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A study of the use of e-learning with relation to continuous professional development for tax practitioners in South Africa

Mini dissertation by

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ABSTRACT

A STUDY OF THE USE OF E-LEARNING WITH RELATION TO CONTINUOUS PROFESSIONAL DEVELOPMENT FOR TAX PRACTITIONERS IN SOUTH AFRICA

by

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With the wide application of the internet in various forms, one of the largest potential uses of the internet is for e-learning. The natural progression of e-learning for application to a higher level of education is continuous professional development. Continuous professional development is an important aspect for professionals enabling them to keep up to date with new developments and current learning objectives of their chosen field of expertise.

The application of the internet to the environment of e-learning has been researched and literature dealing with the application of e-learning towards obtaining continuous professional development credits exists. The applications that are being used on the internet were researched in order to identify which mediums are being used as tools for e-learning.

This study's specific purpose was to identify whether the potential existed for tax practitioners within South Africa to use the internet as a medium for continuous profession development.

The continuous professional development criteria of tax practitioners were scrutinised. A thorough investigation was carried out as to the current uses of the internet for professional development purposes. The criteria for continuous professional development of tax practitioners and the mediums used on the internet for e-learning were linked. A

further investigation was carried out to apply these tools used for continuous professional development within a South African context. Furthermore, use of the internet for taxation purposes was identified in an attempt to prove that the internet has current application for taxation.

This study was limited to the evaluation of the criteria of continuous professional development of the identified regulatory bodies. The study did not evaluate the models on which these continuous professional development strategies were based nor if they carried a sound platform for e-learning.

The research concluded that there is the possibility that the internet can be used in South Africa for the continuous professional development of tax practitioners although there is little use thereof at present.

Keywords:

Continuous professional development
e-Learning
Social networking
Tax practitioners
Web 2.0

OPSOMMING

'n STUDIE OOR DIE GEBRUIK VAN E-ONDERRIG MET BETREKKING TOT VOORTDURENDE PROFESSIONELE ONTWIKKELING VIR BELASTINGPRAKTISYNS IN SUID-AFRIKA

deur

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Met die wye toepassing van die internet in verskeie vorme, is e-onderrig een van die grootste potensiële gebruike van die internet. Die natuurlike verloop van e-onderrig vir aansoek om 'n hoër vlak van onderwys is deur middel van voortdurende professionele ontwikkeling. Deurlopende professionele ontwikkeling is 'n belangrike aspek vir professionele mense om hulle in staat te stel om op hoogte te bly met nuwe ontwikkelinge en huidige leer doelwitte van hul gekose veld van kundigheid.

Die toepassing van die internet na die omgewing van e-onderrig is nagevors en letterkunde wat handel oor die toepassing van e-onderrig vir die behaling van deurlopende professionele ontwikkeling krediete bestaan. Die aansoeke wat op die internet gebruik word is nagevors om te bepaal watter mediums gebruik word as instrumente vir e-onderrig.

Hierdie studie se spesifieke doel was om te bepaal of die potensiaal bestaan vir belasting praktisyns in Suid-Afrika om die internet te gebruik as 'n medium vir deurlopende professie ontwikkeling.

Die deurlopende professionele ontwikkeling kriteria van belasting praktisyns was onder die loep geneem. 'n deeglike ondersoek is uitgevoer op die huidige gebruik van die internet vir professionele ontwikkeling doeleindes. Die kriteria vir die voortdurende professionele

ontwikkeling wat deur die belasting praktisyns en die media gebruik word op die internet vir e-onderrig is gekoppel. 'n Verdere ondersoek was gedoen om vas te stel of hierdie gereedskap gebruik word vir voortgesette professionele ontwikkeling binne 'n Suid-Afrikaanse konteks. Verder is die gebruik van die internet vir belasting doeleindes in 'n poging bewys dat die huidige behoefte bestaan waar belasting aansoeke om die internet ge-prosesseer kan word.

Hierdie studie is beperk tot die evaluering van die kriteria van deurlopende professionele ontwikkeling van die geïdentifiseerde regulatoriese liggame. Die studie het nie die modelle evalueer waarop hierdie voortdurende professionele ontwikkeling strategieë gebaseer is nie, ook nie asof hulle 'n goeie platform vir e-onderrig noodwendig is nie.

Die navorsing gevolgtrekking dat daar die moontlikheid is dat die internet kan gebruik word in Suid-Afrika vir die voortgesette professionele ontwikkeling van belasting praktisyns hoewel daar min daarvan gebruik op die oomblik.

Sleutelwoorde:
Deurlopende professionele ontwikkeling *Belastingpraktisyns*
e-onderrig *Sosiale netwerk*
Web 2.0.

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ABBREVIATIONS

CIMA	Chartered Institute of Management Accountants
CPD	Continuous Professional Development
CPE	Continuous Professional Education
IRBA	Independent Regulatory Board for Auditors
SAICA	South African Institute of Chartered Accountants
SAIT	South African Institute of Tax Practitioners

A STUDY OF THE USE OF E-LEARNING WITH RELATION TO CONTINUOUS PROFESSIONAL DEVELOPMENT FOR TAX PRACTITIONERS IN SOUTH AFRICA

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

According to Abernathy (1999) " online learning is not the next big thing; it is the now big thing." Nichols (2008:2) tries to define e-learning as “pedagogy empowered by digital technology.” The original term e-learning was first used in 2000 when a number of new terms were simply coined by adding the letter “e” as a prefix. The letter “e” indicated that the word following, now had an electronic application to it. Currently the word e-learning has no predefined, universally accepted definition. (Dublin, 2003:1). A number of acronyms are closely associated with the term e-learning such as computer based training (CBT), internet based training (IBT) and web based training (WBT).

The fact that there is no clear definition of the term e-learning could either be a result of or the specific reason that the concept has not been as successful as its potential would indicate. Woodill (2004) critically analysed the e-learning industry. His study showed numerous failures within the ideology of e-learning and highlighted the shortcomings of implementation. The biggest indication of the failure of e-learning is the statistics. According to Woodhill (2004:2) 68% of workers in the survey would not sign up for a voluntary online course. This correlates with the 30% of people who refused to sign up for a compulsory online course (Woodhill, 2004:2). Of those who did sign up, between 50% and 80% never saw the course through to completion (Woodhill, 2004:2). There is an abundance of literature that supports these statistics and attempts to define the actual problems and short comings of e-learning.

Taking into account an altering definition as well as lack of acceptance by the intended users, this has naturally led to the underdevelopment of e-learning. Dublin (2003:2) tries to explain the reason for this underdevelopment. He mentions a number of myths regarding

the implementation of an e-learning strategy that should be scrutinised to contribute to a successful program. The reasons mentioned are substantial misconceptions that users and providers have regarding e-learning. Implementation of e-learning is an exercise of paradigm shifting as opposed to redevelopment of the e-learning concept.

The current global market for e-learning is estimated at $ 20 billion (US), and has increased tenfold from the year 2000 (Jayanthi, 2008). These figures were reported by the highly reputable brokerage firm CLSA Asia Pacific Markets who also go on to predict that the market will further increase to $ 52.6 billion by the end of 2010. The industry in total is growing between 10%-15% annually. (Jayanthi, 2008).

Since there is a market for e-learning, the implication is that there are certain attached advantages and benefits. Jones (2007) summarises these advantages as follows:

- **increased access**: With the "Global Village" coming ever closer together, information has no boundaries and international practices and communication between individuals in different countries are an everyday occurrence. This also enables greater flexibility by the learner as material and course content can be retrieved virtually anywhere. With the surge in development and release of new connection devices to the internet, accessibility becomes significant as a barrier to entry;
- **cost-saving:** This is achieved through the reduced costs on making content available on the internet. Printing costs are reduced and the need for a lecturer presenting a class is minimised. Direct cost savings for the student will include a decline in travelling costs as well as the purchasing of learning material. Intrinsically there is also a saving of time as travelling time is no longer needed and more time can be used for education. Also associated with the subject of cost saving is the new movement towards reducing one's carbon footprint;
- **real time access to up to date knowledge:** Students can instantly have timeous and correct information regarding their course. As knowledge sharing and acquisition is instant so higher levels of accuracy and efficiency are supported;
- **improved participation and group effort**: Previous one-on-one contacts with the education provider are now shared on an open platform. Other interactions that are listed include case studies, analogy sharing, demonstrations, role playing,

simulations, streamed videos, online references, personalized coaching and mentoring, discussion groups, project teams, chat rooms, e-mail, bulletin boards, tips, tutorials, FAQs, and wizards. Improved performance is substantiated by a study carried out by the United States Department of Education which concluded that students generally fare better while on a e-learning program (Means, 2009) in comparison with formal face to face tuition; and

- **the level of perceived intimidation is lower**: In an online environment students are more likely to attempt a task and have less fear of making a mistake as it can be more easily corrected, as well as attempting the question or task directly afterwards. The group as whole can contribute and if the process is designed properly the student's error will be explained from a more "where and why" scenario instead of just giving the correct answer. Concurrently the student also learns a number of soft skills in the course of fulfilling his main objective, for instance computer software and typing skills.

Taking into consideration the underdevelopment of e-learning as well as the advantages and benefits, this naturally paves the way for opportunity. A contributing factor to opportunity is access to e-learning. The internet is one resource that no one controls but which has the most potential. The South African government is making access to the internet as a social priority (Sabinetlaw, 2010). Attention is also being given to international increase in high speed broadband such as Seecom in South Africa. International statistics are available as to the exposure certain populations have to online access (table 1).

Table 1: World internet usage and population statistics

World Regions	Population (2009 Est.)	Internet Users Dec. 31, 2000	Internet Users Latest Data	Penetration (% of Population)	Growth 2000-2009 (%)	Users (% of world)
Africa	991,002,342	4,514,400	65,903,900	6.7	1359.9	3.9
Asia	3,808,070,503	114,304,000	704,213,930	18.5	516.1	42.2
Europe	803,850,858	105,096,093	402,380,474	50.1	282.9	24.2
Middle East	202,687,005	3,284,800	47,964,146	23.7	1360.2	2.9
North America	340,831,831	108,096,800	251,735,500	73.9	132.9	15.1
Latin America/Caribbean	586,662,468	18,068,919	175,834,439	30.0	873.1	10.5
Oceania / Australia	34,700,201	7,620,480	20,838,019	60.1	173.4	1.2
WORLD TOTAL	**6,767,805,208**	**360,985,492**	**1,668,870,408**	**24.7**	**362.3**	**100.0**

Source : *http://www.internetworldstats.com (July 2009)*

1.2 RESEARCH QUESTION

The research will investigate and highlight the potential of the internet for application by professionals to use it as a medium to further their knowledge in their field of expertise. More specifically it will state how the internet is being applied for further education which in turn can be applied for use by individuals in the field of taxation in a South African context.

1.3 PURPOSE STATEMENT

The research should give an indication of the scope for the use of the internet as a method of continuous professional development in the field of taxation. The intention is to stimulate ideas for potential practitioners who would like to implement a strategy of e-learning. The research aims to give an overview of the potential that exists for the support of e-learning and to assist with overcoming the associated issues by encouraging participation. The research should highlight any potential areas for further study as well as the necessity for empirical research to substantiate the need of e-learning in the defined area of taxation.

