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FACTORS THAT INFLUENCE ACCOUNTANTS' SELECTION OF DELIVERY MODALITIES FOR PROFESSIONAL DEVELOPMENT

BY

KATHLEEN ROSS

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The undersigned certify that they have read the thesis entitled

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Submitted by

Kathleen Ross

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The thesis examination committee certifies that the thesis
(and the oral examination) is approved.

Co-Supervisors

Dr. Terry Anderson
Centre for Distance Education
Athabasca University

Dr. Cynthia Blodgett-Griffin
Centre for Distance Education
Athabasca University

Committee members

Dr. Tom Jones
Athabasca University

Tilly Jensen
Athabasca University

April 26, 2012

Dedication

This thesis is dedicated to my son and my husband. My son, whose unique way of thinking gave me a keen interest in learning theories. And to my husband, whose love and support have allowed me to keep going in my seemingly never-ending quest for knowledge.

Abstract

The obligation to maintain and develop professional competence throughout an individual's career is a fundamental requirement of a maintaining a professional accounting designation. Accountants can select their continuing professional development (CPD) from a number of modalities. The study was a cross sectional sample created by self selection from a researchers' email invitation to accountants in Canada to determine which modalities accountants preferred, and the selection factors they used in making those selections. A total of 428 accountants from across Canada completed the online survey. The results found that the accountants had taken courses in all modalities presented with live seminar and live webinar being the most popular modalities. Accountants preferred synchronous over asynchronous courses. The factors most important to accountants are content, cost and CPD hour requirements. Generally, the differences found in selection factors for distance versus face-to-face modalities related to the flexibility of the distance course to reduce time away from work. The ranking of selection factors for synchronous courses in general did not differ from those for asynchronous courses with the exception of self-paced courses where the pace and time away from work were ranked higher than for other courses. Further research is suggested to determine the value of both live and recorded seminars and webinars, as well as potential opportunities for mobile modality use for CPD courses. Additional research should be conducted to determine why differences were found in ranking in demographics in order to ensure that future CPD courses are offered in modalities that provide benefits for all respondents.

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Chapter 1

Introduction

Adult Learning includes any and all education or training activities taken by adults (Organization for Economic Development, 2003). The Canadian Council on Learning (2011) refers to adult learning as lifelong learning and indicates that lifelong learning is a fact of life in Canada. In 2008, 43% of Canadians participated in some type of education or training (Knighton, Hujaleh, Iacampo & Werkneh, 2009). Those who did not participate in learning cited time away from work and cost as factors in not taking training (Canadian Council on Learning, 2011). As with many other professions, accountants are required by their professional organizations to participate in continuing professional development (CPD) and therefore are active participants in lifelong learning. One of the ways that accountants can gain CPD is by attending courses, both formal education courses and shorter seminar-type courses, in various subjects relating to accounting or specific to their preferred area of specialization (such as income tax or the mining industry). This study focuses on the verifiable CPD as it relates to those courses being taken by accountants.

"All educational systems should be designed to promote knowledge" (Pange & Pange, August, 2011. P. 63) Pange and Pange (2011) go on to say that learning is most efficient when it is based on a pedagogical basis and even before the design or

implementation of the course or learning, designers should be aware of learning theories and how learners learn. One learning theory that can be looked at for this purpose is the constructivism theory. Constructivism learning is an active process. Knowledge is constructed by the learner and, although information can be imposed, understanding must come from within the learner. Knowledge is constructed as the learner begins to make sense of their experiences (Driscoll, 2005). Constructivism theory takes into account the process of learning and is the theory best suited for adult learning (Doolittle & Camp, 2009, Hean & O'Halloran, 2009).

All learning should be created utilizing the principles of a learning theory (Pange & Pange, August 2011). If constructivist theory is the best suited for adult learning, it follows that the creation of CPD sessions, in any modality, would be enhanced by including the principles of constructivism in the design. CPD learning sessions should provide learning opportunities for participants rather than being something that is simply a way for accounting organizations to generate cash, to claim compliance with training requirements or an information session from a subject matter expert.

In a perfect world, all CPD provided would follow a learning theory and be of educational value to accountants. Are accountants taking the CPD they take to further their lifelong learning or for some other reason? This study explores what CPD modalities accountants are taking and why they are selecting those modalities.

Accounting Continuing Professional Development

The International Federation of Accountants'(IFAC) position in relation to continuing professional development (CPD) is that the requirement to maintain and develop professional competence throughout an individual's career is a fundamental

characteristic of a professional accountant. IFAC goes further to require that international member organizations must implement a CPD requirement as an integral component of a professional accountant's continued membership (IES 7, 2010). There are three accounting organizations in Canada with a total of more than 160,000 members. The three regulating organizations, Chartered Accountants (CA), Certified General Accountants (CGA) and Certified Management Accountants (CMA), all require professional development hours to be completed by their members each year in order to maintain currency in their field and to maintain their accounting designation. All three accounting organizations in Canada are members of the IFAC and thus CPD is a mandatory requirement for professional practice. Besides leading to better practice, offering CPD is a significant revenue generator for many CPD providers (Epilogue, 2006) and is a revenue generator for accounting organizations as providers of CPD.

In Canada, accountants are required to maintain professional development using what has been called the 'input method' of CPD. Ryan (2011) describes the input method as the traditional way of maintaining professional competence, in which accountants are required to have a minimum number of structured and unstructured hours of organized professional development each reporting period. This is in contrast to the 'output method' which has no prescriptive hours but requires the accountant to demonstrate that they have achieved and maintained levels of competency. Berg (2007) points out that the input method tends to be a "form over substance" approach that can undermine the real objective of continuous improvement of professional competence. This is particularly true if accountants are selecting their CPD for reasons other than the relevance or importance of the content or learning outcomes (such as fulfillment of CPD

hour requirement, the instructor, networking opportunities, the pace of the course, time away from work or cost). The IFAC has developed a draft proposal that gives accounting organizations the choice of using the input method, the output method or a combination of methods. The IFAC had requested comments on its proposed new standard for CPD (IES 7, 2010) which was finalized in October 2011. This research may have helped inform this type of organizational policy and may at the accounting organization level.

An average of 40 hours of CPD is required per year by each member of an accounting body in Canada (average based on 3-year rolling average). That means a minimum of approximately six million hours of education per year is undertaken by accountants. Approximately one-half of the CPD required must be structured (or verifiable) – members must be able to substantiate that the courses were taken, whether by attendance at a conference or seminar, taking a test at the end of self-directed learning or some other form of verification. Although there are some other ways to achieve verifiable CPD hours, anecdotal information suggests that the main method is through courses. This study focuses on courses taken for CPD rather than other available methods.

Professional accountants are located over all the provinces and territories in Canada (plus more than 80 countries around the world). They work in all areas of business and industry, in public accounting and in the government. In order to provide sufficient CPD opportunities to these members, distance education is one of the many ways in which CDP is developed and delivered. The main source of CPD for accountants is their organizations themselves (CA, CGA and CMA). Accountants in specialized fields may find CPD from other organizations – such as Securities Commission(s) or

internal audit organizations. Employers are often another provider for CPD (such as internally developed tax courses at the Canada Revenue Agency). And, of course, higher education institutions are also often a provider of CPD. Thus practitioners are left with choices of participating in professional development from a number of providers that is delivered face-to-face as well as distance education offered in a number of different modalities.

Distance Education in Accounting CPD

Distance education is planned learning that normally occurs in a different place than teaching (Moore & Kearsley, 2005). Modality refers to the mode of participating in the CPD. For the purposes of this research, modality can be either synchronous (S) or asynchronous (A) and be either face-to-face (F) or at a distance (D). The study will be limited to modalities that were frequently found during a 2010 review of accounting CPD available (see "what modalities are being offered to accountants" below), specifically

face-to-face seminars (S,F),

synchronous webinars (S,D),

recording of face-to face seminars (A,D),

recordings of webinars (A,D),

face-to-face full-length courses (S,F)

online courses (S,D), and

self-paced computer aided learning (A,D).

From the above list of modalities, it can be seen that professional accountants are offered a variety of options for professional development through which they can participate to maintain their professional accreditation. It is important to understand the

factors that influence the accountants to take courses. The understanding of the factors that influence accountants to take CPD will assist providers in understanding the modalities that will most benefit those accountants.

Are the influential factors in the selection of distance modalities different than those that are face-to-face? Are the influential factors in the selection of synchronous courses different from asynchronous? And what are those factors and which factors are ranked as most important by accountants? Also of interest to this study is what factors influence the accountants' (as students) selection of online delivery modality in CPD and whether those factors are the same or different than the factors that influence their selection in face-to-face modalities and the similarities or differences in synchronous versus asynchronous modalities.

Problem Statement

More research is needed into why professionals, such as accountants, are (or are not) selecting a type of modality for their CPD. Are accountants selecting courses that will increase their currency in their field and thus their capacity to provide quality services? Are they selecting courses based on the number of CPD hours needed? Is cost a significant factor? Is convenience or access an overriding factor?

A study of professional development undertaken by librarians (Lynn, Bose & Boehmer, 2010) found that cost was the most influential factor in selecting a course. Although their study focused on factors in modality selection, it did not include content (or the subject of the course) as a factor as they assumed that content would be the most important factor. The authors indicated that need for further research that includes content as one of the influential factors in modality selection. In a study of professional

development with American police officers, Donavant (2009) found that, although a slight majority preferred face-to-face instruction, those who preferred online education cited convenience as the most influential factor. What is the most influential factor for accountants?

A small selection of interviews with accountants conducted by myself in 2010 has served as an informal pilot study for this research. Interviews with four accountants indicated, in all four cases, that the requirement for fulfilling CPD hours was, in fact, a stronger selection factor than the content (see "What modalities are being offered to accountants" below).

Purpose of the study

The purpose of this survey research study is to examine the relationships between personal and professional characteristics of accountants and the factors that influence their selection of delivery modality in professional development. Personal characteristics include age and gender while the professional characteristics include the general workplace (government, industry, public practice). Based on the few other studies relating to delivery modality (see "what are the selection factors in CPD modalities" below) factors that influence course selection likely include content, cost, CPD hour requirements, the instructor or presenter, networking opportunities, time away from work and home, comfort with technology, flexibility of time and place of study and the pacing of the training. The delivery modalities include both face-to-face and online modalities and include live and recorded seminars, live and recorded webinars, face-to-face and online full-length courses and computer aided instruction. The relationships between

personal and professional characteristics will be analyzed to determine if there are significant relationships between these variables.

