on employees, *Global journal of business research*, 8 (4), pp. 1-15.
17. Gherman, M. and Predonu, M. (2013). The economy of public private partnerships; Learning from international experience, *Review of the European PPP market in 2013*, The European PPP expertise Centre (EPEC), pp. 405-413.
18. Grifoll, J., Huertas, E., Prades, A., Rodríguez, S., Rubin, Y., Mulder, F. and Ossiannilsson, E. (2010). Quality assurance of eLearning, *Workshop report 14*. Available at: <http://www.enqa.eu/pubs.lasso>.
19. Henning, E., Van Rensburg, W. and Smit, B. (2004). *Finding your way in qualitative research*. Pretoria, Van Schaik Publishers.
20. Hildbrand, S. and Bodhanya, S. (2013). The potential value of the viable system model as a managerial tool, *Management dynamics*, 22 (2), pp. 2-15.
21. Hur, M.H. and Im, Y. (2013). The influence of e-Learning on individual and collective empowerment in the public sector: An empirical study of Korean government employees, *The international review of research in open and distance learning*, 14 (4), pp. 192-214.
22. Indereica, E. (2014). eLearning platform: advantages and disadvantages on time management. Proceedings of the 10th international scientific conference eLearning and software for education, Bucharest, April 24-25, Volume 3, pp. 236-243.
23. Jackson, M.C. (2003). *Systems thinking: Creative holism for managers*. Hoboken, NJ: John Wiley and Sons.
24. Kebaetse, M.B., Nkomazana, O. and Haverkamp, C. (2014). Integrating eLearning to support medical education at the new University of Botswana School of Medicine, *The electronic journal of eLearning*, 12 (1), pp. 43-51.
25. Kok, A. (2013). How to manage the inclusion of eLearning in learning strategy, *Insights from a Turkish banking institution. Bogazici University of Istanbul, Turkey, International journal of advanced corporate learning (iJAC)*, 6 (1), pp. 20-27. Available at: <http://dx.doi.org/10.3991/ijac.v6i1.2341>.
26. Kunc, M. (2012). Teaching strategic thinking using systems dynamics: Lessons from strategic development course, *Systems dynamics review*, 8 (1), pp. 28-45.
27. Langford, J. and Seaborne, K. (2003). To click or not to click: E-learning for the public sector, *Canadian Public Administration/Administration Publique Du Canada Canada*, 46 (I), pp. 50-75.
28. Neacsu, M.G. and Adascalitei, A. (2014). Quality assurance eLearning resources for students. Proceedings of the 10th international scientific conference eLearning and software for education, Bucharest, April 24-25, Volume 2, pp. 526-530.
29. Neumann, K. (2013). 'Know why' thinking as a new approach to systems thinking, *Emergence: Complexity and organization*, 15 (3), pp. 81-93.
30. Omer, M., Klomsri, T., Tedre, M., Popova, I., Klingberg-Allvin, M. & Osman, F. (2015). eLearning opens doors to the global community: Novice users experience of eLearning in a Somali university, *MERLOT journal of online learning and teaching*, 11 (2), pp. 267-279.
31. Pamfilie, R., Bumbac, R. and Orindaru, A. (2014). Is eLearning a genuine setting changer for education field, Proceedings of the 10th international scientific conference eLearning and software for education, Bucharest, April 24-25, Volume 2, pp. 371-349.
32. Riley, B.L., Robinson, K.L., Gamble, J., Finegood, D.T., Sheppard, D., Penney, T.L. and Best, A. (2015). Knowledge to action for solving complex problems: Insights from a review of nine international cases, *Health promotion and chronic disease prevention in Canada*, 35 (3), pp. 47-53.
33. Singh, G. (2014). Managing top-down eLearning strategy and bottom-up culture in the adaptation of eLearning in higher education. Proceedings of the 10th international scientific conference eLearning and software for education, Bucharest, April 24-25, Volume 3, pp. 558-565.

34. Sitnikov, S., Kruk, B., Zhuravleva, O. and Chupakhina, N. (2010). Corporate eLearning strategy, *International journal of advanced corporate learning (iJAC)*, 3 (4), pp. 41-44. Available at: [doi:10.3991/ijac.v3i4.1462](https://doi.org/10.3991/ijac.v3i4.1462).
35. Stoltenkamp, J. (2012). Show-casing indicators to a changing organizational culture through the development of an integrated learning model: Indications of a changing organizational culture at the university of the Western Cape (UCW), *Problems of education in the 21st century*, 39, pp. 145-159.
36. Tamasane, T., Mamogale, M. & Patel, I. (2004). Enhancing skills development through e-learning, Case: 2003/01, *Centre for Public Service Innovation (CPSI)*. Available at: <http://unpan1.un.org/intradoc/groups/public/documents/cpsi/unpan019285.pdf>.
37. Tarus, J.K., Gichoya, D. and Muumbo, A. (2015). Challenges of implementing eLearning in Kenya: A case study of Kenyan public universities, *International review of research in open and distributed learning*, 16 (1), pp. 120-141.