1.4 RESEARCH OBJECTIVES

The study is guided by theses research objectives:

- to critically analyse the requirements of continuous professional development of tax practitioners so as to identify the aspects that need to be addressed by the internet as a medium for updating courses;

- to investigate the potential and current application of e-learning on the internet; and

- to evaluate the potential of e-learning for application by tax practitioners to use as a medium for continuous professional development in South Africa using the theoretical basis as undertone for the study.

There are various professional fields that have different continuous professional development requirements; only those for taxation practitioners in South Africa will be

researched. With the establishment of a new body for tax practitioners in South Africa, there are currently varying opinions as to weight and reputation of this body within South Africa.

1.5 IMPORTANCE AND BENEFITS OF THE PROPOSED STUDY

This study will theoretically highlight any potential for use of the internet for continuous professional development purposes. Not only will the possibility be investigated from a practical point of view, but also from what the requirements are for valid and verifiable continuous professional development. The South African Institute of Tax Practioners' requirements will be carefully scrutinised and evaluated as to the requirements that would need to be adhered to should such a medium be used.

From a practical view the study may be used by tax practitioners to assist them in gathering the required CPD points sooner and in a more convenient way. The study could also be used to assist professionals in the taxation field of expertise to establish a programme for further education. Should this be found to be acceptable for tax practitioners, other professional bodies may also find value in this research.

1.6 DEFINING KEY TERMS

Continuous professional development (CPD)

CPD is defined as "ongoing training and education throughout a career to improve the skills and knowledge used to perform a job or succession of jobs. CPD should be a planned, structured process, involving the assessment of development needs and the tailoring of training to meet those needs. CPD is founded on the belief that the development of professionals should not finish after initial qualification, especially in a fast changing business environment in which skills are likely to obsolesce quickly." (bnet.com). For the purpose of this study no distinction will be drawn between the terms continuous professional development and continuous professional education.

e-Learning

e-Learning for the purpose of this study is defined as: " …a broad combination of processes, content, and infrastructure to use computers and networks to scale and/or improve one or more significant parts of a learning value chain, including management and delivery" (Adrich, 2004).

Web 2.0

The term "Web 2.0" (2004–present) is commonly associated with web applications that facilitate interactive information sharing, interoperability, user-centered design, and collaboration on the World Wide Web (Prashant, 2008).

1.7 RESEARCH DESIGN AND METHODOLOGY

An investigation will be carried out on the different requirements of CPD of the various professional bodies in South Africa. These will be listed and at a later stage the possibility could be investigated of drawing a correlation between which possible requirements could be satisfied through the use of the internet.

Through an extensive literature study, both locally and internationally, this study will be a basis of the current uses of methods for e-learning applicable to taxation. Substantial focus will be placed on identified areas that have been highlighted in previous studies as having potential, as well as progression since these studies have been carried out. Any technologies that have coincidently been identified through this study will also be mentioned as long as there is literature found on previous use or potential for use.

1.8 LIMITATIONS TO THE STUDY

This study will be limited by the following:

- potential of new technology will not be evaluated as the scope does not allow for the application of what currently exists but only of the investigation thereof;

- the actual theory of e-learning or any continuous professional development models will be ignored; and

- this study will not comment on the acceptability of the identified methods of e-learning to satisfy continuous professional development. The object is to list them as possible mediums to satisfy the criteria as listed by the professional bodies.

1.9 SUMMARY

The proposed study has been introduced by discussing the background to the study and the potential impact. A research question was identified to guide the study as well as research objectives to underline the essence of the questions whilst giving direction to answering the research question. The importance and benefits to possible institutions were then listed following a discussion on the key terms and central abbreviations that will be used. A method to achieve the established research objective was then examined and any limitations relating to these methods listed.

The following chapter will evaluate the requirements of continuous professional development for taxation and related accounting sciences fields. Subsequently, e-learning and technology utilised therein will be discussed.

CHAPTER 2

CONTINUOUS PROFESSIONAL DEVELOPMENT AND E-LEARNING

2.1 INTRODUCTION

The objective of this chapter is to critically analyse the requirements of continuous professional development of tax professionals in order to identify the aspects that need to be addressed by any medium to be used for continuous professional development purposes.

To achieve this objective, the continuous professional development criteria of various professional bodies will be evaluated. These professional bodies were selected on the basis that they are the professional bodies that BCom (Accounting Science) students from the University of Pretoria are most likely register with after completing their degree.

The second objective will be satisfied by identifying various methods and mediums where the internet is currently being used as an e-learning tool. An initial discussion will include trends, as well as concepts within the internet at present. The current trends and models that are currently being followed in the creation of new content on the internet have a direct influence on how the internet is being used and will be used in the future for online education (Hargadon, 2009). These websites and programmes will be classified according to the functionality of that specific internet site. The potential and current application of e-learning on the internet will also be investigated.

2.2 TAX PRACTITIONERS IN SOUTH AFRICA

Tax practice in South Africa as an independently recognised profession is relatively new; registration as a tax practitioner was first mentioned in 2005 when the then Minister of Finance indicated that regulation of tax practitioners would take place (Manuel, 2005). Previously the functions that tax practitioners fulfilled were commonly accepted to be completed by Chartered Accountants and Certified Public Accountants and even some qualified attorneys would give tax advice (Edward Nathan (Pty) Ltd, 2005). In 2005 section

9 of the Second Revenue Laws Amendment Act 34 of 2004 was introduced to change the Income Tax Act 58 of 1962. In terms of this amendment every natural person who provides tax advice or who completes or who helps complete tax returns must be registered as a tax practitioner by 30 June 2005.

Through this amendment, a new profession was created within South Africa. To date, there is no statutory board created through an operation of law, and by implication, these duties were regulated and enforced by South African Revenue Services. This has led to the establishment of The South African Institute of Tax Practitioners (SAIT) which is a voluntary board which tax practitioners have the option to join or not. This board has no authority over tax practitioners thus it is rather a voluntary association (thesait.org.za).

Currently listed in the South African Revenue Services website is a draft of the Regulation of Tax Practitioners Bill which is for comment by the public. The deadline for submission of comments was 15 July 2008 (sars.co.za). To date there is no other research that could be found as to the status of this bill, and as it is still listed under the heading “Draft Legislation for Comment” the assumption can be made that this is still the case.

2.3 CONTINUOUS PROFESSIONAL DEVELOPMENT

Continuous professional development also referred to as continuous professional education (BPS.org.uk) is defined as “any process or activity that provides added value to the capability of the professional through the increase in knowledge, skills and personal qualities necessary for the appropriate execution of professional and technical duties, often termed competence.” It is further described as “the means by which members of professional associations maintain, improve and broaden their knowledge and skills and develop the personal qualities required in their professional lives.” (Association of Proposal Management Professionals).

Once a person has obtained a degree and associated themselves by membership of a professional body, that specific body then has an obligation to the members to provide updates with regard to specific trends, innovations and legislation of the related profession. This ensures that the registered member of that professional body is proficient with current practices. Each professional body has its’ own requirements for continuing professional

development of its members, regarding quantity, quality and nature of exposure to recent developments (SAICA Continuing Professional Development Policy, 2005:2).

As SAIT is not a regulated body, and more a voluntary body, its requirements for continuing professional development will be evaluated and compared to those requirements of three other professional bodies, namely the South African Institute of Chartered Accountants (SAICA), the Independent Regulatory Board for Auditors (IRBA) and the Chartered Institute of Management Accounting (CIMA). These are accounting professions whose members would conduct tax advice as well as having established policies of continuous professional development (Edward Nathan (Pty) Ltd, 2005).

2.3.1 CPD requirements and the policy of SAIT

The requirement for successful CPD hours (thesait.org.za) is 32 per annum. These hours need to be verified. The Institute has to rely on the integrity of its members as no proof has to be submitted as evidence of such hours. A random selection of members may be asked to submit proof of their CPD hours for evaluation and verification.

These hours can be earned by doing any of the following as mentioned on the website of SAIT under their CPD guidelines:

- conferences, seminars, workshops or similar structured discussion forums;
- watching a technical DVD in a group situation (two or more individuals);
- reading accredited articles of certain magazines which are specifically marked as verifiable for CPD purposes;
- studies leading to formal assessments; and
- research and lecture preparation which may include lecture preparation, presentation, research for a publication or an article in the member's own name or research (including relevant reading) for a new piece of work to be undertaken.

2.3.2 CPD requirements and the policy of SAICA

SAICA states on its website (saica.co.za) that it is a member of the International Federation of Accountants and therefore it has made certain commitments to promote

further learning for its members. With this association SAICA is also required to monitor and enforce the continual professional development and competence of its members and associates.

SAICA has recently (1 January 2009) changed its time line of reporting CPD to a three year rolling cycle. In this cycle members are required to complete 120 hours of relevant CPD, 60 hours (50%) of which should be verifiable. A minimum of 20 hours of learning should be completed each year (SAICA Continuing Professional Development Policy, 2005:2)

SAICA prescribes specific journals, programmes, courses and other forms of learning and training material. It is left up to the member to decide on the relevance of the training that is required to address his or her needs. Professional judgement is thus required by the member with regard to his or her own continuous professional development

2.3.3 CPD requirements and the policy of IRBA

As with SAICA, IRBA also has a three year cycle, but on the contrary only requires 90 hours of audit relevant CPD (irba.co.za, 2007:5), as well as a minimum of at least 20 hours per year. A further requirement for registered auditors is that of the required 90 hours at least 45 hours (50%) need to be completed in the area of professional knowledge. The remainder of the time can be allocated to the development of professional skill and ethical values of which no less than 10% of the remainder of the time (4,5 hours) may be spent on either of the above areas. These requirements have been in place since 1 January 2007 (irba.co.za, 2007:1).

IRBA prefers that all methods of CPD are done in a structured and organised way. This is more verifiable and gives an indication as to the nature of CPD that the member has taken, thus providing a more solid level of professional development. IRBA also mentions that there is a place for reading articles and journals but it does not fulfil their structured requirement.

Structured forms of CPD that are verifiable and advised by IRBA are:

- courses;
- workshops;
- seminars;
- conferences;
- in-house training;
- small practice study groups;
- firm study groups; and
- verifiable e-learning.

The verifiable e-learning as mentioned above refers directly to any internet or intranet based learning that is planned and structured as listed on a footnote to the documentation explaining the forms of CPD.

2.3.4 CPD requirements and policy of CIMA

CIMA has a totally different outlook on CPD. Here members decide for themselves how much or how little CPD (cimaglobal.com) they feel they require. It is therefore not measured in units, hours or even defined by type. Each member is encouraged to work through the "CIMA Professional Development Cycle" to evaluate and satisfy their own individual professional development needs so that they remain professionally competent (Chartered Institute of management Accountants, 2010).

Figure 1: CIMA Professional Development Cycle

Source : www.cimaglobal.com

Although CIMA does not prescribe what material should be used, there are various forms of assistance that the body gives to its members. There are suggested methods of CPD with listed resources and available sources under each of these headings. These areas are:

- additional qualifications;
- courses and local events;
- e-journals and e-books;
- news and industry publications;
- online courses and training; and
- technical resources.