The secondary purpose of this study is to determine if significant differences exist between the factors that influence decision to choose face-to-face or online modalities or between synchronous and asynchronous modalities.

The three accounting organizations in Canada are currently (2011) in negotiations to become one accounting body – Chartered Professional Accountants (CPA). Although there are differences in the stage of negotiations across provinces (Quebec has already introduced legislation and Alberta is currently in a two-way negotiation) the negotiations continue in all provinces (Canadian Institute of Chartered Accountants (CICA), The Society of Management Accountants of Canada, and Certified General Accountants Association of Canada, 2012), This new accounting body will need to satisfy the CPD requirements for all members. It is important that CPD be available and relevant for all members of each of the (current) three organizations. If there are significant differences between organizations and selection factors, this will impact the modalities that the new organization should be offering.

Accountants work in many different areas including public practice, industry and government. Each type of workplace has it's own needs for CPD. It is more important, for example, for an accountant in public practice to be current on the latest tax laws than one who oversees a provincial government ministry.

Choice of Quantitative Design

A quantitative design was selected for this study as it best fit the research problem and was deemed the best fit with my style as an accountant researcher. Creswell (2009,

p.18) states that "if the problem calls for the identification of factors that influence an outcome . . . then a quantitative approach is best".

Creswell (2009) also indicates that, as well as the research problem and personal experience, the audience is a third important decision factor when selecting research design. As accountants are numbers oriented, the fact that it is a quantitative survey may have encouraged accountants to complete the survey, and the accounting organizations, are more likely to accept quantitative data based on an empirical study.

Neuman (2006) on page 157 lists several design issues of quantitative versus qualitative research. These differences can be used to identify the type of research that should be done in a research situation. I started with factors that I believe will be the influential factors for CPD selection rather than discovering meaning after I become immersed in the data. I have distinct variables that I reviewed for the factors as opposed to only themes. I am much more comfortable with an organized survey that has been systematically created rather than creating ad hoc. I was able to gather the data I needed to analyze and analyze the numbers (my accounting side again) rather than analyzing words and images. The deductive process in quantitative analysis is more suited to gathering the influential factors of a broad range of participants (see survey design below). And finally, the analysis could be done based on the data gathered – as my background is in analysis and audit, I am most comfortable with this procedure.

Although I am more comfortable analyzing numbers and results than words and images, in order to gather data that may not have been covered in the survey design, an open-ended question has been added at the end of the survey to gather additional information. This allowed me to identify other factors that are important to accountants

and allows the respondents to express their ideas more deeply than is possible in a closed survey.

Questionnaires have been recommended where there is little prior evidence on which to build (Matthews, 2002). A questionnaire provides a snapshot of accountants' activity across a range of professional organizations, work areas, gender and ages. The use of a survey and quantitative analysis will use standardized responses and thus build validity and allow the researcher to analyze data more easily.

Research Questions

This is a non-experimental exploratory study using an online survey questionnaire. The research is comparative needs assessment as it is looking for relationships among the variables. Based on the problem statement above, the main research questions for this study are:

1. What is/are the highest ranked influential factor(s) in the selection of delivery modality?
2. Is there a difference in accountants' preference for online or face-to-face and synchronous to asynchronous instructional modalities?

Other research sub-questions to be explored in determining the influential factor(s) are:

- Are the influential factors significantly different for online delivery modalities versus other modalities?
- Are influential factors significantly different for synchronous versus asynchronous modalities

- Are there any significant relationships between language, age, gender, accounting organization or workplace and influential factors in delivery modality selection for CPD?

The questions will help determine whether the current findings are likely to continue in the future (i.e. different age group results) as well as provide more detail about the research questions.

Why this study is important

Gaining knowledge of any differences among the reasons for selection of face-to-face and distance modalities will help us understand students' perceptions of both face-to-face and online training. Both face-to-face and distance education can provide quality CPD to accountants.

The results of this study will be of value to decision makers in the accounting organizations and other professional organizations. It may help in the planning and design of CPD offerings. It is also possible that the results will assist in determining the optimal modality/modalities of CPD provision. The study will also be helpful to course planners in higher education with possible directions on the design of courses as the provision of CPD is a potential area of expansion in their curriculum planning. Finally as CPD is a requirement of most professions the study may be useful for planners involved in developing and delivering CPD for other professional groups.

There is a scarcity of research that focuses on specific courses and participants in courses designed for working professionals. In a review of contemporary literature in distance education, it was found that most papers reviewed looked at liberal-arts courses rather than business courses (Bryant, Kahle & Schafer, 2005). The authors found that

more research needs to be completed on the factors relating to student satisfaction when it comes to a technical topic like accounting. St. Pierre, Wilson, Ravenscroft and Reele (2009) also agree that more research focused on accounting education is needed. In their editorial, the authors stressed that although accounting education research involves challenges, the findings are of critical importance to accounting educators. The accounting organizations are currently the main educators of accountants for CPD. It has been suggested that this is an area with many expansion opportunities for higher education institutions (Epilogue, 2006).

Many of the articles reviewed pointed out the need for further research in the areas of accounting education; lifelong learning; and new modalities of providing CPD such as podcasts and webcasts. This study will increase our awareness in these areas of interest. The use of mobile devices for education is a hot topic for researchers currently. The factors that accountants are using for selecting modalities may assist organizations and post-secondary educators to determine whether this direction should be followed.

This research focuses on factors that influence accounting professionals in the choice of CPD modalities and especially those using distance education. It is expected that the information gathered will be also applicable for some other professionals' CPD and may lead to further research in those specific domains. In addition, conclusions reached will provide possible directions on design for this type of content delivery in both CPD and higher education.

Limitations and Delimitations

Limitations are factors that affect the research study but that are not under control of the researcher or that constrain the validity of the study. As this study will be

conducted using an online survey and relies on self-selection by the accountants responding to emails sent by the researcher, the most significant limitation will be the willingness of accountants to respond to the survey. Therefore, participants were offered the opportunity to place their names in a draw for an iPad2. Although attempts were made to deliver an invitation to complete the survey to all accountants in Canada, there may be response bias toward technology as the survey is only accessible online and the survey participants may not accurately reflect the population of accounting professionals.

In order to increase the likelihood of participation, an additional advertisement in each of the organizations magazines was originally planned for the half-way point in the survey. However, the cost (>$4,800) did not make this a viable option. However, use was made of professional accounting groups on LinkedIn to promote the survey. Because of the self-selection process, no stratification was done for the sample.

A further demographic limitation is the language of the study. The researcher is English speaking only. The survey was translated to French in order to include both official languages. However, there is a possibility that open-ended responses complete in French (two respondents) were not correctly translated due to local and regional colloquialisms.

Delimitations are factors that are under the control of the researcher. The study will be delimited to active accounting professionals. It is not possible to generalize the results beyond the study sample, however the results will likely be of interest to accountants as well as other professionals. The survey is restricted to a short questionnaire administered once, with only one pilot study (see methodology below).

Therefore, there will likely be more uncertainty in the results than there would be from a comprehensive longitudinal study.

Definitions

Continuing Professional Development can be thought of as a means of regulating professional practice to ensure that the professionals receive the most up-to-date information and skills to remain viable in the market (Epilogue, 2006). According to Friedman and Phillips (2004) there is no single concept of CPD that is widely accepted. On the one hand, CPD promises to deliver strategies of learning that will benefit individuals, foster personal development and produce professionals that are flexible, self-reflective and empowered to take control of their own learning. On the other hand it can also be defined as a mode of education or learning. When describing professional development for teachers, the Organization for Economic Co-operation and Development states that it is any activity that develops and individual's skills, knowledge and expertise and includes personal study and reflection as well as formal courses (as cited in Chalmers & Keown, 2006). In this study, I refer to professional development under the IFAC requirements that CPD is the continuation of the initial professional development process that led to a qualification as a professional accountant. It is the learning and development that takes place after the professional qualification (IES 7, 2010).

Distance education, as defined by Moore and Kearsley (2005, p. 2), is "planned learning that normally occurs in a different place from teaching through various technologies". Accountants attend various training opportunities with the expectation that they will further their knowledge in specific areas. Therefore, for the purposes of

this study, the accountants who are participating in the planned learning activities can be classified as **students**.

The remainder of the definitions in this section describe the modalities to be reviewed in the study.

A **face-to-face full-length course** is an accredited course delivered to the students at a university or college or by the accounting body. These courses are normally taken by students studying toward their initial accounting designation but are also often offered to accountants for further CPD opportunities. It may also be offered by the workplace, such as tax courses offered by the Canada Revenue Agency to their employees.

An **online full-length course** is an accredited course delivered, paced or self-paced, to the students via a learning management system. Brown and Green (2003) identified the single most important advantage to an online course is the access to learning opportunities and social interaction.

A **recorded seminar** is a recording of a face-to-face seminar. The recording is made at the live seminar and may include downloads of slides used as well as the audio/video of the actual lecture. This recording is available to students in the form of a download from the web or a CD or DVD.

A **recorded webinar** is a recorded version of the online webinar. Students normally download a copy of the webcast to their own computer to watch at their convenience. Some have an option of purchasing a CD or MP3 version of the webcasts. These webcasts are often also referred to as podcasts or vodcasts (the audio and video portion designed to be used on both portable device and desktop machines).

Self-paced, computer aided learning means that the student is interacting with the computer for learning as opposed to with the instructor or fellow students. Although it is possible for most web-based programs to be included here, for the purposes of the study, this category was restricted to those programs that only require computer-student interaction. Since the student is studying interdentally the speed, or pace of the course, is controlled by the student

A face-to-face live **seminar** is a live presentation where the physical presence of the student is required. It can range from a breakfast meeting that includes a speaker to full-day(s) training (such as at a conference).

A synchronous **webinar** is an online seminar. There is a sign-in process and a live moderator. These can last anywhere from 45 minutes to six hours. Live webinars have an advantage over face-to-face seminars in the number of attendees that are able to attend and the cost and ecological savings due to the elimination of participant travel. A recent webinar offered by CGAs had more than 550 sites logged in during the presentation. Costs for the accountants to attend the webinars are less than attending on-site seminars in major centres as no travel is required. The student is expected to be listening and watching and, sometimes, taking an active role. However, as the attendees often number well into the three figures, it is often difficult for active participation to take place.