2.4 CONTINUOUS PROFESSIONAL DEVELOPMENT AND E-LEARNING

According to Flood (2002) “e-learning is a driver for continuous professional development…”. Amongst the many advantages that are mentioned in the argument for e-learning is that “…e-learning is the mechanism that will establish continuous professional development as the major paradigm for lifelong learning.” (Flood, 2002).

2.5 E-LEARNING AND THE INTERNET

Arsham (2002) highlights that the internet could be used to a greater extent for e-learning than is currently the case. The current usage of e-learning is lacking and the potentials for using the internet as a tool for education are widespread, but the direction in which technology is going is unpredictable.

2.5.1 Web 2.0

Web 1.0 is a retronym that was introduced only after the new trend, web 2.0, was suggested by O’Reilly at his O’Reilly Media web 2.0 Conference in 2004 (Graham, 2005). Web 1.0 or the original World Wide Web was “invented” by Sir Timothy John Berners–Lee, under a Hypertext Transfer Protocol (HTTP) practice with the initial purpose of displaying static pages (webopedia,2010). Hargadon (2009:5) explains that the net, pre web 2.0 was used “... to expand, but mirror, our experiences with the traditional information world of

print and broadcast media. Over time there have been advances in technology, software and hardware but the underlying practices have been the consistent need to display information with limited interaction between users. We were merely an audience blindly reading, receiving and researching information without any application."

As there is no standard definition of web 2.0, it is rather a generally accepted practice of improving the web in three key areas. These areas are interpersonal services, web services and software as a service (Barnett, 2010). Thus it is not a "newly programmed" internet or a replacement of the old one, web 1.0, which in its own right was never defined as such, but rather an innovative collaboration of world wide web contributors to align internet practice universally to a congruent implementation.

There is a concentrated movement from an environment where the internet is just a tool to display information to viewing the internet as fundamental instrument to connect people, ideas and services. Barnett (2010) describes it as "... establishing new types of connection and facilitating collective intelligence." Bartolomé (2008:1) states that "…the net as the platform, or the multi-device oriented system, changes the concept of studying at any place, any time." It is for the student to decide on time and how. As big as the paradigm shift is with regards to the internet, so is the shift in new technologies and devices that will allow students to plug into this "platform".

Since the advent of web 2.0 there has been a surge in creativity and we are able to expose ourselves to a much larger amount of content that has been created by the collaboration of a number of persons on the internet. A good example of this is social networking. The rate at which it is attracting users and creating content, together with the ingenious way of presenting this content, encourage other users to consume it. With this in mind, it led Hargadon (2009) to develop Classroom 2.0, a social networking platform to encourage teaching and learning (classroom20.com).

Thomson (2008:1) identifies web 2.0 technologies as wikis, blogs, social networking, content hosting services and podcasting.

2.5.2 Web 2.0 and e-learning

Research concluded in 2000 by Moursund and Smith (2000) identified four areas for the use of the internet as a tool for education. These are:

- digital library access;
- communication via the internet;
- developing web documents; and
- IT assisted project-based learning.

These key areas were identified and discussed, from the then current understanding of the internet. This discussion was limited to the technology available at that specific time. Barnatt (2010) identifies characteristics of web 2.0 that these concepts still conform to, but have been applied in a different manner. Hargadon (2009:2) links the possibilities of web 2.0 and education as a “perfect fit”. He identifies the potential and also recognises that there is still a great potential for web 2.0 to be applied to an educational environment.

Hargadon (2009:4) further links web 2.0 with professional development. In his view it is affordable to do this from both the student and instructor perspective and the option of collaborative learning is encouraged and made easier as a critical mass for participation can be reached easier as more students participate. Bartolomé (2008:7) points out that web 2.0 and all the characteristics identified can be utilised by many different devices that can connect to the internet. Thus connection to the internet is an important factor. Table 2 shows current users and increase in the number of users of the internet over a number of years since 2000.

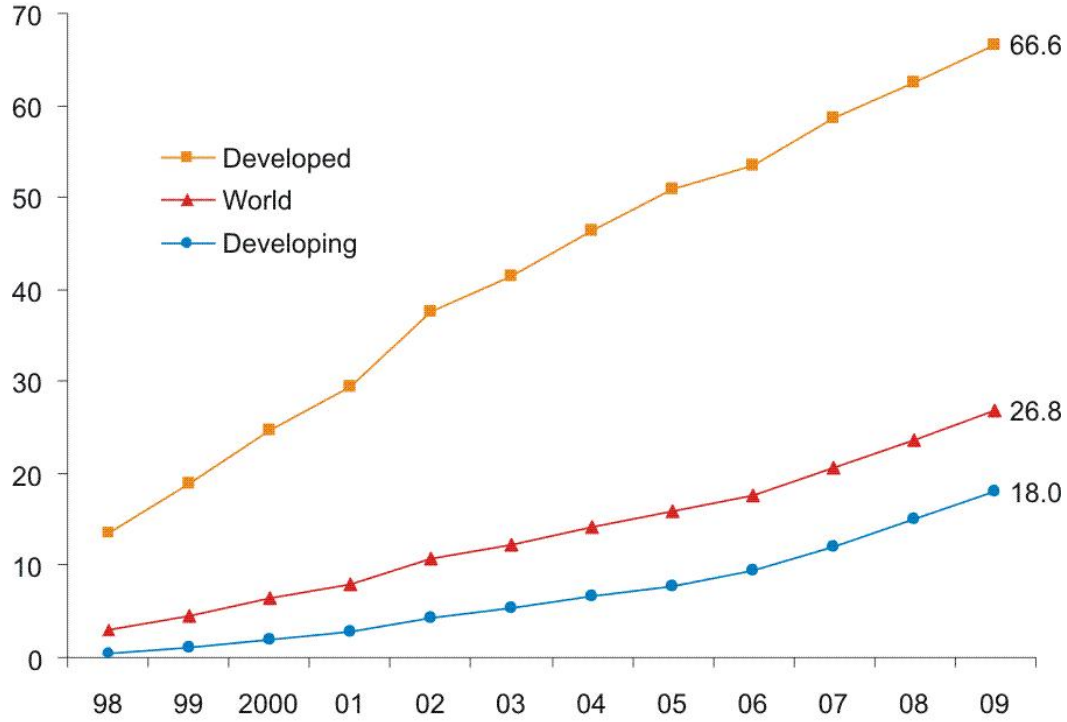
Table 2: World internet usage statistics

World regions	Population (2010 Est.)	Internet users Dec. 31, 2000	Internet users Latest Data	Penetration (% Population)	Growth 2000-2010	Users % of Table
Africa	1,013,779,050	4,514,400	110,931,700	10.90	2357.30	5.60
Asia	3,834,792,852	114,304,000	825,094,396	21.50	621.80	42.00
Europe	813,319,511	105,096,093	475,069,448	58.40	352.00	24.20
Middle East	212,336,924	3,284,800	63,240,946	29.80	1825.30	3.20
North America	344,124,450	108,096,800	266,224,500	77.40	146.30	13.50
Latin America/Caribbean	592,556,972	18,068,919	204,689,836	34.50	1032.80	10.40
Oceania / Australia	34,700,201	7,620,480	21,263,990	61.30	179.00	1.10
WORLD TOTAL	**6,845,609,960**	**360,985,492**	**1,966,514,816**	**28.70**	**444.80**	**100.00**

Source : *http://www.internetworldstats.com (July 2010)*

Although only about 29% of the world's population has connection to the internet, the growth over the last 10 years has been a phenomenal 445% as shown in table 2. It is understandable that developing countries still need to invest in infrastructure as to provide access to a greater percentage of the population (Pinhanez). Thus developing countries account for a larger portion of world population that is not connected to the internet. Figure 2 graphically represents the disparity of internet connections between developing and developed countries.

Figure 2: Internet connections per 100 inhabitants



Source : *http://www.itu.int*

Although the growth in both categories has been substantial there is still a large percentage of citizens in developed countries that have access to the internet compared their counterparts in developing countries.

2.5.3 Understanding web 2.0 and the internet

The following terms have come up repeatedly in literature and form an integral part of web 2.0. A short discussion is given of each, so that the concept of web 2.0 can be better understood. Barnatt (2010) identifies these key elements as cloud computing and software as a service. One of the major benefits of web 2.0 is that it reaches a larger number of people. For students to be encouraged to use these methods they need to be affordable or free which is known as open source (Hargadon, 2009; opensource.org).

- ***Cloud Computing***

The cloud is a metaphor for the internet. When the verb computing is added as a suffix, the phrase becomes a new paradigm in the way that web 2.0 is being realised. Cloud

computing is at a very early stage still but in essence it is the method of providing computing infrastructure, capabilities, processing and storage in the cloud which is essentially the internet. (SearchCloudComputing.com, 2010).

- ***Software as a service (SAAS)***

Software as a service, an ideology of cloud computing, is a software delivery method that provides access to software remotely. The term “hosted applications” is also used (Webopedia.com).

- ***Open Source***

Open source is a term defined as software that is free and where the programming code must be made available. There is also an etiquette that is attached to the handling of the code which can be found on the Open source Initiative’s website. Open Source is instrumental in promoting education as it increases accessibility. (opensource.org).

2.5.4 Alexa.com

Alexa, a subsidiary of Amazon, is a company that through its software collects web traffic behaviour which give an indication of the most visited websites on the internet (alexa.com). This gives an indication as to how the websites identified rate as compared to other sites, and gives weight to those websites identified. Where possible the popularity of each website will be identified and highlighted so as to give an indication of the amount of internet traffic the site generates. It should be noted that this rating is not for education use but collective use. Alexa does not track all the websites on the internet, and websites are listed on a global list thus competing with each other. Highlighting the popularity of each website provides evidence that people have a tendency to use the website and therefore should the educational aspects be exploited, a large existing base of users could help reach the critical mass mentioned by Hargadon (2009:4). Alexa.com is reliable to compare website’s popularity relative to one another. This accuracy tends to be more accurate for websites with a ranking of 100 000 or better (compscistuff.com, 2008). To show the extent and ranking of websites identified in this study the rankings of these sites are shown below:

Table 3: Rankings of websites identified according to Alexa.com

Website	Alexa.com Ranking
Facebook	2
LinkedIn	24
Twitter	9
Elgg	9,501
Ning	164
Big Tent	27,742
Bebo	1,142
MySpace	30
Classroom 2.0	107,678
Skype	232
YouTube	3
Google Wave	-
ShareFlow (Zenbe)	95,542
EduBlog	7,414
DropBox	293,354
Google Scholar (google.com)	1
Moodle	6,317
Drupal	469
Blackboard	1,966
Protonmedia / Protosphere	1,536,240

Source: *Alexa.com*, Accessed: 2010-10-04

This gives an indication of the popularity and current use of the websites that will be discussed. Table 3 will aid in substantiating selection of the websites identified.

2.6 SOCIAL NETWORKING AND E-LEARNING

Muñoz (2009:2) states that not only is the internet playing a major part in a student's social life but it is also prominent in their academic pursuits.

Brady, Holcomb and Smith (2010) evaluate alternate social networking sites in a higher education environment. The identified social networking sites (SNS) were Facebook,

Myspace and LinkedIn. Their study evaluates the potential for Ning as an alternative. What is evident in this paper is that the main characteristics of social networking sites are the same, which implies that they can be grouped together (Brady *et al,* 2010:2). Use of these social networking sites is encouraged by Hargadon (2009:4), who is the current director of K12 Open Technologies Initiative at the Consortium for Social Networking (CoSN) and the founder of Classroom 2.0.

Another form of a social networking site that has been used in education is Twitter (Miners, 2010). This article further explains how Twitter is being applied not only to higher education, but to also extending discussions outside the classroom.

Brady *et al*. (2010:1) also draw a strong correlation between growth in the mentioned social networking sites and the increase in students that are registering for online courses. Having identified the most prominent forms of social networking used in education, each one will now be discussed on its own.

2.6.1 Facebook

Facebook, started in February 2004, explains on its website its mission as “giving people the power to share and make the world more open and connected” (Facebook, 2010). To give an indication of how well it is achieving their objective, Facebook had 500 million “active users” on 21 July 2010 (Zuckerberg, 2010). An active user is defined by Facebook (OutserveWeb, 2010) as a user who has accessed their account in the previous 30 days. Taking into consideration that the world population is estimated at 6,866,200,000 (U.S. Census Bureau) that means an astonishing 7,4% of the planet is currently using Facebook. At least 75% of active users visit their profile in a 24 hour period (Haas, 2006).

Brady *et al*. (2010:4-6) highlight two key issues, namely:

- previously higher education administrators have, to a great extent, constricted the use of social networking sites in their respective milieus; and
- there is a certain amount of value attached to using and implementing social network sites within an educational setting.

Muñoz (2009), in her paper presented to the Society for Information Technology and Teacher Education Conference, specifically evaluated how to use Facebook in a college classroom. Facebook assists instructors to communicate with their students regarding assignments, upcoming events, useful links and samples of work outside the classroom. This is achieved by creating a profile page/group on Facebook which will enable the instructor to mail or instant message students or to post items on the wall. Relevant videos, images and website links are also posted on the profile page. A separate page can also be created for the specific course to which a student registered for at course can request to join. It encourages and allows students to interact with one another and to pose questions or suggest answers to other students' questions. Students may be prepared to download the relevant applications. (Muñoz, 2010;3-5).

Advantages and disadvantages of using Facebook as a tool for education are also investigated by Muñoz (2009:3). Facebook is the social network site of choice for college students and plays an integral part in life outside the classroom. It also has a vast variety of adaptable features useful for an educational environment. A number of elements that are found on Facebook have been replicated in other courseware programs such as Blackboard and Moodle. Technical advantages include ease of use, substantial size for the volume of video uploads and compatibility with a number of web browsers. The brief list of arguments against the use of Facebook includes:

- the possibility of access to the instructor's profile and personal interactions between students and instructors should proper etiquette not be followed; and

- the likelihood of distraction from learning following the vast amount of other activities to conduct.

2.6.2 Twitter

Twitter, launched in 2006, describes itself as "…a real-time information network powered by people all around the world that lets you share and discover what's happening now." (twitter.com). Twitter is considered a social networking site that uses microblogging as its platform. Microblogging is achieved by users posting "tweets" which are text-based messages limited to 140 characters (Bart, 2010). These tweets are then read by followers

of the person who posted the message (Reuters, 2010). Twitter has 105 million users and adds about 300 000 new users daily. 75% of the activity on Twitter is generated from applications outside Twitter which indicates its level of integration across various platforms. In March 2010, Twitter had 180 million different individual (unique) visitors to its site. (Reuters, 2010).

Chakravarty (Purdue University), Rankin (University of Texas) and Camplese (Pennsylvania State University) are all professors who are trying independently to encourage these active users to apply Twitter in an educational environment (Young, 2009). According to Rankin (2009), since Twitter is relatively new, research shows that the initial stages of application in the classroom are undertaken by “daredevils” in education (Kirkpatrick, 2009). Rankin (2009), further identifies that Twitter is a platform that requires a certain paradigm shift.

Brower (2009) submitted a list of 50 ways to use Twitter in the classroom. These were grouped in the following 5 categories:

- ***communication***: Typically this will include direct tweeting to other students, getting to know classmates through tweets and students working together on projects through brainstorming. It also would allow for a professor to make announcements, take a poll or direct students to relevant websites;

- ***class projects and discovering content***: Covered in this area are concepts ranging from how to effectively communicate given limited characters and following tweets from politicians and relevant news sources. Activities are also suggested such as searching Twitter for relevant terms and phrases;

- ***Twitter tools*:** These are programs that use or interact with Twitter. Those that are deemed useful in a classroom environment are Twhirl, QuoteURL, TwitPic, Tweetree, bit.ly, Twitternotes, TweetScan, TweekDeck, TweetGrid, TweetFone and TweetLater;

- ***finding people in academia to follow*:** Specific to academic pursuit, its functions include access to professors who list themselves, lists and groups of colleges and universities as well as a tool that will grade the students Twitter experience; and

- ***get ready for life after graduation*:** Twitter can be used after the student's studies as his or her career develops

In contrast to this potential the disadvantages according to Bart (2010) are:

- keeping students focused on the topic, and not allowing the conversations to digress into social banter;
- learning the art of writing clear and concise tweets within the 140 character limit; and
- controlling the tweets so that they remain relevant and professional.

On the positive side students that are introvert by nature find it easier to communicate and to ask questions on Twitter than they do in a classroom situation (Young, 2009). Rankin (2009) also says that lecturers are able to participate in class even though they are not physically present in the classroom.

2.6.3 Elgg

Elgg, started in 2004, is open source social networking software that was originally specifically designed for educational purposes (Berry, 2006:2). On its website it indicates the possible application of its framework from a campus wide social network in a university, school or college or as a brand building communications tool for clients or employees. In May 2010 Elgg started a web-hosted version of itself, and as of 10 September 2010 it was still the beta (pre-release) version (Elgg.com). As Elgg is open source and the stable web-based version has only been released recently, statistics on use are either difficult to find in literature or inaccurate.

Elgg has taken the principles behind social networking and created a learning landscape that enables learners to create a sense of community within their personal learning environment (Özkan, 2007).

Özkan lists the functional areas of Elgg as :

- ***a weblog***: Which stimulates educational conversation in a structured manner;
- ***a personal file repository***: Allows students to a document management system so that they can upload, organise and archive their educational literature;
- ***personal profile***: Lets the users create an online presence;
- ***community feature***: Allows students to create sub groups of common interests; and
- ***friend function***: Gives students the ability to create a social network outside their student environment.

The features of these functions which all support active learning are tagging which allows users to assign their own keyword to any information shared (files, weblog, profile information) thus creating collaborative tagging. A really simple syndication feed (RSS Feed) is a function that gives learners the live feeds and flows from the sources they have chosen. Combined with a feed import function, it in turn allows users to grab and display information on their own profiles. Friend of a friend function (FOAF) automatically creates a connection of learners outside the system. A dashboard option allows users to customise their own display of collected information. (Berry, 2006:7-8). Lastly, since Elgg is an open source application it encourages integration within other learning applications like Moodle, Drupal and Media Wiki (O'Hear, 2010).

The major benefit of using Elgg is that it is focused for education as a delivery method and the interactions associated with it. This is in contrast to other social networking sites that are centred on the actual content and how this is displayed to the user. Elgg also allows users to create personal spaces related not only to education but also on a social level. Control is also given to learners regarding who can access their documents and learning material which creates a certain level of customisation. Elgg passes the responsibility of control from the instructors to the users. (Berry, 2006:2-3).

Conversely Elgg has some drawbacks as Özkan (2007) explains. The unstructured environment that offers customisation to learners is somewhat of a paradigm shift from traditional social networks that dictate how content is presented. This may be confusing

and distracting to Elgg users. For those users comfortable with information presented in a more centralised location, the dispersed character of weblog interactions may take some getting used to. (Özkan, 2007:14).

2.6.4 LinkedIn

LinkedIn is a social network whose primary target market is professional people. A user is able to create a professional career profile by submitting a curriculum vitae, work history, references and list of expertise. It creates connections between people who know each other. (LinkedIn.com, 2010).

Although LinkedIn focuses on professional career driven networking, two features of LinkedIn are suitable for gaining professional knowledge. The questions section allows users to post questions to groups that are created by users with a common interest. For instance, should a user have a question regarding a certain topic, if an appropriate group is found, the question could be posed to that group, and answers will be given by other users in the group. Should a user want to check the answerer's competency, the user can view their professional profile and see how much expertise and weight can be attributed to the answer. This functionality can further be applied to searching for a specific specialist, and the connection to the user will be highlighted though connections. Thus a user can get an introduction to another professional through their own trusted connections. (LinkedIn.com).

2.6.5 Other social network sites worth noting

There are a number of other social networking sites that have been found to have potential but which are not included in this study. Muñoz (2009) compared Myspace to other social networks on an educational level. Brady *et al*. (2010) identified that Ning has a large amount of potential as a social network for use in education. As social networks need to try to differentiate themselves from one another, they satisfy a specific market. Below is a list of the other identified social networks, with a short description:

- ***Ning*** is a social network that allows its users to create their own networks, but is moving to a paid service and limited functionality available as open source (Brady *et al*, 2010);
- ***BigTent*** specialises in creating a social network in the administering of the group on an internet platform (bigtent.com);
- ***Bebo*** is a current social networking site that competed with Facebook, but seems to have fallen out of the race as it seemed to be favoured only by individuals in certain countries (bebo.com). An announcement made by the current owners of Bebo, AOL indicated that they are considering closing down the site or selling it (RTE News, 2010); and
- ***MySpace*** was the world's biggest social networking site until April 2008 when Facebook started having more different individual "unique" visitors (techtree.com). Myspace was focused on a younger user and used entertainment as its draw-card (Adegoke, 2010).

2.7 INTERNET COMMUNICATION, SHARING AND E-LEARNING

Barnatt (2010) recognised that one of the key aspects to web 2.0 is interpersonal computing. This involves "…person-to-person interactions facilitated via websites that enable collaborative content creation, sharing and manipulation." Barnatt (2010). Mediums which match the previous explanation were identified by Barnatt (2010). He lists blogs, RSS reader pages, social bookmarking, video repositories, shared documents, podcasts, online video and group work spaces. Skype facilitates person-to-person interactions.

YouTube is the most popular video repository site on the internet according to Alexa.com. A search for real-time collaborative editing applications returned Google Wave as a result. There have been media releases since that have revealed the possibility that Google Wave may be shutting down as a supported application and a close competitor, ShareFlow, was identified as an alternative. Both will be evaluated and discussed. Dropbox has been identified as method to not only share files but also store them securely in the cloud. Blogs, RSS feeds and Podcasts are general principals, these are used for information to be transferred between devices and the internet.

2.7.1 Skype

Skype, a software application, allows users to make voice calls over the internet. Calls to other Skype users are free. Calls made to landline or cellular phones are charged by loading money into a Skype account. Related features that the Skype interface allows are instant messaging, file transfers as well as video conferencing. (skype.com). Skype, by the end of the 2009, had 560 million registered users (Malik, 2010).