Summary

Chapter 1 introduced the topic of accounting CPD and provided the purpose of the study and the research questions. The chapter briefly outlined the problem, the

research questions and why this study is important. It also indicated the limitations and delimitations of the study and various terms to be used in the study were defined.

The next chapter, the literature review, examines key areas of this proposed study. It reviews the inclusion of constructivist learning theory contributing to high quality CPD as well as a review of how distance modalities can be considered high quality CPD. It reviews what modalities are being offered to accountants and follows that with a review of which selection factors are most likely to utilized when selecting CPD.

The third chapter outlines the research design and what steps were undertaken to complete the research as well as data analysis procedures. The fourth chapter details the results of the survey and the fifth chapter contains discussion and recommendations for practice and further research. The appendices contain the survey questions as well as results of individual statistical tests.

Chapter 2.

Review of the Literature

Overview

Neuman (2006) indicates that the literature review is done based on the assumption that scientific research is a collective effort of many scientists. That knowledge accumulates and we build on and learn from what others have done. Any specific research project is just a tiny part of the overall process of creating knowledge.

The literature review begins with a look at constructivist theory which serves as the underpinning pedagogy for the study. It then continues with a review of the definition of CPD and what constitutes high quality CPD. It looks at whether or not distance CPD modalities can be considered high quality CPD. It then expands on the distance modalities and reviews what modalities are being offered to accountants. It then reviews the influential factors in selecting the modalities and concludes with a review of the search for literature discussing factors that influence the selection of delivery modalities by accountants.

Constructivist Theory

As indicated in Chapter 1, Pange and Pange (August 2011) state that all learning should be created utilizing the principles of a learning theory and constructivist theory (or constructivism) is a theory best suited for adult learning (Doolittle & Camp, 2009, Hean & O'Halloran, 2009). The following paragraphs provide an overview of constructivist theory.

Driscoll (2005) indicates that there is no single constructivist theory of instruction and that constructivism has multiple roots. According to Driscoll, these include "the cognitive and development perspectives of Piaget . . . the interactional and cultural emphases of Bruner and Vygotsky . . ." as well as the philosophies of Dewey, Goodman and Gibson (Driscoll, 2005, p. 386). What is common among them all however is that in constructivist theory, or constructivism learning is an active process and that knowledge is constructed. Information can be imposed but understanding must come from within the learner. Knowledge is constructed as the learner begins to make sense of their experiences.

Because constructivism has multiple roots, it is frequently described as a continuum rather than a unitary theoretical principle (Doolittle & Camp, 1999). At one end of the continuum is cognitive constructivism. Under cognitive constructivism, knowledge is not passively accumulated but is the result of the adaptive processes that a learner does in the process of building accurate internal models or representations that mirror or reflect structures that exist in the real world. Pointing to Piaget, Fosnot and Perry (2005), in constructivist theory, learning is not the result of development but **is** development. They go on to state that disequilibrium facilitates learning and reflective abstraction is a driving force.

The opposite end of the continuum from cognitive constructivism is radical constructivism. Radical constructivism focuses on this understanding that knowledge acquisition is an adaptive process that results from active cognizing by the individual learner, and that the cognition is an adaptive process (Doolittle & Camp, 1999).

Somewhere in the middle of these two extremes lies social constructivism. Social constructivism emphasizes that it is the social nature of knowledge and the result of social interaction and language usage the engender learning (Doolittle & Camp, 1999). The socio-historic work of Vygotsky indicates that dialogue engenders thinking and learning is not an individual experience but rather a shared experience. Hean (2009) points out that both cognitive and social constructivist processes are important for learning.

Driscoll (2005) stresses that constructivist learning goals emphasize learning in context. The understanding and use of the new knowledge as it is being constructed is important. Learning should not be done in a void but needs to be contextualized for the learner. Critical thinking and problem solving skills are a large part of the learning goals of constructivism. This doesn't mean that learning can only happen on the job or solving a dilemma. Mindful reflection of learning is also included as a goal of constructivism. What is equally important is that students become self-regulating and take part in their own education. It is impossible to construct knowledge if you are not actively engaged.

In order to meet the learning goals of constructivism we need to have appropriate learning conditions that are most likely to bring these goals to fruition. The learning conditions that are best suited for constructivism emphasize the process of learning rather than the product of learning. Driscoll (2005) lists five recommendations for learning conditions in constructivist theory:

- Embed learning in complex, realistic and relevant environments
- Provide for social negotiation as an integral part of learning
- Support multiple perspectives and use of multiple mode of representation

- Encourage ownership of learning
- Nurture self-awareness of the knowledge construction process

Once we know the goals and conditions of constructivism, we can identify the methods of construction that best fit with them. In the following paragraph, I will refer to the methods suggested by Driscoll (2005) to explain the relationship between the goals, conditions of learning and methods of instruction.

To gain reasoning and critical thinking, complex and realistic environments are necessary that incorporate authentic activity. Methods of instruction that facilitate this would be problem-based learning and microworlds (such as Second Life). Social negotiation will facilitate the goal of retention, understanding and use and will require collaborative learning. Cognitive flexibility comes with multiples perspectives and modes of learning which can be facilitated with hypermedia. Ownership of learning aides in the goal of self-regulation by students and collaborative and problem based learning methods of instruction will enable this as will open-ended learning environments. Self-awareness in knowledge construction should promote mindful reflection and again collaborative learning will aid in this process. Role plays, debates and bubble dialogue are also methods of instruction which should enable the self-awareness in knowledge construction. All of these factors indicate that constructivist theory is a learning theory well suited for adult learning.

While constructivism may not be the only learning theory that can be applied to CPD, it is well suited to adult learning and CPD. We can therefore use constructivism as a guiding pedagogical model for reviewing and evaluating CPD in various modalities.

What is CPD?

A study by Friedman and Phillips in 2002 asked professionals themselves what they think constitutes CPD. Their study first looked at 436 professional associations own surveys to determine the reflective practices of the associations themselves. This was followed up by 269 telephone interviews and face-to-face interviews and focus groups. The majority of professionals, and some managers speaking as professionals themselves, saw CPD in its most fundamental state as a means of keeping up-to-date in their fields; something that professionals would, or should, 'just do' with or without formal requirements. The study also found that more than half the employees interviewed indicated that they do (or would do) CPD as much for personal development and interest as for professional development. Unfortunately, the study concluded that the definition of CPD is either likely to remain ambiguous and contested or is still in a state of transition. The 'state of transition' argument was also put forward by Cervero (2001).

Schwartz and Bryan (1998) identify three areas of professional development:

- formal - active, intentional training or education such as classes, specific workshops, or designed learning opportunities, often for credit or graduate study
- nonformal - such as brown bag lunches, speakers, departmental training programs, orientation programs, association training and activities; and
- informal - observing, job shadowing, learning by example, and many mentoring activities.

IFAC defines CPD to be the continuation of the initial professional development process that led to a qualification as a professional accountant. It is the learning and development that takes place after the professional qualification that maintains and

develops competencies to enable professional accountants to continue to perform their roles (IES 7, 2010).

Ensuring the quality of CPD

While there are many components that contribute to what each individual will consider to be high quality CPD, as CPD is defined as "learning that takes place after the professional designation", we can look to learning theories as one of the components of high quality CPD. Constructivist instructional goals include the development of problem solving, reasoning and critical thinking skills, as well as the active and reflective use of knowledge (Driscoll, 2005). This description of learning fits well with the continuous development of technical knowledge, professional skills, professional values, ethics and attitudes subscribed by IFAC. (IES 7, 2010). The acquisition of technical knowledge involves content and often, the development of professional skills is directly related to content acquisition. The IFAC requirement for "continuous development of the competence achieved during initial professional development refined appropriately for the professional activities and responsibility of the individual" (p. 8) also seems to fit within the constructivist theory of building on the individual's pre-existing knowledge. Cervero (2001) states that because of the temporal and geographic context of continuing professional education, professionals are most likely to be aware of a need for better ways to think about their professional practice.

Driscoll (2005) further indicates that the conditions of learning include complex, realistic and relevant environments that incorporate authentic activity, social negotiation, multiple perspectives and require an ownership of learning and self-awareness in knowledge construction by the individual. Methods of instruction suggested by Driscoll

to be consistent with constructivism include problem based learning, collaborative learning and open-ended learning environments. Note that all of these imply active engagement by the learner- a further defining feature of constructivism. Thus, for the purposes of this study we will assume that quality CPD has at least some of the characteristics of an explicit or at least implicit constructivist pedagogy.

In discussing teacher professional development, Chalmers and Keown (2006) indicate that professional development should avoid a quick fix, address real needs and treat students as active learners who construct their own understanding. Doolittle and Camp (1999) give five central concepts that adult career and technical education must embrace to align itself with constructivist theory. These concepts can also be embraced for CPD:

- All teaching within career and technical education must begin and end with an appreciation of the student's understanding.
- The student must be facile with a core set of currently accepted knowledge and skills within career and technical education.
- Career and technical knowledge and skills are dynamic; thus students must have the skills necessary to adapt.
- Student's idiosyncratic understandings of career and technical knowledge and skills must be valued, as these understandings may lead to new discoveries, insights, and adaptations.
- The goal of career and technical education must be an occupationally self-regulated, self-mediated, and self-aware individual.

A CPD training session can easily lend itself to the implementation of constructivist theory. Baviskar, Hartle and Whitney (2009) lay out four requirements and example for an activity to be considered constructivist. Their requirements can be aligned with CPD as follows:

1. Eliciting prior knowledge. This is more than just the assumption that the learner has the prior knowledge, and can be done through the asking of informal questions at the beginning of a CPD session or conducting a pre-test prior to the start of a course.

2. Creating cognitive dissonance. The learner must be made aware of a difference between his/her prior knowledge and the new knowledge. In some cases, in the selection of CPD itself (if the reason for selection is topic and updating) the student has acknowledged their need for the new knowledge. However, in all cases, a CPD session can include activities where students must search for answers.

3. Application of the knowledge with feedback. Group discussions are one good method to assist in the integration of the new knowledge and can be done in most CPD sessions that are asynchronous. Both synchronous and asynchronous sessions can include questions that restructure the ideas learned by providing students with questions and feedback. Self-paced computer programs can go even further by using games to assist student in applying the knowledge learned.

4. Reflection on learning. This can be as simple as having the students reflect at the end of the activity, provide a reflection paragraph, or other similar activities.

Can distance modalities be high quality CPD?

Should the accountants be selecting distance modality for their CPD? Accountants will want to select high quality CPD and distance modalities can be considered high quality CPD. In a meta-analysis of education research literature between 1985 and 2002, Bernard et al. (2004) found more than 200 empirical studies comparing f2f to distance that contained a total of more than 650 independent achievement, attitude and retention outcomes. Their study found a wide variety of outcomes, some favouring DE and some f2f classrooms and found that the effectiveness of both DE and f2f depends on pedagogical excellence – not on the modality of delivery. They concluded that overall DE modalities and f2f modalities are comparable. In other words, it is not the modality of the course (whether DE or f2f modality) that is important but the design and implementation. Russell (1997) would agree as he states that "individual differences in learning styles dictate that technology will facilitate learning for some, but will probably inhibit learning for others, while the remainder experience no significant difference." Both of these studies were done when technology was much more limited than it is currently and some of the learners' opinions may have been a reflection of their attitude toward the lack of ease-of-use in the technology rather than the delivery mode.

Distance education has many attractive features for lifelong learners (Bates, 2005, Donavant, 2009). A 2006 survey by High Voltage Interactive (as reported in Rising Interest in Online Ed, 2006) indicated that 74% of American adults in the 24 - 65 year age group would consider taking an online course. Studies comparing distance education to face-to-face instruction have been carried out since the 1950s and have invariably found "no significant difference" between the various forms of instruction (Saba, 2000).

Donovant (2009) states although studies on distance education versus face-to-face courses have been "done to death" there are not many studies that look at CPD. He indicates that more studies are needed to look at the appropriate use for online education in the area of CPD. Bates (2005) also agrees that more studies are needed on the effectiveness of distance education for CPD. This thought is echoed by studies that looked at CPD in other professions such as nursing (Cobb, 2004), engineering (Baukal, 2009) and librarians (Lynn et al., 2010).

Studies have shown no significant difference in the effectiveness of web-based instruction as compared to face-to-face instruction in medical training (Schimming (2008), Neuhauser (2002)). A comparison of web-based continuing medical education (CME) and face-to-face CME instruction resulted in comparable changes in behavior and sustained knowledge gain (Fordis et al., 2005, Sept 7).

Web-based instruction is an excellent method of including constructivist learning for students as it can enable the learner construction of meaning, social interaction and student problem solving in “real world” contexts (Leflore, 2000). E-learning, when property structured, can help students create knowledge by linking previous and new knowledge and allow them to have a higher learning achievement (Pongsuwan, S., Hoksuwan, S., In-udom, W., & Chalakbang, W., 2011).

It can be recognized, that it is not the modality but the content that is important when considering whether or not the CPD is high quality. All types of distance modality can have activities developed using constructivist theory and could therefore be included in this category.

The expansion of distance to mobile

The use of webcasts or podcasting is becoming more popular in both higher education and CPD. This is especially true in recent years with the increased use of hand-held devices. With the invention of tablets, mobile has become even more convenient. Allen (2009) indicates that podcasting has a place in higher education and can increase student knowledge. Podcasts provide an additional method to address other learning preferences and gives students more portable content and the ability to replay lectures, and parts of lectures as needed which can increase retention. Gibbs, Bracey and Gay (2009) agree with her that podcasts add an additional content form, but note that further research is needed on when and where students actually use podcasts. Students appreciate the succinctness of podcasts and the focus on specific areas (Sutton-Brady, Scott, Taylor, Carabetta & Clark, 2009) but further research is needed into the pedagogical value of lecture recording (Taylor & Clark, 2010).

Webcasts and podcasts were used successfully as part of an accounting curriculum in an international accounting class (Holtzblatt & Tschakert, 2010). The webcasts that the researchers found for the purposes of their study have information that is also needed by accountants in their CPD. In fact, many of the webcasts used in the curriculum were originally created for CPD purposes. It follows, then, that webcasts and podcasts may also work well for accounting CPD.

The increase in e-books and the ability to create curriculum and courses specifically for the hand-held devices, such as tablets and smart phones is making mobile devices an option that should work well for busy accountants and other professionals needing to complete CPD requirements.

It stands to reason, then, that distance and mobile modalities can be used to deliver high quality CPD to accountants. Is there high quality CPD, following constructivist theory, being made available to accountants?

What modalities are being offered to accountants?

As part of an assignment in one of my masters degree courses, I reviewed online distance education that was available to professional accountants. Each of the national and regional web sites for the three associations was visited during the month of October 2009. A count was done of the various types of distance education technology courses offered. Face-to-face seminars were not included in this count as no distance technology is required (the course was focused on technology use). The study did not include printed articles and information that could be downloaded by the accountants for informal reading. Also not included in the count were affiliations with other universities where enrollment in the university program was required.

There were limitations in my coursework for the correct counting of live webinars. This occurred because some regions only provided a list of upcoming seminars over the next one or two months. Counting each month would have resulted in a more accurate count of webinars offered but was not possible due to time limitations. In addition, there was insufficient time to completely review each course offering so a determination of type was sometimes done on a "best guess". Also, a lack of skills in reading French limited the ability to accurately assess the courses available in the Quebec regions. Despite these limitations, Table 1 clearly shows that a large variety of modalities are being offered to accountants to complete CPD. The provision of courses

via different modalities varied by organization and this may influence which modalities are selected by accountants belonging to those individual organizations.

Table 1

Summary of Technology Use for Professional Development by Accounting Associations

Association	CAI	Live Webinars	Webcasts	OFC
CGA				
Head office	34	8	4	0
Regions	0	0	0	42
CMA				
Head office	>100	2	9	>100
Regions	0	10	0	0
CA				
Head office	>100	33	>100	8
Regions	13	41	6	11

Note: CAI = Computer aided instruction, OFC = online full-time course

For all associations (in particular the CMAs and CAs), the main source of technology-based distance education was the head office. Regions focused their distance education on providing live seminars and conferences within the region. The exception to this is the live webinars where regions generally produced more. This may be due to the relationship already established between the region and the webinar provider for face-to-face seminars.

The CMA has an affiliation with E-Cornell to offer online courses to members and these have been included. Nationally none of the associations offer a large number of online full-length courses. The webcasts offered by CA mainly consist of recorded seminars that had been presented at conferences. Webcasts of all associations also include recorded webinars.

Of the 14 regions for CGA only British Columbia/Yukon and Alberta offered full-length distance courses. Included in the online full-length courses for CGA are courses

offered in the provincial CGA student program. These are full-length courses, normally completed by accounting students, that are offered to members for professional development purposes.

The CMA has 10 regions with three of them: Alberta, British Columbia and a combined region of Nova Scotia, Prince Edward Island, Bermuda and the Caribbean, offering distance education courses

The CA have five of the 13 regions offering DE including Alberta, BC, Manitoba, Newfoundland and Labrador, and Saskatchewan.

The information gathered in this preliminary study indicated that accountants are being offered a variety of CPD in DE modalities. This led to the question of whether or not they are selecting those DE offerings and why they are selecting the DE or f2f CPD that is being offered.

What are the factors that effect accountants when selecting in CPD modalities?

Anderson and Anderson (2009) mention both economic and environmental reasons why attending a conference via the web can be better than attending in person. They provide an example of an onsite conference that was converted to an online conference. Reducing the carbon footprint and resulting in savings of close to $2,000/person are likely strong factors that influence users choice of CPD modality.

The study by Lynn et. al. (2010) listed five influential factors that determine selection of CPD by librarians: cost, immediate access to instructor, time away from work, immediate interaction with participants, self-pace learning, socializing or networking. They found that cost was the most influential factor in selecting a course. However, their study did not include content (the topic of the CPD) as a factor as they

assumed that content would be the most important factor. They stated that future research should include larger samples and content as a factor.

In a recent study of medical professionals taking online courses (Sandars, Walsh & Homer, 2010) noted seven factors that participants use to select a distance course for themselves. These include: opportunity to work anytime and anywhere, opportunity to work at own pace, opportunity to work at home, overcome the time pressures of work, difficult to attend formal sessions, overcome the difficulties of attending face-to-face meetings, overcome the time pressure of family life. Their study found that flexibility was the main influential factor based on the respondents' selections of "ability to work anytime, anywhere", "at own pace" and "at home" as the top three reasons for online CPD. However, their study did not look at any differences between selection factors in face-to-face versus online modalities but focused strictly on online modalities.

A UK study by Paisey, Paisey and Tarbert (2007) did not supply selection factors but asked accountants an open-ended question on why they did not take more CPD. The main factor provided by these accountants as the reason for not taking a course in this study was lack of time. Cost, quality, suitability of course and location were also noted as influential factors in not taking courses.

Why do accountants select distance modalities for CPD?

When asked for the reasons for not taking more CPD, accountants in a UK study indicated lack of time, suitability of content, poor quality, cost and location as the factors that influenced them (Paisey et al., 2007). This tells us why accountants are not taking CPD, but not why they are. Could not the same factors be reasons why accountants will select distance CPD modalities? Distance education has always struggled with

perceptions that it provides less quality than a comparable face-to-face course. This perception persists despite hundreds of studies showing no significant difference in learning outcomes (see examples at http://www.nosignificantdifference.org/).

A 2009 study (revised September 2010) by the US Department of Education found that distance education courses often allowed for more time to be spent by students on task and therefore resulted in better performance (Means, Toyama, Murphy, Bakia, Jones, 2010).

A study of recruiting firms in the United States found no difference in perception of online versus face-to-face masters of accounting degrees (Metrejean & Noland, 2010). This is not a surprise as many of the state accounting associations in the United States and all three accounting organizations in Canada have distance education components in the courses required for designation. Therefore, most accountants have had some experience with distance education. The effect of different modalities and technologies of delivery that they have experienced – good or bad - may influence their decisions to enroll in further CPD using distance delivery. In summary, experience, the need for accreditation and limitations of time associated with all professions, all indicate that accountants should be good candidates for selecting online courses and seminars when completing their CPD.

A search was undertaken to see what has been studied on modality selection factors for accountants. Only two relevant articles were found. Wessels (2007) looked at US accountants' perceptions of their requirement to take CPD but did not survey them on the modalities or selection factors. The UK study by Paisey et al. (2007) stated that it was the first academic study that surveyed accounting members on their CPD activities.