Skype is currently being used in education (Smith, 2009). Members on the Classroom 2.0 website, publish specific slideshows on sessions where Skype is used by teachers interacting with students that are geographically displaced.

Graybeal (2009) identifies the following possible uses for Skype in the classroom:

- by utilising the previously mentioned file transfer function, documents can be shared quickly and effectively during telephonic conversations and synchronised to physical literature and relevant papers electronically at the same time;
- instructors can communicate, through the mood message function, certain administrative information. This could include the current topic for discussion or when the next assignment is due;
- older students or graduates are encouraged to assist current students by mentoring or tutoring. Students can receive specialised direct training from experts in a field and interact directly with professionals; and
- students can practice debating topics face-to-face and reading literature in front of a virtual audience.

Abdulezer (2010) evaluated the use of, the advantages and the disadvantages of Skype. Currently Skype's functionality is being applied in many different situations. Students can master a foreign language by communicating real-time and having an interactive conversation with students from other countries. These advantages are:

- a distinct advantage of Skype is that the application itself and the use thereof is free;

- a lot of classrooms do not have telephone connection, but are set up in some form to connect to the internet;
- an added advantage of the alternative application of Skype is that it encourages wide range student collaboration and accessibility;
- Skype incorporates blind Skype and assists homebound students with special needs;
- a further advantage is that any number or people can take part in one single conversation, interacting on a single subject; and
- one of the social implications that Skype has, in larger economic hubs, is that there is more infrastructure and assistance to students within travel distance of the source. Skype now gives access to students in remote locations, who can also share in and benefit from that in which students in cities are able to participate.

One of the downsides to Skype is that to use all the functionality effectively, except for the traditional text chat purpose, a person or institution needs a relatively high speed internet connection.

2.7.2 YouTube

YouTube which was launched in 2005 is currently the world's most popular online video community (alexa.com) as shown in table 3. YouTube (youtube.com) allows users to watch and share originally created videos. YouTube also suggests that it is used by people to connect, inform and inspire other users across the world. The attribute that has made YouTube so successful is the relative ease of use not only from a viewer's perspective, but also for a user (O'Neal, 2009).

The number of users on YouTube, is estimated to be 53,6 million; this has been estimated by using the Google command "site:www.YouTube.com/user". Yet this number does not include users that browse videos on an adhoc basis (google.com).

Some user statistics released by Melekohy (2010) show the use of YouTube:

- 2 billion unique views a day;
- 24 hours of video are uploaded every minute;
- 15 minutes a day are what the average user spends on YouTube;

- 70% of YouTube's web traffic comes from outside the United States;
- YouTube video consumption (number of years) over social networks;
    - Facebook: 46,2 years;
    - MySpace: 5'6 years;
    - Orkut: 12;7 years; and
    - Hi5: 1,2 years

O'Neal (2009) demonstrates through a video on YouTube how it is currently being applied and what useful features there are on YouTube. It is mainly used for transferring knowledge through a video medium. YouTube has much functionality that enables sharing of videos to other sites, and providing the source code to make the video accessible directly in another site. It is also suggested that channels are created or an account is opened where all the relevant videos are compiled in a common location. YouTube has recently started an education specific site, www.YouTube.com/edu where collaborative sharing of videos is done by users who all agree that the content that they share has educational value. (www.YouTube.com/edu).

Crum (2008) lists the following reasons as to why YouTube is a good educational tool:

- ***powerpoint presentations*:** Either by enhancing current presentations by embedding a video in them, or by loading the actual presentation as a video;
- ***translation features*:** This is an added-on function, to the current comment feature, that YouTube has on its site. After a video has been uploaded, someone can superimpose text on the video itself. This feature has been further improved to be able to translate the original comment into a variety of different languages so as to give the video accessibility to a wider audience;
- ***embedding videos anywhere they are relevant***: Statistics from YouTube state that as much of 44% of its videos that are watched were embedded on other sites. The educational advantage is that a video of relevance can be embedded at any place that is deemed appropriate. This will include another website or a social media profile; and
- ***jumping to key moments in the video*:** This functionality is called deep linking. This benefit is that should a video be referred to and that reference is some time

later in the video then a link can be created to reference the exact moment in the video. This would prevent boredom setting in for the person seeking the reference.

The ease of use and the abundance of material make YouTube attractive as an educational tool. As for the negative aspects, filtering seems to be an issue as a user is bombarded with quasi relevant videos while watching another video. If minors are watching, age inappropriate content is accessed with relative ease of use. The key drawback of YouTube is the speed of the connection to the internet that is required as well as the amount of bandwidth that is used.

2.7.3 Real-time collaborative editing tools

Google Wave, a free product from Google, was released in May 2009 (wave.google.com). In August 2010, Google announced that it had discontinued further development and that the features of Google Wave would be taken up in other products (wave.google.com). Despite this Google Wave is still being supported by Google, through the Google Wave blog. The publicity surrounding this product was intense but sentiments regarding Google Wave changed and public interest waned (MacManus, 2009).

ShareFlow, a product from Zenbe, Google Wave's competitor has the same features as Google Wave (Nakano, 2009). These two software programs will be evaluated together as they are both classified as platforms for real-time collaborative editing. Microsoft also has a content management system, called Sharepoint, but Google Wave and ShareFlow are competing more with Outlook than Sharepoint. Novell Pulse is a content management system that is more enterprise and business orientated. (Joshua, 2010).

What Google Wave and ShareFlow allow users to create content online and in real time whilst also allowing other users who are part of the conversation or group to simultaneously edit, comment and to add to the content created. According to wave.google.com "it is equal parts conversation and document."

A case study of the use of Google Wave by use of a "Wave" started on Google Wave itself was joined by almost a hundred users that included teachers, doctoral students and IT professionals. In essence it is a glorified note taking tool, where individuals, small or even

larger groups can work on the same conversation or project. Google takes the best features from a number of applications and combines them into one application. The ability to keep history allows both students and instructors to keep track of how decisions were reached and the final product achieved. (MacManus, 2009).

On the ShareFlow website (zenbe.com), users are told that the following benefits are available by using ShareFlow:

- ease of use topic management;
- ease of sharing files;
- works well with emails; and
- wider range of documents and access can be from anywhere.

Functionality includes email, file transfer, instant messaging, calendars, maps and integration with a number of other sites, embedding videos and sound files (zenbe.com).

Real-time collaborative editing is a rather new concept, and as is with the Google Wave case study, it has been commented that the market is not ready for it at the moment (Patel, 2009).

2.7.4 Blogs

According to Blood (2000), blog is a blend of the words web and log and is "…a personal website that contains content organised like a journal or a diary. Each entry is dated, and the entries are displayed on the web page in reverse chronological order, so that the most recent entry is posted at the top. Readers catch up with blogs by starting at the top and reading down until they encounter material they have already read." (Downs, 2009). Blogs are not limited to what they cover or what content is created and contrary to general perception, they are not just personal journals. The first blogs were created by hand, referring to the source code that was created, but now there are a number of content management systems that are available to manage these blogs. (Downs, 2009).

Blogs are connected to each other and are referred to as a blogosphere. Blogs also have the ability to be read through RSS feeds which users can use to subscribe to a blog. Twitter is considered a micro blogger. Some blogs which have previously existed as text-based blogs have expanded to podcasts and video blogs called vlogs. (Downs, 2009).

Downs (2009) further explains why and how blogs are used in education, and confirms this with updated statistics; as of 12 September 2010 website Edublogs.com has 565 272 educational blogs. The benefits associated with blogging (the act of writing a blog) are that they can encourage the development of a learning community. This community is created when a blog is published and other members able to comment on it. The interaction of responses is created by a number of users discussing the topic. Blogging also has the potential to give a student a worldwide audience and the fact that interaction happens across various subjects helps students. The associated soft skills of writing and research skills as well as typing skills and literacy skills, are also mentioned as an added benefit (Downs, 2010).

2.7.5 Podcasts

A podcast is either a video or an audio file that is sent via the internet to the intended user. Podcast can either be a singular or plural. So a podcast can consist of a whole series of single casts, or even a daily cast. Podcasts usually have a host, a theme and are program driven. (podcast.com). The amount of content available is extensive and the potential is endless. The word podcast is derived from Pod which is an acronym for Portable and On Demand. So a person does not need to be connected to the internet to listen to a cast being streamed to a device. The cast it could be downloaded and listened to later on another device, for instance on an Ipod or a mobile phone. The attraction of podcasts is that they can be accessed and listened to anywhere. (Donnelly, 2006).

2.7.6 RSS feeds

RSS is an acronym for Really Simple Syndication, which is technology that is used to keep track of websites. Where previously a user had to go back manually to bookmarked

websites, with RSS readers, which could be as simple as one's mail client, updates to websites are sent automatically. (problogger.net).

2.7.7 Dropbox

The need to be able to access files from any location, as well as the frustration of leaving his flash disk at home, prompted Houston to develop Dropbox. Dropbox conceptualises cloud computing in that it allows one to store files in the "cloud". The user is then able to access these files through a variety of devices such as desktop computers, laptops, mobile phones and table computers. (Ying, 2009). As Lane (2008) identified, one of the functionalities of a course management system is a place to "drop" documents and assignments. Dropbox is an independent, focused website that provides this function.

There are two ways that a file can be put into the cloud, either through the web application, which in itself is software as a service, and fits into the model of cloud computing, or via an application that is available for a variety of devices including desktop computers and mobile phones. (educationtechnologyblog.com).

Dropbox can be applied to an educational environment. By dropping documents and giving access to students and or groups, instructors are able to communicate with the students effectively and students then have the accessibility to manage documentation as well as submit documents. Dropbox borders on collaborative editing but its primary focus is creating cloud storage. (educationtechnologyblog.com).

The benefits of using Dropbox are

- that dropbox minimises the need for one to have space available on one's computer; and
- access is via username and password anywhere in the world thus making the need to carry flash disks, CDs, DVDs or any other storage device, redundant. The only item needed is a connection to the internet.

2.8 WEB 2.0 AND OTHER RESOURCES FOR E-LEARNING

Moursund and Smith (2000) identified that one of the ways in which the internet is being used for e-learning is through digital library access. Mischo (2005) commends Google Scholar by comparing it to libraries and repository systems. However, not all the search results that are returned, give the full text. That said, it is still highly commendable in its research attributes. Lane (2008:1) comments, that another technology, within web 2.0, is being applied to an e-learning environment. This technology was identified as content management systems. Examples that Lane (2008:3) mentioned as content management systems in education are Moodle, Blackboard and Drupal. Although the effectiveness and application comes into question, nevertheless there is a place for course management systems to be properly applied in an e-learning environment.

2.8.1 Google scholar

Apart from the Google search engine that is the top ranked website in the world (table 2), Google has also developed a derivative of it with the sole intention of satisfying the need to search for and rank academic articles called Google Scholar (Google Scholar, 2010). It is a centralised search engine whereby a user can search across a number of disciplines and sources. Google further describes these sources as "... articles, theses, books, abstracts and court opinions, from academic publishers, professional societies, online repositories, universities and other web sites. Google Scholar helps you find relevant work across the world of scholarly research." (Google Scholar, 2010).