A review of Canadian Accounting Journals overseen by the Canadian Association of Accounting Academics from 1980 to present was done to try to locate any research of professional development or continuing education (Contemporary Accounting Research, Accounting Perspectives). No articles were found that related to modality selection. An additional visual scan for any research regarding modality selection or other factors relating to accountants perceptions of CPD in the titles of all articles over the last four years of

- Issues in Accounting Education
- Academy of Accounting and Financial Studies Journal
- Accounting & Business Research
- The Accounting Educators' Journal
- Accounting Review
- Advances in Accounting Education
- Global Perspectives on Accounting Education
- Journal of Accounting Research & Audit Practices
- Journal of Accounting Education
- Journal of Applied Accounting Research
- Journal of Accounting Literature
- Journal of Education and Work
- Journal of Lifelong Education

This scan was limited to recent issues to take into account the increase in the availability of online accounting CPD over the last half-decade. This limit was also partially based on the statement by Paisey et al. (2007) that their study was the first

academic study. The results of these searches indicate that there is a dearth of peer-reviewed literature that focuses on influential factors in the selection of CPD for accountants.

Therefore, the selection factors used for this study started with the selections used by Lynn et.al. (2010) in their study of influential factors used by librarians. To this group, two items have been added. That study suggested that "Content" be included in future studies as a selection factor; and "CPD Hour Requirement" has been added based on information discussions with accountants on why they are selecting CPD. The selection factors used for this study are:

- Cost
- Immediate access to instructor
- Time away from work or home
- Self-paced learning
- Socializing or networking
- Topic or Content of Course
- Fulfillment of CPD Hour

Summary

Research conducted at the undergraduate level confirms that accounting students are receptive to the use of webcasts and podcast as part of a content delivery method. However, learning does not stop when university ends. Continuous lifelong learning is required for professionals. While some studies have been conducted in various professions around modality selection preferences for lifelong learning, there are no studies specific to the accounting profession.

Quality design in CPD courses can use constructivist theory. Both f2f and DE modalities can be used to provide accountants with high quality CPD. Although it seems intuitive that accountants, who lead very busy lives, would be ideal candidates to select distance CPD modalities, it is not known if and why they choose (or do not choose) to enroll in DE modes of CPD. No studies could be found on whether or not accountants are selecting distance modalities or why highlighting the need for this study. The next chapter details the research design.

Chapter 3.

Methodology

Type of Research Design

Neuman (2006) identified basic research as research that advances "fundamental knowledge about the social world" (p. 24). He indicates that applied researchers conduct a study to address a specific concern a group (such as accounting organizations in this instance) but rarely build, test, or connect to a larger theory. Cooper and Schindler (2003) describe basic research as studies undertaken without a relation to a specific client. Under these two views, this study falls into both basic and applied research. There is a gap in the literature that needs to be filled and this study can be considered basic research. However, the study addresses specific concerns of accounting organizations (namely CPD), therefore, it could also be considered to be applied research.

Online Survey

The method of gathering data for this research was an online survey in the form of a questionnaire. An online survey was preferred as it allows for a greater number of members to be surveyed than would have been possible with alternative methods, such as interviews, for the lowest cost. Surveys have been recommended where there is little prior evidence on which to build (Matthews, 2002) as is the case with this study.

The survey format allowed the researcher to gather data quickly over a short period of time and provided a snapshot of accountants' activity across a range of professional organizations, work areas, gender and ages. The survey used standardized responses and allowed the researcher to analyze data more easily.

The online format allowed access to both English and French speaking participants, which would not have been the case if the researcher had conducted the interviews in person.

Population, sample and participants

The population of the study was professional accountants registered with any one of the three accounting organizations in Canada during November and December of 2011. This may have included accountants not based in Canada but registered with a Canadian accounting organization. Based on public information provided by the accounting organizations, the total population is approximately 160,000 members.

Sample

The sample size determines the amount of precision the researcher can make in the analysis. All tests that look at detecting a difference are based on sampling distribution. The more participants there are, the narrower the distribution and the greater the likelihood that any differences will be discovered (the greater the power). VanVoorhis and Morgan (2001) use the example of the difference in weight in children. The difference in weight between newborns and one-month-old infants is likely very small; therefore the effect size is small. The difference in weight between newborns and one-year-old children is much larger; therefore there is a larger effect size and a greater ability to detect differences – greater power. Using the Raosoft online calculator (Raosoft, Inc., 2004), a minimum of 384 respondents were needed for a population size above 130,000 at a 95% confidence level with a 5% margin of error. A sample size of 428 gives us sufficient power to make valid implications.

Emails, organizational newsletters, social networking sites and word of mouth were used to contact over 32,000 accountants (see data collection below). It is not unusual to see a low response rate to online surveys. Heerwegh and Loosveldt (2009) noted that there is a "proliferation of experimental research on web survey response" covering topics from technical issues (such as login procedures) and incentives or timing and content of the email itself as well as their own study which concluded that the theory of planned behavior can be used to help explain the low response rates. A 2008 meta-analysis comparing 45 experimental comparisons between web and other survey modes indicated that web surveys yield an 11% lower response rate than other modes (Manfreda, Bosnjak, Berzelak, Haas, & Vehovar, 2008). And In their study of 43 mixed-mode surveys, Shih and Fan (2007) found web response rates varied from 3/10ths of one percent to 84%.

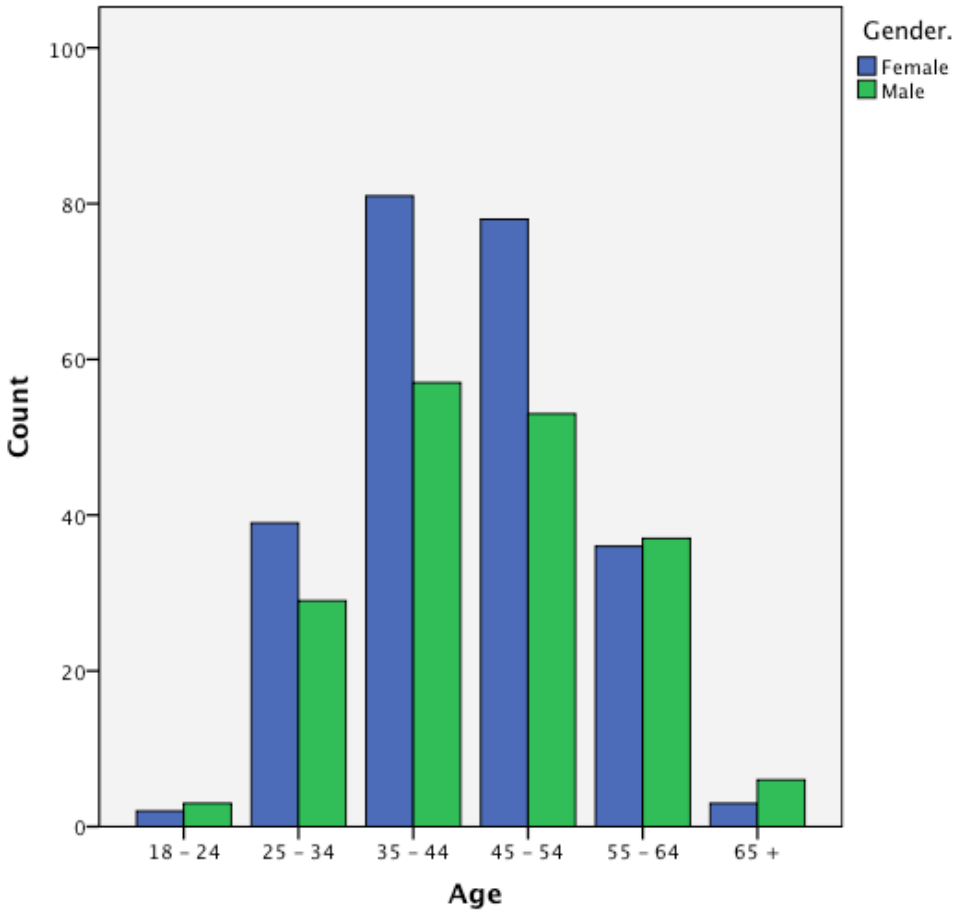
Participants

Accountants registered with the three professional accounting organizations in Canada during November and December of 2011 were contacted. Each individual accountant may have been contacted a number of times, particularly if they belonged to more than one of the organizations.

Of the 428 valid responses received, 407 of the responses were completed in English and 21 were completed in French. Females represented just over half of the respondents (56%) with 240 female respondents and 186 male respondents (two respondents did not specify their gender). The largest group of respondents were in the 35-44 age group (138), followed closely by the 45-54 age group (133). The 25-34 age group was also well represented (68) as was the 55-64 (73). Very few accountants were

under 24 (5) or over 65 (9). Again two respondents elected not to specify their age. As the number of responses included in the under 24 (5 respondents) and over 65 (9 respondents) age groups were considered to be too small for analysis (a minimum of 7 participants per cell, preferably 30 per VanVoorhis & Morgan, 2001). Therefore, for analysis purposes, respondents aged 24 and under were combined with those whose ages ranged from 25 – 34 and respondents aged 65 and over were combined with those who ages ranged from 55-64. Figure 1 shows the demographic data of age and gender.

Figure 1. Demographics of Respondents



Although all three accounting organizations were contacted, more than one-half of respondents indicated that they had a Certified General Accountant (CGA) (62%) as

opposed to a Certified Management Accountant (CMA) (29%) or Chartered Accountant (CA) (11%). Percentages are marginally greater than 100% as accountants may belong to more than one organization. Additional designations were also included such as the Association of Chartered Certified Accountants, Certified Financial Planner, and Certified Fraud Examiners. These results are not representative of the percentages of accountants in Canada but do provide a diversity of repsonses. The approximate total number of accountants in Canada is 160,000 with CAs (45%) comprising the majority, followed by the CGAs (30%) and the CMAs (25%).

Accountants were well diversified in their workplace category with 24% in public practice, 31% in industry and 22% in government (6% in the federal government, 14% in a provincial government and 2% in municipal governments). Education (9%) and non-profit enterprises (8%) were also well represented. A total of 28 respondents selected other, either alone or combined with one of the above workplaces. Fifteen of those respondents selected "other" as their workplace with retired or unemployed being the most common comment.

As can be seen in Table 2, respondents working in public practice included 31% of CGAs compared to 20% of CAs and only 13% of CMAs. CAs that responded included 22% working in the education sector compared to only 8% of CGAs and 7% of CMAs. CMAs had the highest numbers in the government and non-profit sectors combined (42%) with 27% of the CGAs who responded working in those sectors and 20% of the CAs in those sectors.