Google Scholar allows researchers and students to actively search with a number of criteria and limitations in order to return accurate results. Students can also link the searches to what is available in their own libraries and other search results. This directs the students to that to which they have direct access. (Badke, 2009).

Downfalls to Google Scholar are that all the literature is not represented as no list is available of publishers, authors or titles. A number of search results are also not free, and either a student has to log onto different libraries or to purchase the content. However it is

clear that Google Scholar remains a valuable tool for research and referencing (Badke, 2009).

2.8.2 Course management systems (CMS)

The basic functionality of course managements systems is identified by Lane (2008). It basically consists of administration of the course, book marking, providing assessment record keeping and a repository for displaying static content. Although there are many course management systems, few actually satisfy the needs of educational purposes. Even those that do have e-learning as a basis, often fail because instructors try and force their content and pedagogy into, instead of manipulating, the course management system in the way it is meant to, in other words, to assist them. (Lane, 2008).

Moodle (moodle.org) states that it is open source, describing its software as: "… a software package for producing Internet-based courses and websites. It is a global development project designed to support a social constructionist framework of education." Blackboard is a software company that has a website by the same name. Blackboard's core product is Blackboard Learn which is an advanced content management system which focuses solely on e-learning (blackboard.com). Blackboard has been criticised for its mouse heavy user interface, and thus Moodle and Drupal are recommended by Lane (2008).

2.8.3 Classroom 2.0

During the study the concept of Classroom 2.0 has been referred to. Classroom 2.0 uses the blog principal to create an environment for educators to discuss the application of Web 2.0 technologies in a classroom environment. Classroom 2.0 presents itself as a social network for those interested in web 2.0 and social media in education. It brings together the collaborative resources of 47 450 members (on 4 September 2010) with elements of social media, web 2.0 and Education. (Classroom20.com, 2010).

2.9 VIRTUAL WORLDS AND EDUCATION

A virtual world is explained by Virtual World Review (2006) as a: "...simulated environment accessed by multiple users through an online interface." It is also known as "Digital Worlds", "Simulated Worlds" or "MMOGs". The features of a virtual world are: a shared space; graphical user interface; immediacy; interactivity; persistence and community. (Virtual World Review, 2006). SecondLife, a virtual world, allows users to a create profile and a persona which is then graphically represented in an online 3D world (secondlife.com, 2010).

Users are able to interact, chat, socialise and even trade with other residents in SecondLife (2010). This interaction naturally leads to a collaboration of ideas on numerous levels. Lagorio (2007) highlights the fact that a number of universities and colleges have created a presence in SecondLife. Classes instructed by a Real Life (RL) lecturer are held in buildings representing the universities and designed by developers. Discussions take place between students during class and are not limited to scheduled classes only. The electronic persona created in SecondLife bridges the gap in distance learning as lecturers are able to have a substituted real life interaction with the students. SecondLife is centred on the social aspect of virtual worlds. (secondlife.com, 2010).

Protonmedia (protonmedia.com, 2010) has specifically developed software called ProtoSphere. This allows users to create and host their own virtual worlds, and apply these in a more business-traditional environment. Under their Frequently Asked Questions section regarding the current use of ProtoSphere, it is mentioned that it is being used in continuing professional development for businesses.

A question that arises is that should existing programmes, websites or software be used instead of new ones being developed through existing software? A case in point would be the virtual worlds illustration. Should a current virtual world, based on social networking and a large user base be used for academic purposes as opposed to a new world being created, using current software?

2.10 CONNECTION DEVICES

Bartolomé (2008) says that one of key features of web 2.0 is that it stretches beyond a single device of connection to the internet. A developing trend is that numerous devices are being applied to view content on the internet. He mentions personal digital assistants (PDA), iPod and computers. LaBelle (2010) identifies three types devices that can be used to connect to the internet. These are iPads, iPhones and Kindles. The iPhone can be one of any number of smartphones. The iPad has the possibility to represent tablet computers as a whole. Finally the Kindle will characterise e-readers as a whole. Although these are discussed on an individual basis, careful consideration should be used with the application of similar type of devices. The interest created in the iPad, has resurfaced the interest in e-readers, such as the Kindle. It has also been found that there are at least 50 other devices that have the same characteristics as the iPad (Labelle, 2010).

2.10.1 Cellular phones

A study by Anderson and Rainie (2008) suggests that the mobile phone will be the device most used to connect to the internet by the year 2020. This is also comparable to the traditional personal computer that is perceived to be the norm. Thus should any potential be found for the internet to be used as a means of continuous professional development, a model needs to be considered whereby cellular phones play an integral part. Anderson and Rainie (2008) investigates the fact that the iPhone has been at the forefront in creating a user interface to the internet by making use of touch and gestures to navigate through applications and content. That said, the cellular phone is used more to view content as opposed to content creation as the interface between the device and the user is limited, whereas the iPad or similar tablet computers are aimed more at content creation (Anderson & Rainie, 2008).

2.10.2 Kindle

Also known as the Amazon Kindle, this is a hardware device developed by Amazon.com for the rendering and displaying of e-books. The short description for the Kindle is an “e-Book Reader”. By using a 3G or Wi-Fi connection, the Kindle is able to connect to the

internet and download books, newspapers and journals. This enables users to download content and not be location specific. Content is purchased over the internet, though an Amazon account. (amazon.com, 2010).

The use of the Kindle in education is mainly for reading relevant material. Kindle allows a user to bookmark relevant items and make notes of relevant text without damaging the electronic paper. Libraries for instance are getting rid of their book collections and going fully digital, making this material available electronically on Kindles which are owned by the library and circulated like a book would be. (Toppo, 2009). Initially there was a social and emotional resistance to this strategy but the argument was made that the number of books available can be increased from 20 000 to millions. This allows students access to a much larger selection. An example was used of a class being asked to do a specific task for which limited literature on the topic was available in the library. Kindles would have eliminated this problem. (Toppo, 2009).

The Kindle is a versatile device, but only content that is available from Amazon.com can be downloaded. The lack of colour display screen makes it perfect for text rich documentation like books, newspapers and journals. Thus it is unable to display detailed colour graphics and illustrations (Amazon.com). One of the major benefits is that all bookmarks and notes can be saved and stored, thus making their retrieval easier and providing online backup. These can be recovered from any device and should the need exist to fully restore a device, this can also be done in the online store. (Allen, 2009).

2.10.3 Ipad

An iPad is a tablet computer produced and supported by Apple (apple.com, 2010). It is promoted as a platform for audio, visual and web content. Visual media (apple.com; Bell, 2010) will include items such as books, periodicals, films and games. Ogg (2010) reports that 3 million iPads were sold within 80 days of its launch.

Five key areas that the iPad has for potential application in education are listed by Sumner (2010):

- ***electronic textbooks*:** The first obvious adoption of the iPad in education will be the viewing of books and literature on the iPad. The iPad is closely comparable to the Kindle. Features that the iPad has in distinction from the Kindle include a colour high definition screen and the inability to take notes and make annotations;
- ***new mobile computing laboratories***: Administration from a technical point of view has been identified as a major advantage. Viruses and other "junk" as it is referred to will not be downloaded. It will be easier, more mobile and more cost efficient from a running cost perspective;
- ***visual field trip guides*:** The mobility aspect is again indicated in an environment of taking the iPad to any location. For instance museum attractions that currently offer an audio tour could rather presented on an iPad. The same could apply for conferences and conventions with the possibility of producing course specific applications on the iPad. The physical attributes of the iPad make it more attractive than current laptops and netbooks with virtually the same functionality;
- ***mobile data collection*:** The versatility and compatibility making the portability of the iPad a lot easier that a laptop or a netbook. Data can be collected and real-time rich visualisations could be used to make important decisions; and
- ***new ways to create content*:** Besides the vast amount of education applications, there are endless possibilities that can be developed. The iPad also creates a platform which enables users to create new data and content, where traditionally it was assumed to display only content. Apple has also made available their own office suite, iWork, which gives the user a wider range of possibilities to create content in the more traditional way.

Sumner (2010) goes on to list five real ways that educators are using the iPad in education:

- textbook replacement;
- textbook supplement;
- laptop replacement;
- field research; and
- sheet music.

The bottom line for the use of the iPad in education seems to be that, as with any tool, the use of the iPad in education is how it is used (Singer, 2010).

Penguin publishers, have released interactive books which are available on the iPad. Not only is this a text rich display of information, but it also allows the reader to interact with the book (Slivka, 2010). The range of products that Penguin has released is for all ages and even includes anatomy books. The application of this concept is endless.

Apart from the benefits mentioned previously, Crump (2010) also highlights the following advantages: relatively good battery life, light weight, reduction in the amount of physical materials that need to be carried around, ease of use in the library, more acceptable physical appearance than a laptop and the single tasking which lets one focus on the project or assignment on hand (Crump, 2010).

On the other hand, the current lack of e-textbooks, no camera, the fact that there is no citation or equation support and no full sized keyboard are negative aspects of the iPad.

What perhaps is the major issue for iPad is the fact that Apple, the producers of the iPad, decide what content is allowed on the iPad. Applications that have been approved by Apple can only be purchased online through the iTunes store, which is controlled by Apple itself. A way around this is to “Jailbreak” the iPad, by changing the firmware of the device, thus voiding its warranty (Crump, 2010). LaBelle (2010) labels this as gate keeping, whereby the manufacturer of the device determines which content is made available for the device. For the iPad, Apple uses the iTunes store as a medium of gate keeping. Labelle (2010) likens this to the traditional library that in essence was a gate keeper as the library administrators decided which content was made available to the users.

2.11 SUMMARY

The first objective of this chapter was to critically analyse the needs that are to be addressed to obtain valid continuous professional development points. This was achieved by evaluating the ways in which a member of a professional body can obtain valid continuous professional development points.

Secondly the chapter evaluated the potential of how the internet is currently being used as a medium within education. Original concepts within the internet were identified. The internet and the current use thereof were also investigated. Web 2.0 and its characteristics where examined and these were linked with e-learning. Furthermore the connection between e-learning and continuous professional development was made.

Once current developments in the internet were explained, as well as the fact that it is a driver for continuous professional development, ways in which the internet is currently being used for education were discussed. These methods were identified by evaluating web 2.0 and how webpages or programmes conform to that paradigm.

The requirement exists for members of professional bodies to gain continuous professional development points. These can be gained through e-learning and web 2.0 technologies; the adoption thereof has led to a number of mediums to satisfy these criteria. The question remains as to whether these identified mediums have an application for continuous professional development credits for taxation in a South African context.

CHAPTER 3

CONTINUOUS PROFESSIONAL DEVELOPMENT AND ITS CONNECTION WITH E-LEARNING

3.1 INTRODUCTION

This chapter will determine if the possibility exists for e-learning to be utilised as a medium for continuous professional development.

The previous chapter identified the requirements for continuous professional development within the fields of taxation and related study areas, as well as the current use of the internet as a medium of e-learning.

This chapter will try to determine if there is any potential for application of the internet within a South African context for continuous professional development purposes. A further commentary will also be made on the possible application of the internet in an e-learning environment for taxation purposes in respect of continuous professional development.