Table 2
Workplace by Organization

	Organization				
Workplace	CGA	CMA	CA	Other	Total

Public Practice	80	31%	16	13%	9	20%	0	105	24%
Federal Government	12	5%	13	11%	2	4%	0	27	6%
Provincial Government	34	13%	21	17%	4	9%	0	59	14%
Municipal Government	6	2%	4	3%	0	0%	0	10	2%
Non profit	19	7%	13	11%	3	7%	0	35	8%
Education	22	8%	8	7%	10	22%	0	40	9%
Industry	82	31%	38	31%	17	38%	0	137	31%
Other	7	3%	8	7%	0	0%	7	22	5%

Data Collection, Instrument and Variables

Data Collection

The survey was made available online from November 1st 2011 until December 15, 2011. In order to inform accountants about the survey, the head offices of the three accounting organizations were contacted by email with a request to forward information to their members. However, all three head offices indicated that requests were to be put through regional offices.

A total of 38 regional offices were then contacted by email - 15 for CGA, 12 for CA and 11 for CMA. Seven of those regions responded favourably (CGA - Alberta, BC and Manitoba; CA - Alberta; CMA - Saskatchewan, Quebec and New Brunswick) and email information was sent to them (see Appendix C for email). The CMA Saskatchewn and New Brunswick regions sent out an email to their members. The CA and the CGA regions included information about the survey in their newsletters. The researcher did not have specific control over what was actually sent to accountants. It is known that, in some cases, that not all information supplied was included. For instance, it is known that not all regional offices provided both the English and French translation to their members and also that newsletters did not always include all paragraphs supplied.

CMA Quebec region accepted the researcher as a member of their group on their social networking site, LinkedIn where the email was posted verbatim, and defined my post for their members as a "Manager's Choice" giving it priority display. This region also invited the researcher to use additional social networking on Facebook to increase exposure for the survey information on LinkedIn (although this was not utilized). Additional posts, containing a verbatim copy of the email, were made to other publicly accessible groups on LinkedIn that were accountant specific.

Publicly available email addresses were searched on the Internet. The large accounting offices (KPMG Deloitte, Ernst & Young, Grant Thornton, and BDO Dunwoody) list many partners and contact emails and emails were sent to a number of contacts from these companies. Universities promoting their accounting courses also provide many contact emails for professional accountants who instruct and advise for them, and these email addresses were also contacted. An Internet search of accounting sections of provincial government offices was done and emails were sent if designated accountants could be identified. The CA School of business was also sent an email.

Word of mouth was used to create some snowball affect. The researcher discussed the survey with many accounting professionals while attending various functions. Some respondents also indicated, verbally and by email, that they would pass the information on to other accountants. Thus, it is impossible to determine the number of accountants who actually received an invitation email, read a post or were contacted through social media or other communications means about this study, and thus impossible to calculate the completion rate for the survey. Nonetheless the sample of 428 would have been sufficient to make inferences about the total population if the results had

been from a random selection from the population of accountants. Even so, I argue that the results provide us with valuable information and insights into modality choice.

Instrument

Creation of the questionnaire began with a review of the questionnaire used by Lynn et al. (2010) in their study of modality preferences and selection factors used by Librarians. However, the questionnaire developed by Lynn et al. was limited to eight questions and gathered only overall preferences and selection factors (no modality specific data). Additional detail was desired for the purposes of this study, therefore, a questionnaire was developed specifically for this study that expanded on Lynn et al.

The modalities included in the questionnaire were based on a review of modalities available to accountants that was conducted by the researcher, as part of an assignment for a previous masters level course in December 2009. Both face-to-face and online modalities identified during that research were included for this questionnaire. Respondents were given an additional field to add any modalities not included.

Selection factors for the questionnaire included all factors used by Lynn et al. (2010) as well as two additional factors. The first addition was 'content' as the inclusion of this factor was suggest by Lynn et al. for further research. The second additional selection factor added was the CPD hour requirement. This was included based on personal informal discussions with many accountants in all three organizations and various workplaces – these discussions indicated that number of CPD hour earned by taking the CPD may be the strongest influential factor.

Appendix A provides a list of the questionnaire items that were used. Respondents were first asked to rank their selection factors used when selecting CPD

overall. Then the questions became modality and CPD course specific. The first part of the question is a description of the modality and a question to the respondent to ask whether or not they had taken a course in that modality in the last three years. The questionnaire questions were implemented using "page logic" or branching to skip unnecessary pages so that if the respondent answered "NO" to the question on whether or not they have taken a particular modality, they were not forwarded to a factor selection for that modality. This also provided a method of determining the modalities that were participated in by respondents over the last three years. The questions relating to the influential factors on the selection process for each modality were required to be ranked on a scale of one to eight, with seven specified selection factors and a field for "other". Participants were only required to rank those factors that were important to them, so it was possible that some factors received very low ranking or no ranking in a question.

The selection factors for each modality were identical and were provided in the same order each question to allow participants to move through the questionnaire in an orderly manner.

Question 17 ("Rank the CPD delivery methods") required the participants to rank their preferred modality. This question was asked after the individual descriptions of the modality types so that participants understand the definitions used in the study. Again, this question only required participants to rank those modalities preferred.

Variables

The final questions related to demographic information of the respondents including association, workplace, gender, and age. The demographic information allowed us to analyze any differences in the answers given by respondents on modalities and

selection factors. Table 3 indicates the relationships between the variables, research questions and items on the questionnaire.

Table 3

Relationships of Variables, Research Questions and Item on Questionnaire

Variable Name	Research Question	Item on Questionnaire
Independent Variable 1: Gender	Is the accountant male or female?	Q21
Independent Variable 2: Age	How old is the accountant?	Q20
Independent Variable 3: Accounting organization	What organization does the accountant belong to?	Q18
Independent Variable 4: Workplace	Does the accountant work in government, public practice or industry?	Q19
Dependent Variable 1: Influential Factor	What are the strongest influential factors in delivery modality selection overall for CPD?	Q2
Dependent Variable 1: Influential Factor	What are the strongest influential factors in the separate delivery modalities?	Q4, Q6, Q8, Q10, Q12, Q14, Q16
Dependent Variable 2: Delivery Modality Selection	What are the preferred modalities for CPD?	Q17

Evaluating the Survey

Many research method books, including Cooper and Schindler (2003), describe the three major criteria for evaluating a measurement tool according as validity, reliability and practicality.

Reliability and Validity.

The survey was adopted from Lynn et al. (2010) who ensured validity and reliability of their survey by pretesting with select health sciences librarians. My survey was also pretested before being administered. A small selection of seven accountants was asked to take the survey and provide feedback on the layout, the understandability of the questions and any other factors that they consider relevant when they reviewed the survey. As the seven accountants included members from all three organizations as well as various workplaces, the descriptions used to describe the modalities were likely to be understood by all respondents to the survey. The comments from this pretest were positive. The accountants found that the survey was easy to follow and complete. Based on this, no further changes were necessary.

The survey was designed to capture all the types of professional development modalities currently offered to ensure content validity. The criterion-related validity has been established as much as possible as the results of the study were completed in a short time frame after the survey.

There may be some self-selection bias as accountants electing to respond to the survey may have a bias toward technology, as the questionnaire itself was online. However, the results do not show a technological bias. The dissemination of the survey itself is reduced from bias, as much as possible, as all three organizations were contacted and the survey was available in both English and French. It is possible that an accountant could have taken the survey more than once using a different email address for the draw as multiple responses were permitted from the same IP address in order to allow accountants working in the same office to respond to the survey.

As CPD requirements for accountants are based on a three-year rolling average, the questions regarding whether or not accountants had taken that style of CPD included "in the last three years". The questions on selection factors were based on "the last time" the respondents took a course of that modality. This was done to ensure that the responses were indicative of the latest CPD taken by respondents. The required ranking of the survey questions will help provide construct validity.

Creswell (2009) refers to reliability as the consistency of the responses in test administration and scoring over time. Reliability was enhanced by the fact that the survey was not amended once it became available online. The survey has been designed to be able to be completed in a short time frame in order to encourage respondents to answer all questions. Only responses that were completed were analyzed (responses that did not include full demographic information were included for overall analysis and variable analysis where information was available).

Practicality.

Practicality is described by Cooper and Schindler (2003) as the economical, convenience and interpretability of the test. If it is not "practical" to do the study, then it should not be done. As this test was created online it is the most economical method of conducting this study. The test was convenient as it is easy to deliver to any accountant with access to the worldwide web. Interpretability is the ability to evaluate the results. The pretest by accountants confirmed that the respondents of the study will likely interpret the definitions all in the same manner. This allows us to make inferences from the results.

Data Analysis Procedures

Once survey responses were received, the data was downloaded to the researcher's computer and analyzed using SPSS and Excel spreadsheets. Data from the survey was analyzed similar to the methods used by Lynn et al. (2010).

For their study, Lynn et al. (2010) generated descriptive statistics, including means, medians, and standard deviations for continuous variables and frequency tables for categorical variables. Differences between groups for categorical variables were characterized using contingency table analysis, and significance levels were determined by Pearson's chi-square statistic. Significance levels for continuous variables were determined by two sample t-tests and analysis of variance.

For this study, similar tests were run for descriptive statistics including means, medians, and standard deviations for continuous variables and frequency tables for categorical variables. Cross-tabulation information on the responses was done to observe similarities and differences in general. Further tests were then performed using chi-square, Mann-Whitney U, Kruskal-Wallis and Friedman procedures to determine if there were correlations and comparisons and if inferences could be made.

Chi-square, Mann-Whitney U, Kruskal-Wallis, and Friedman.

The Mann-Whitney U test and the Chi-square statistic were selected for correlational and comparison analysis based on Table 8.3 in Creswell (2009). No assumptions are needed about the normality of the distributions as both the chi-square and the Mann-Whitney U test can be used for non-normal distributions.

The Mann-Whitney U test is used to test that the population means are the same for two unpaired groups. This test was used for comparing male/female and French/English results.

However, as the Mann-Whitney U test can only be used for two groups, and this study also included groups of three and more (workplaces, age groups and designations), a different test was necessary. The non-parmetric Kruskal-Wallis one way analysis of variance has been used for groups of three or more.

The Chi-square statistical test was applied to each of the survey questions and can be used as an inferential statistic. It calculates the probability that any association we find is likely to be due to chance factors.