To achieve the objective, the identified requirements for continuous provisional development will be classified into similar groups based on the underlying actions that drive the specific continuous professional development activity. These summarised groups will then be linked to the previously identified potential of the internet with regard to e-learning (chapter 2). Should the link be made between the continuous professional development activities and the potential uses on the internet, then this will prove the potential of the internet for continuous professional development purposes.

This chapter will also attempt to identify if the current potential of the internet for e-learning is being used by South Africans, this will link the potential use to the target base.

Should these means for e-learning also be found to have potential use within a taxation field of study, this will give subject matter to the target subject.

Terminology used in this chapter will be that the word “activity” which refers to an action that will result in continuous professional development credit being earned. The word “medium” refers to any of the identified potential uses of the internet as a platform for e-learning.

3.2 CLASSIFICATION OF CPD REQUIREMENTS

Taking the requirements for continuous professional development of the four identified professional bodies into consideration, seven main groups emerge whereby continuous professional development credits can be earned. These groups are:

- attending conferences, seminars and courses;
- watching DVDs, reading articles or journals;
- participating in studies that will result in formal assessment;
- conducting research or preparation for a lecture; and
- forming study groups and conducting verifiable e-learning.

If these activities (requirements) were graphically represented in a matrix, and cross referenced with the identified professional bodies, the grid would look like this:

Table 4: Summary of professional development requirements relative to activities

Professional body	Conferences, seminars, courses	Watching DVD	Articles, journals	Studies leading to formal assessments	Research, lecture preparation	Study groups	Verifiable e-learning
SAIT	✔	✔	✔	✔	✔	•	•
SAICA	✔	✔	✔	✔	•	•	•
IRBA	✔	✔	✘	✔	✔	✔	✔
CIMA	✔	•	✔	✔	•	•	✔

Key

• Indicates absence in commentary from the professional body regarding that specific form of continuous professional development but not specifically excluding it

✔ Indicates that the relevant specific professional body deems it an appropriate medium for gaining continuous professional development points

✕ The professional body specifically excludes this as a verifiable method of obtaining professional development experience

This table shows the continuous professional activities grouped in similar actions. These activities are compared with the professional bodies that have been identified in chapter 2.

This is to identify which professional bodies choose which activities for continuous professional development.

The next objective is to evaluate if there are mediums on the internet that would satisfy these grouped activities. Should the study find that certain mediums fulfil the activity requirements then continuous professional development of the identified professional bodies has the potential to be undertaken on the internet.

3.3 CONNECTION BETWEEN CPD ACTIVITIES AND IDENTIFIED MEDIUMS

An evaluation of which continuous professional development activities could possibly be satisfied by the identified mediums through which e-learning can be carried out, will establish grounds for using the internet for continuous professional development.

Verifiable e-learning as an activity of continuous professional development will be excluded from the following discussion as this study's main objective is to identify the potential thereof. Intrinsically should the potential be found suitable and adopted as a medium, it could be argued that it then becomes verifiable.

3.3.1 Social networking sites and CPD

The first medium evaluated in chapter 2 was social networking. It has been established that there is an abundance of social networking sites and software, each with its own characteristics. Each social network with its own fields of specialisation but the underlying functionality of these social networking sites and software is the same.

These underlying functions of Facebook and Elgg allow users, who create or join a page for a specific class, to watch DVDs albeit a video clip embedded on a page. Articles and journals can be posted or links to a specific website on which relevant pages containing the specific information can be found. Study groups can be formed for the specific course. Discussion can be conducted regarding relevant assignments, projects and topic related questions (Muñoz, 2010; Özkan, 2007).

Twitter, another form of social networking identified, allows users to have group discussions; groups can be formed by inclusion in a list. Notes, web links, vital concatenated information and other course specific information can be transferred between users. As conversations are difficult to follow on Twitter, application seems to be one-sided (Rankin 2009).

The core potential of LinkedIn, is that study groups can be formed by students of a specific course. Experts within a relevant field are able to be identified and answers to difficult problems can be found with relative ease, or even the experts themselves join the group for long-term discussion. (linkedin.com).

Social networking as a medium on the internet will therefore fulfil the following continuous professional development activities: watching DVDs, reading articles and journals and the formation of and participation in study groups. Social networking could also be used indirectly in assisting the students with studies that could lead to formal qualification and research and lecture preparation.

3.3.2 Internet communication, sharing and CPD

Communication between two or more persons on the internet has been identified to take one of three forms: voice, video or text. A new trend is to combine all three into one programme or software product. There are however certain specialist products within these areas.

With Skype's video conferencing, voice and text chat functionality allow multiple person conversation as well as interactive conversations and seminars are possible. Furthermore

an extensive study group can be established with students dispersed over a large geographic area. Even professionals with specific knowledge can be involved in conversations or obtained to present a lecture. Files can be sent during conversation which enables a limited amount of collaborative functioning. (Abdulezer, 2010).

YouTube specialises in the video sharing and commentary on videos through the posting of video responses. YouTube also provides text interactions in response to videos. This functionality has the ability to satisfy a number of criteria for e-learning activities. Through the utilisation of its video repository, seminars and courses can be presented by instructors and professionals. This can be done as a single lecture or a series of lectures over a period of time (O' Neal, 2009). Course relevant videos satisfy the need to watch a DVD. Through YouTube's educational specific website, research can be carried out through verifiable sources. YouTube also has the ability for students who watching a video to comment and create a conversation in response to that video, either through posting another video or through text, as comments below the video. Channels created are able to serve as study groups through which students and instructors can pool resources. YouTube's live video streaming allows users to stream live videos to other users (Chitu, 2010), which effectively means that students could attend a lecture in the comfort of their own home.

As previously explained, blogs are in essence a rich text environment with some embedding of videos and photos. Blogs have the ability to convey valuable information; during the study it was found that a number of professional and respected opinions were freely and readily available on the internet (Downs, 2009). Edublog.com is an education specific website which tracks blogs that are solely to do with educational resources. This will satisfy the activity for reading articles and journals (edublog.com).

Real-time collaborative editing sites and programmes allow students to collaborate on projects, assignments and questions. This medium is also suitable for lecture preparation and ideal for conferences and seminars inviting participation on a large scale. It allows an instructor to give a lecture and interact with students at the same time. (MacManus, 2009).

Podcasts allow a student to listen to a course or to seminars while conducting activities thus making it extremely flexible. The major benefit of podcasts is that they the possibility

for multitasking to take place (Donnelly, 2006). For instance, by using an iPod to listen to a podcast, a student could conduct studies while commuting, thereby making it an attractive alternative.

Dropbox is a website that assists students in storing documents, articles and assignments in a safe location which can then be accessed at any location or by other authorised students or lecturers. Instead of being posted on YouTube, video files of educational value can also be stored in Dropbox. Dropbox is a safe alternative to storing documentation online, and access can be given to certain members of a group. This is in contrast to making content available to the general public on a site such as Facebook (educationtechnologyblog.com).

In summary, communication software and products on the internet allow for conferences and seminars to take place between many people. The watching of DVDs is primarily possible on YouTube. Articles and journals can be posted through Skype, hosted by blogs and Dropbox, or converted into audio format and listened to via podcasts. All the content created by utilisation of these tools can be stored on the cloud itself by using Dropbox. Study groups can be formed using Skype and real-time collaborative editing tools. Even with YouTube, course specific channels can be created and registered students of that group can join and follow posts related to the videos being posted by the course administrator. The main advantage of real-time collaborative tools is that they are able to provide all the previous functionality, between multiple users at the same time.

3.3.3 Resources and CPD

For e-learning, two further resources were identified, Google Scholar and course management systems. These resources aid in continuous professional development and the management of development programs.

Google Scholar, being a search engine specifically for education purposes and academic journals, is a valuable source for research and lecture preparation (Badke, 2009). This assists students in researching specific topics and accessing academic material. If the literature is available free online, results from Google Scholar will return the full text. If

payment is necessary in order to access the relevant literature, Google Scholar will return abstracts from the text, as well as information on how to pay and then access the required documents.

Course management systems are software programs that enable students to handle content on the internet in a specific manner. As with the communication software, certain course management systems are directly focused on education principals.

Google Scholar will only satisfy the requirements of research and lecture preparation for continuous professional development activities. On the other hand the course management systems are able to satisfy watching DVDs, reading articles and journals and the formation of study groups depending on the manner in which the course management system is implemented.

3.3.4 Virtual worlds and CPD

Virtual worlds enable students to meet in a virtual world. Even if they are dispersed over the world, students are still able to meet each other with their virtual personas. Likewise virtual lectures can be conducted, including participation from students in the virtual world. Virtual worlds enable lecturers from different universities to meet in cyber space and source each other's knowledge in preparation of lectures (Lagorio, 2007).

Virtual worlds cross the borders between social networking, internet communication and real-time collaborative editing. This, with an online persona, enables students to attend conferences and seminars, conduct research and form study groups all in the virtual world.

3.3.5 Potential of e-learning

The previous discussions of how the internet is currently being utilised for e-learning can be represented in the table below:

Table 5: Summary of professional development requirements relative to mediums

Potential medium for e-learning	Conferences, seminars, courses	Watching DVD	Articles, journals	Studies leading to formal assessments	Research, lecture preparation	Study groups
Social networking sites	✕	✓	✓	•	•	✓
Communication	✓	✓	✓	•	•	✓
Resources	✕	✓	✓	✕	✓	✕
Virtual worlds	✓	✕	✕	✕	✓	✓
Internet in totality	✓	✓	✓	•	✓	✓

Key

✓ Indicates that the relevant internet medium can be used as a platform to satisfy certain continuous professional development criteria

• Indicates that the relevant internet medium can be used indirectly as a platform to satisfy certain continuous professional development criteria should the medium used to transfer physically relevant documentation

✕ Indicates that the medium cannot be used to deliver e-learning directly but rather as a tool on the internet

The methods as to how the identified mediums on the internet satisfy a specific activity of continuous professional development have been discussed. Table 5 cross references this discussion with the grouped continuous professional development activities. Table 5 confirms that the internet has the potential to satisfy the activities of continuous professional development of the identified professional bodies.

3.3.6 Devices for connecting to the internet and CPD

The main purpose of this study is to investigate the potential of the internet. The internet has been explained as well as the uses thereof. Devices are needed to connect to the internet (Bartolomé, 2008). Apart from a personal computer which is currently the main device used for connection to the internet, this study has identified three other devices that can be used. These devices are an e-book reader (Kindle), mobile phone (iPhone or similar smartphones) and a table computer (iPad) (Labelle, 2010).

In order for these devices to work they need to be able to connect to the relevant mediums or use them.

Table 6: Summary of activities relative to connection devices

Potential medium	iPhone	Kindle	Ipad
Facebook	✔	✘	✔
Twitter	✔	✘	✔
Elgg	✔	✘	✔
LinkedIn	✔	✘	✔
Skype	✔	✘	✔
YouTube	✔	✘	✔
Realtime	✔	✘	✔
Blogs	✔	✘	✔
Podcast	✔	✘	✔
Dropbox	✔	✘	✔
Google Scholar	✔	✘	✔
Virtual Worlds	✔	✘	✔

Key

✔ Indicates that the relevant internet medium can be connected through the relevant device

✘ Indicates that the medium cannot be connected through the identified device

Table 6 demonstrates the flexibility of the iPhone and iPad. Therefore as identified similar products (tablet computers and mobile phones may have the similar potential).