A test was needed to determine whether or not each accountant used the same factors in selection of the various modalities. The Friedman test was used to calculate the probability that the variables are ranked the same.

Qualitative Analysis.

The final open-ended question ("Do you have any additional comments about your selection criteria for CPD") was analyzed using a qualitative analysis method. The quantitative analysis process allows the researcher to become immersed in the data by reading through the data numerous times. Qualitative research involves looking at the meaning of the information gathered as opposed to applying statistical analysis to the data. This inductive method of analysis reveals codes and categories within the data as the information emerges from the text. A summary and examples of descriptive text found is included in Chapter 4.

An interpretation of the results of the statistical tests and how they relate to the research questions was completed. Implications of these results is discussed further in the next chapters.

Ethical Issues

The proposal was submitted to the Athabasca University Research Ethics Board and approval was received to proceed with the research. The study was not expected to cause any harm to respondents. Respondents had an opportunity to decline to answer the survey and acknowledge their consent at the beginning of the survey. Respondents were informed that they could stop the survey at any time without risk of professional or personal penalty. The only identifiable information for individual respondents was to give them the option of including an email address for a prize draw – participants were not required to include an entry in this field. These email addresses were stored on a Canadian server during the survey. At the end of the survey, they were downloaded to the researcher's computer, used to make the draw, and then destroyed.

Summary

An online survey (questionnaire) was used to gather information from accountants registered in the three accounting organizations in Canada. The survey was developed by the researcher using Lynn et al. (2010) as a starting point and expanding to gather further details. The 428 survey participants included men and women, in all age groups, using both official languages, from all three accounting organizations and a wide variety of workplaces. Data collection on the survey was quantitative with one open-ended question for additional comments. Data analysis was done by looking at data using SPSS and Excel spreadsheets and then using SPSS to calculate Chi-square, Mann-Whitney U,

Kruskal Wallas and Friedman tests. Data analysis of the additional comments question was done using qualitative methods. The next chapter discusses the results of the survey.

Chapter 4.

Results

This study examines and explores the factors that influence accountants' selections of modalities when pursuing continuing professional development (CPD). The purpose of this survey research study is to examine the relationships between personal and professional characteristics of accountants and the factors that influence their selection of delivery modality in professional development. The study was a cross sectional sample created by self selection from a researchers' email invitation to accountants in Canada. The analysis of the study consisted of mainly quantitative procedures. Descriptive statistics were generated including means and standard deviations. Frequency tables were generated to look at differences between groups and significance levels were determined by chi-square statistic, Mann-Whitney U, Kruskal Wallis and Friedman tests. Responses in the open-ended question were analyzed using qualitative analysis coding.

Steps in Analysis

A web survey instrument called Limesurvey was used to collect data from participants. Participants logged onto the survey anonymously to complete the survey. Participants had an opportunity to provide their email and be entered into a draw to win an iPad2. Data was downloaded electronically from LimeSurvey directly into SPSS Statistics 18, (SPSS). Information for the draw was copied out to an Excel spreadsheet and www.random.org was used for the draw. The email addresses were then destroyed and the variable for the email addresses in SPSS was deleted.

The responses were then sorted by the number of pages completed for the survey and responses that were not completed were deleted. There were 430 valid responses remaining. A scan was done of these responses and two responses were deleted as they indicated that they were students rather than members taking CPD. The remaining 428 responses were analyzed.

The data was then downloaded to an Excel spreadsheet. In Excel, formulas to create variables to define the rank for each of the factors in selection were implemented and data was re-imported back to SPSS for further analysis.

To give equal relevance for variables where multiple answers were permitted, such as workplace and organization, separate excel spreadsheets were created and rows with duplicates copied and amended to include each category. For instance, if a respondent selected both provincial government and education as a workplace, a duplicate case was made and the two workplaces were coded separately. This additional case excel file was used only for comparisons of workplaces so as not to skew any other variables testing.

After all quantitative data were reviewed, additional comments included in the open ended question were analyzed in a quasi-qualitative review manner. Responses were coded and categorized based on my analysis of the data.

Descriptive Statistics

Participants were asked about the types of modalities taken as CPD over the last three years. This cut-off was used as all three accounting organizations have a three-year rolling average requirement on the number of CPD hours to be completed. Most accountants have taken a face-to-face live seminar (93%) and a live webinar (72%).

More accountants watched recorded webinars (41%) than recorded seminars (34%). Both face-to-face (39%) and online (15%) full-length courses were taken by respondents. Self-paced computer aided courses were also undertaken by accountants for CPD (31%). Participation rates by organization for the modalities provided in the survey are detailed in Table 4. Note that this table shows only the first listed organization per respondent.

Table 4

Participation Rates of Modalities

	Participation Rate		
Modality	CA n=45 n (%)	CGA n=261 n (%)	CMA n=122 n (%)
Face-to-face full-length course	14 (31%)	89 (34%)	66 (54%)
Face-to-face live seminar	43 (96%)	247 (95%)	108 (89%)
Live webinar	35 (78%)	198 (76%)	76 (62%)
Online, full-length course	3 (7%)	39 (15%)	24 (20%)
Recorded Seminar	18 (40%)	86 (33%)	43 (35%)
Recorded Webinar	24 53%)	104 (40%)	46 (38%)
Self-paced, computer-aided course	19 (42%)	76 (29%)	37 (30%)

Modality Preferences.

Frequency distributions for modality preferences were looked at to determine both the overall number of times a modality was selected as well as the rank that modality was selected at. The ranking of the modalities, in order of preference, is shown in Table 5. Overall, 95.6% of respondents selected a live face-to-face seminar as one of their

preferred modalities and in 62.1% of the cases it was their first choice. The median and mode of the rank order of live seminars was one meaning that was the first selected modality in most of the rankings made. Live webinars were selected as a preferred modality by 83.9% of the respondents with a median of three and a mode of two indicating that most often respondents chose live webinars as their second choice when ranking selections.

A number of respondents ranked recorded webinars (76.6%) higher than recorded seminars (70.6%). The frequencies appeared fairly evenly spread among the rankings for both of these selections and the mode and median were four for both modalities. Self-paced computer courses were selected in 76.4% of the cases and the frequencies of ranks were again spread fairly evenly with a median of four and a mode of three. Live full-length courses were ranked as a preferred modality by 75% of the respondents with a median of three and a mode of two indicating that respondents ranked this modality quite high in their preferences. Online full-length courses were selected in 64% of the cases as a modality. But, by looking at the mode (six) and the median (five) it can be seen that this modality was not ranked as a high preference.

Other preferences were selected by only 31 respondents. Respondents were given an opportunity to include a written description of "other", but this was provided by only 16 of those respondents. Self study was noted in seven of those instances and five respondents indicated that they had no preference on the modality but that it would depend solely on the content. Two indicated that on-the-job-training was their preferred CPD and one indicated that volunteer time was their preference (n.b. volunteer time is accepted for CPD credit in the CMA organization). One respondent indicated "other".

Table 5

CPD Instruction delivery modality by rank order of preference

Modality	n	Mean	Median	Mode	Standard Deviation
Live seminar	409	1.80	1	1	1.388
Live webinar	359	2.94	3	2	1.563
In-person, full length course	321	3.82	3	2	2.135
Recorded webinar	328	3.97	4	4	1.690
Self-paced computer aided course	327	4.03	4	3	1.809
Recorded seminar	302	4.42	4	4	1.491
Online, full length course	274	4.65	5	6	1.736
Other	31	5.65	8	8	2.905

Note. Preferences were ranked on a scale of 1 to 8 with 1 being most preferred.

Selection factors.

Frequencies for selection factors were looked at from two perspectives. The first was the number of respondents ranking the selection at a specific rank (i.e. how many respondents ranked content as number one versus cost as number one). These results are shown in Table 6. Then, a second set of frequency tables was run to look at the ranking by each individual respondent of the various selection factors (Table 7).

Table 6

Frequency of rank by selection factor

	Rank							
Selection Factor	1	2	3	4	5	6	7	8
Content	72%	14%	5%	3%	<1%	<1%	<1%	nil
Cost	16%	26%	15%	13%	10%	3%	5%	<1%
CPD hour requirement	4%	19%	21%	20%	13%	7%	3%	<1%
Time away from work	3%	14%	23%	19%	9%	9%	4%	1%
Instructor	2%	13%	14%	14%	13%	14%	6%	1%
Pace of course	<1%	5%	8%	11%	14%	12%	14%	2%
Networking opportunities	2%	4%	9%	5%	12%	14%	19%	3%
Other	2%	3%	2%	2%	3%	2%	<1%	9%

When deciding on which CPD to undertake, 72% of respondents indicated that the topic or content of the CPD was the main factor in their decision. The topic was indicated as a factor in 96.7% of the cases and was ranked either first, second or third choice in 94.7% of the selection factors The median and mode for content was one.

Cost was an influential factor in 89.7% of the cases. Where cost was ranked as a factor, it was most often selected as the second most influential selection factor with a mode of two and a median of three.

CPD hour requirement was also a strong influential factor, being cited in 87.6% of the cases and given a rank of second, third or fourth 55.1% of the time most often with a median and mode of three. The instructor was a selected as a factor in 76.9% of the

cases with respondents varying in their ranking of importance and multiple modes. Networking opportunities was a factor in 66.1% of the cases, and was never the first reason for selecting CPD and most respondents ranking it low on their list with a mode of 7 and a median of 6. The pace of the course was indicated as a factor by 65.9% of the respondents with most respondents selecting this factor ranking it as the third to seventh factor with a median of five and multiple modes. The time away from work was a factor in 83.6% of the cases had a mode of three and a median of four .

Table 7

Overall selection factor by order of preference

Selection Factor	N	Mean	Median	Mode	Standard Deviation
Content	414	1.45	1	1	0.960
Cost	384	3.04	3	2	1.689
CPD hour requirement	375	3.62	3	3	1.515
Time away from work	358	3.85	4	3	1.597
Instructor	329	4.26	4	4*	1.696
Pace of course	282	5.01	5	5*	1.679
Networking opportunities	283	5.39	6	7	1.671
Other	95	5.45	6	8	2.542

Note. Selection factors were ranked on a scale of 1 to 8 with 1 being most preferred.
* Indicates multiple modes exist, smallest mode shown.