3.3.7 Identified mediums and relevance to South Africa

For a medium to be an effective and viable option there must be users of these mediums. For the purposes of this study, the users need to be in South Africa. Although some statistics are available it is difficult to narrow the base to users in South Africa. Lana (2010) has released some user figures which are represented in the table below.

Table 7: Summary of mediums relative to South Africans use thereof

Website	South African users	Comments
Facebook	2 800 000	(1)
Twitter	55 000	(1)
Elgg		
Linkedin	•	
Skype		
YouTube	•	(1) 100 channels manually calculated to be South African
Realtime	•	
Blogs	4000 - 5000	(1) Most recent estimates (2008)
Podcast	•	
Dropbox	•	
Google Scholar	•	
Virtual Worlds	•	

(1) Lana, 2010

To give an indication of user uptake of the missing information, TSN, a research company, recently did a survey for MWeb, representative of the South African online market (TSN Research Surveys, 2009). The survey's primary focus was social networks and the level of interactions from users. The only issue is that these are users who currently have access to the internet and who are not representative of South Africans as a whole but rather those that do connect to the internet. In an attempt to mitigate this limitation, table 8 displays the correlation between the total population of South African relative to the number of South Africans that have access to the internet.

Below is a list of statistics, extracted from this report regarding users and social networking that are relevant to this study:

- 87% of the total respondents were working and 29% of the sample had completed university education;
- 35% of the participants connected to the internet using smartphones or cellphones;
- 76% said they used the internet for information search;
- 74% indicated social networking was part of their online activities;

- 82% of the respondents were registered on Facebook, and 75% said that they visisted this site at least once a day;
- 32% used YouTube;
- 28% were Twitter users, and 35% of these were online at least once a day;
- 14% had LinkedIn profiles, of which 9% checked their profile at least once a day;
- 40% of the online population used Skype, of which 9% said that they used Skype to seek advice from an expert. 41% of these Skype users said that they were online at least once a day or more; and
- 21% of the respondents said that they write a blog.

Table 8: Number of internet users in South Africa relative to total population

Year	Users	Population	% Population
2000	2,400,000	43,690,000	5.50
2001	2,750,000	44,409,700	6.20
2002	3,100,000	45,129,400	6.80
2003	3,283,000	45,919,200	7.10
2004	3,523,000	47,556,900	7.40
2005	3,600,000	48,861,805	7.40
2008	4,590,000	43,786,115	10.50
2009	5,300,000	49,052,489	10.80

Source: *http://www.internetworldstats.com/za* (July 2010)

What is evident from table 8, is the constant increase in internet users in South Africa. A question that may be investigated in a further study is how are South Africans connecting to the internet, or more specifically what devices are they using.

3.3.8 Identified mediums and relevance to taxation

On the 5 August 2010, South African Revenue Services (sapa, 2010) reported that it had so far received 761 231 tax returns from individual taxpayers of which 746 555 were electronically submitted returns for the 2009/2010 year of assessment. This means that tentatively 98,1% of taxpayers are using the e-filing system for the 2009/2010 year of assessment (sapa, 2010). This figure correlates to the final percentage of 93% of taxpayers that submitted their returns through e-filing for the 2008/2009 year of assessment (Magashula, 2010). The number of taxpayers in South Africa is estimated at

around 5,5 million (southafricaweb.co.za). If 93% of 5,5 million taxpayers use e-filing, this means that at least 5,1 million taxpayers submit through using the internet, albeit through a tax practitioner.

There are mediums on the internet that have been identified that satisfy the requirements of activities for continuous professional development for taxation and related fields of study.

3.4 CONCLUSION

The objective of this chapter was to investigate if the internet as it is today with current application has the potential to be applied in an e-learning environment. The e-learning concepts that were identified could be applied to satisfy the continuous professional development activities of the identified professional bodies. The final objective was to see whether these findings are relevant in a South African context, and can be further applied in taxation.

After grouping the continuous professional development activities of the professional bodies identified and linking these to the mediums on the internet that have the possibility to satisfy the activities, it was established that there is at least more than one medium, software product or website that will satisfy the requirements of a specific activity.

It has also been established that devices are needed to connect to the internet. Two possible devices have been identified that will give a student a user access to all the mediums mentioned. The third device, the Kindle, has one specialist use, and could only really be used in one way to assist in continuous professional development activities.

The mediums that have been identified are currently being used within South Africa. The traditionally more popular sites have more interest for South Africans. As indicated, there is a lack of data from user perspective on some of the mediums identified.

South African internet users are to a certain extent using the internet for taxation purposes. The main use has emerged as the lodging of taxation returns to the South African

Receiver of revenue. One area that has been highlighted for further study is the use of the internet for learning purposes by South Africans.

This chapter has achieved its objective in identifying the potential for continuous professional development on the internet. South Africans have the potential to use the internet for continuous professional development as a percentage of them do have access to the internet. Since South Africans are currently using the internet for taxation and related purposes, there is the opportunity for them to extend this to knowledge of taxation.

CHAPTER 4

SUMMARY, CONCLUSION AND VALUE OF THE STUDY

4.1 INTRODUCTION

The objectives set out at the beginning of this study were to evaluate the potential of the internet for the use as a medium for continuous professional development for taxation practitioners in South Africa.

To achieve this, three research objectives were identified. Firstly the requirements of continuous professional development of tax practitioners where evaluated. This was done to analyse the conditions that need to be fulfilled should any continuous professional development activity be undertaken. The second research objective was to investigate how the internet is currently being applied in an environment of e-learning and what the potential is. Lastly, a theoretical approach was used to see what the possible application of e-learning could be for tax practitioners.

4.2 POTENTIAL USE OF THE INTERNET AS A MEDIUM FOR PROFESSIONAL DEVELOPMENT

E-learning was proved to be the driver for continuous professional development. The continuous professional development of tax practitioners was evaluated as a basis to assess the requirements. Tax practicing as a professional body is relatively young. The duties of tax practitioners prior to the establishment of this professional body were traditionally undertaken by other professionals in the fields of accountancy. The continuous professional development requirements of these regulating bodies were evaluated together with those requirements of the newly established SAIT.

Once a framework for the requirements for continuous professional development was established, an extensive study was conducted on how the internet is currently being applied for continuous professional development. The word current implies that the present trends and paradigms being employed on the internet need to be identified. This

concept was web 2.0. This, in turn laid the foundation for evaluating what concepts fitted in with the paradigm of web 2.0. Concepts identified were social networking, internet communication and sharing and other web 2.0 resources and virtual worlds.

For students to have access to the internet a connection device is necessary. These devices were identified as iPads, iPhones and the Kindle. These specific items were selected as they are indicative of most tablet computers, smartphones and e-book readers.

It was clear that there was a need for continuous professional development. It was shown that the internet was being used as a medium for e-learning, being the driver for continuous professional development. The internet has current underlying principles known as web 2.0 and various mediums provide the opportunity for continuous professional development. The final point identified was that there are devices that allow the students to connect to the internet and access the identified mediums.

Continuous professional development requirements of the identified professional bodies have various and overlapping activities. These activities were grouped by characteristics and then linked to mediums identified on the internet. To demonstrate that there is a potential for using the internet these activities were cross-referenced with the identified mediums. This led to the conclusion that continuous professional development requirements of taxation and related fields of study have the potential to be satisfied through mediums available on the internet. The cross-referencing of the activities highlighted the face that there are at least one or more mediums on the internet that will be able to satisfy elements of continuous professional development activities.

It was also identified that the information available on the internet needs devices to display content. Three devices were found in the literature and further explained. These devices were cross-referenced to see if they have are able to connect, view and display the identified mediums. All three devices were found to have use in satisfying e-learning activities. Two of the devices identified were able to satisfy connection and display of all mentioned mediums; these were the iPad and the iPhone representing the functionality of smart phones. As stated the Kindle has potential for e-learning, but is limited to satisfying

only one activity, the displaying of online books and documents, and satisfying the criteria of reading articles and journals.

The study led to the final research objective as to whether or not there was adoption for use by South Africans in a taxation field of expertise.

4.3 POTENTIAL USE OF THE INTERNET IN A SOUTH AFRICAN CONTEXT

It was found that just over 10% of South Africans have access to the internet. Statistics are scarce with regards to the utilisation by South Africans of the various mediums identified. Of the online community a large portion does however participate in social networking. Given that over 5 million people in South Africa have access to the internet the potential that the internet could be used as a medium for continuous professional development is highlighted. The fact that a large percentage of tax returns are submitted electronically would seem to prove that there is potential for access to the internet for a large base of South African users, albeit taxpayers in South Africa.

4.4 POTENTIAL USE OF THE INTERNET FOR CONTINUOUS PROFESSIONAL DEVELOPMENT IN TAXATION

Tax practitioners, as well as those that act as tax practitioners, have a continuous professional development obligation. One of the limitations of this study was identifying the number of tax practitioners in South Africa. As mentioned the voluntary registration of tax practitioners with the SAIT is an indication of the number of registered tax practitioners with the South African Revenue Services. With this in mind the best data available for this study is the use of e-filing within South Africa. With averages above 93% of taxpayers lodging their tax returns electronically, an indication is given that taxpayers as well as tax practitioners who submit electronic returns utilise the internet for taxation purposes. This indicates that taxpayers and tax practitioners have access to the internet and the possibility exists that it can be exploited further.

4.5 LIMITATIONS TO THE STUDY AND SUGGESTIONS FOR FURTHER RESEARCH

Some professional bodies mention the term “verifiable e-learning” as an activity to earn continuous professional development credits. This study did not evaluate what the requirements are for e-learning to be verifiable. Verifiable indicates that there is a certain process of accreditation and that rules apply. These rules were not investigated nor were they evaluated as to how they could be implemented in the mediums identified as potential for continuous professional development.

An element that was not included in this study was the link between the connection devices and the internet. What is needed is the ability of the device to connect to the internet through a certain linking. This could either be a fixed line, wireless or a 3G connection. These connections are limited by speed and bandwidth. Also, the requirements of these connections to display and process the relevant mediums were not researched.

This study identified potential use of the internet for continuous professional development but a question that could be answered by further research is how many South Africans or tax practitioners are using the internet and the mediums indicated in this study as a tool for continuous professional development or e-learning. Further do these people know the potential of the internet and its application in their own professional development? Just as the absence of the answer to whether South Africans use the internet for continuous professional development, so the question remains as to how South Africans connect to the internet, for what purpose. This question could be further extrapolated to identify what the biographic information of a typical South African user.

4.6 CONCLUSION

It has been established that there is a need to for continuous professional development for tax practitioners. This need can be satisfied by utilising the internet and mediums available on the internet. South Africans have access to the internet and are currently utilising the mediums identified.

The study therefore finds that the possibility exists that there is potential for continuous professional development for tax practitioners in South Africa. In support of this idea, this

whole study was conducted by utilising the internet as a research tool, and all references are available on the internet.

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LEGISLATION

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