Twenty-two per cent of respondents included other factors that influenced the selection of CPD. Of these 28.4% indicated location as an influential factor. Many indicated that whether or not the CPD was provided by their employer was a factor. This

may indicate that a combination of factors such as cost (free to employees), time away from work (time given by employer), or content (relevant to their position) were factors in these cases.

Selection factors for each modality were also reviewed and are detailed individually in the following paragraphs.

Table 8
Selection Factors for Live Seminars

	Live Seminar n = 397		
Variable	n	Mean	Standard Deviation
Content	379	1.37	0.814
Cost	303	2.88	1.582
CPD hour requirement	291	3.32	1.435
Instructor	272	3.54	1.543
Networking opportunities	188	4.96	1.779
Pace of course	134	5.68	1.535
Time away from work	259	3.70	1.350

Content was a factor in selection in 95.5% of the cases where a live seminar was taken. Respondents indicated that it was the most important selection factor 73.8% of the time and ranked in the top three selection factors 92% of time.

Cost was a factor in 76.3% of the cases and, when ranked, was most often ranked as the second most important selection factor. The CPD hour requirement was indicated as a factor in 73.3% of the cases and with respondents indicating it was the second, third or fourth most important factor in their selection. The instructor or presenter of the seminar was a selection factor in 68.5% of the cases and was ranked with a similar spread to the CPD hour requirement. Time spent was ranked as a selection factor by 63.2% of

the respondents but was most frequently ranked as the third or lower factor in the selection.

Networking opportunities was ranked as a factor by less than one-half of the respondents (47.4%) and was generally ranked fairly low in the selection factors. The pace of the seminar was also not ranked highly as a selection factor with only 43.8% of the respondents indicating it was a factor.

The most common other factors that were noted by respondents in selecting a live seminar were location (5.84%) and required by work (2.34%).

Table 9
Selection Factors for Live Webinars

	Live Webinar n = 308		
Variable	n	Mean	Standard Deviation
Content	299	1.20	0.554
Cost	206	2.51	1.283
CPD hour requirement	191	2.91	1.101
Instructor	132	3.60	1.413
Networking opportunities	44	6.16	1.346
Pace of course	91	4.13	1.439
Time away from work	126	3.43	1.371

The highest ranked selection factor for live webinars was content in 82.8% of the cases, and content was a factor in 97.1% of the cases and one of the top three factors in 96.5% of the cases.

Cost was a factor in 76.9% of the cases as was most often selected as the second factor (32.5%). Cost was indicated as one of the top three factors in 40% of the cases. The requirement for CPD hours was indicated as a selection factor in 62% of the cases and was fairly evenly spread out.

The presenter of a live webinar was a factor in less than half of the cases (42.9%) and was selected by only one respondent as the most important factor. The time away from work (29.5%)and pace of the webinar (40.9%) were also factors in less than half of the cases.

Networking opportunities ranked low on the selection factor for live webinars with only 14.3% of the respondents indicating it was a factor. Only 16 respondents indicated other factors influenced their decision with 7 of those indicating a mandatory requirement from their employer.

Table 10
Selection Factors for Recorded Seminars

	Recorded Seminar n = 146		
Variable	n	Mean	Standard Deviation
Content	141	1.16	0.502
Cost	93	2.65	1.248
CPD hour requirement	87	2.97	1.039
Instructor	67	3.19	1.384
Networking opportunities	19	6.00	1.374
Pace of course	54	4.00	1.554
Time away from work	60	3.60	1.380

Of the accountants that undertook a recorded seminar for CPD content was the most relevant factor in 85.6% of the cases and was a deciding factor in 96.6% of the cases.

Cost (63.7%) and CPD hour requirement (59.6%) were also strong factors for selection. Both of these factors were most often ranked as second, third or fourth selection factor.

Although often a selling or marketing feature, being able to watch the seminar on their own time was a factor in only 41.1% of the cases. The instructor of the original

seminar was a factor in 45.9% of the cases but was only ranked as the top selection factor by one respondent. The pace of a seminar was selected in 37% of cases.

Although it is difficult to see why, networking opportunities were listed as a selection factor in 13% of the cases. Only one respondent listed an additional factor and this was a mandatory requirement by employer.

Table 11
Selection Factors for Recorded Webinars

	Recorded Webinar n = 173		
Variable	n	Mean	Standard Deviation
Content	167	1.16	0.530
Cost	113	2.72	1.326
CPD hour requirement	107	2.74	0.945
Instructor	78	3.37	1.406
Networking opportunities	18	6.00	1.534
Pace of course	59	4.07	1.518
Time away from work	65	3.58	1.158

Content was again the most influential factor in selecting a recorded webinar with 86.7% of respondents selecting it as the most important factor and a total of 95.3% indicating it was in their top three factors.

Cost was a factor selected by 65.3% of the respondents. It was selected as one of the top three factors in 50.3% of the cases. CPD hours was a top-three selection factor in 53.1% of the cases although overall ranked slightly below cost (61.8%).

The instructor of the recorded webinar was a factor in 45.1% of the cases and was selected first as a factor by four of the respondents. This is higher than the factors selected for live webinars.

The pace (34.1%) and time for the course (37.6%) were not listed as top selection factors for recorded webinars. As with recorded seminars, some respondents (10.4%)

listed networking opportunities as a factor in selection. Other selection factors include one requirement from the association and one course that was originally a live webinar that encountered technical difficulties (and was therefore sent out to participants as a recorded webinar).

Table 12
Selection Factors for Face-to-Face Full-Length Courses

	Face-to-face full-length Course n = 172		
Variable	n	Mean	Standard Deviation
Content	158	1.25	0.605
Cost	107	3.03	1.514
CPD hour requirement	99	3.02	1.370
Instructor	99	3.41	1.519
Networking opportunities	76	4.57	1.731
Pace of course	52	4.88	1.937
Time away from work	82	3.59	1.369

The most often selected factor in choosing a face-to-face full-length course was content (91.9%) and content was the number one factor in 75.6% of the cases.

Cost was indicated as a factor by 62.2% of the respondents and was one of the top three factors 42.4% of the time. The CPD hour requirement and the instructor were both factors in 57.6% of the cases with both factors normally being selected as either the second or third factor most often.

Networking opportunities (44.2%), time spent away from work (47.7%) and the pace of the training (30.2%) were selected as factors in less than one-half of the cases. Other factors that influenced the selection of a full-length course were due to a mandatory requirement for work (nine) and the location (seven).

Table 13
Selection Factors for Online Full-Length Courses

	Online full-length Course n = 66		
Variable	N	Mean	Standard Deviation
Content	64	1.22	0.576
Cost	43	2.77	1.428
CPD hour requirement	36	3.50	1.612
Instructor	27	3.52	1.528
Networking opportunities	18	5.39	1.944
Pace of course	34	3.97	1.678
Time away from work	32	3.63	1.476

In 97% of the cases, content was an influential factor in selecting an online full-length course and was rated as the number one factor in 81.8% of those cases.

Cost was a factor in 65.2% of the cases and was in the top three factors 54.6% of the time. CPD hour requirement (54.5%) was again a selection factor. The pace of the course (51.5%) was the only other factor selected in more than half of the cases although time spent away from work was close (48.5%).

The instructor was rated as a factor by only 49.9% of the respondents. Networking opportunities was selected in only 27.3% of the cases. Other reasons given by respondents were that the course was required by the organization (two) or part of a degree or designation above the accounting designation (nine).

Table 14
Selection Factors for Self-paced Computer Courses

	Self-paced computer course n = 130		
Variable	N	Mean	Standard Deviation
Content	121	1.29	0.664
Cost	77	2.60	1.280
CPD hour requirement	71	2.70	1.034
Instructor	24	4.63	1.527
Networking opportunities	13	6.38	1.557
Pace of course	65	3.17	1.341
Time away from work	43	3.70	1.282

In selecting a self-paced computer course, content was the most common factor and was a factor in 93.1% of the cases. Cost was factor in 59.2% of the cases while the requirement for CPD was a factor in 54.6% of the cases. The pace of the course was a factor in 50% of the cases.

Respondents selected the instructor as a factor in 18.5% of the cases and time spent away from work was a factor in 33.1% of the cases. Networking opportunities was selected as a factor in 10% of the cases. The other factor that influenced 11 of the respondents' selections were mandatory requirements by either the employer, the organization or both.

Analysis of testing for differences

Although we see in the frequency distributions that differences are found in the modalities selected and the selection factors, it is important to know if these differences are statistically significant. If the differences found are the same as what could be found by chance, then we cannot say there is a significant difference exists between different

subgroups of the sample. However, if the differences are statistically significant, this will allow us to state that a difference does exist.

Chi square goodness of fit on factors.

The chi-square statistic is used to test the independence of the categorical variables. All observations need to be independent and no one individual can contribute more than one observation. Therefore original data were used (i.e. no additional record was used for additional workplaces or designations). If the chi-square test indicates no significant difference, then we accept the null hypothesis that all categories are the same.

The one sample Chi-Square Goodness of Fit test was run to determine if there was a difference in modality preference (question 17 in the survey). The test yielded significant results on all factors ($p<.001$). Table 15 displays the results of theses tests, and indicates that the differences found in the modality selections did not arise by chance but rather show an actual difference in preference by respondents.

Table 15

Chi-square non-parametric test: Category modality preference

Modality	Chi-square	Df	p Value
Live seminar	115.411	7	.000
Live webinar	894.66	6	.000
Face-to-face full-length course	261.992	7	.000
Online full-length course	57.657	6	.000
Recorded webinar	81.748	6	.000
Self-paced computer aided course	95.415	7	.000
Recorded seminar	35.223	6	.000

***p<.001

The same Chi-Square test was run on the category variables in question 2 of the survey which asked respondents to rank the selection factors. Table 16 displays the results which again yielded significant results on all factors (p<.001) indicating that there is a difference between the observed responses and those that may be expected to arise by chance. In other words, the preferences indicated by the respondents can be viewed as actual preferences rather than random rankings.

Table 16

Chi-square non-parametric test: Category selection factor

	Overall n = 428		
Selection Factor	Chi-square	Df	p Value
Content	1265.560	6	.000
Cost	193.500	7	.000
CPD hour requirement	190.611	7	.000
Instructor	100.447	7	.000
Networking opportunities	94.728	6	.000
Pace of course	96.270	7	.000
Time away from work	173.218	7	.000

***p<.001

The Chi-Square test was also run for the category variables in each of the modality questions on the survey (questions 4, 6, 8, 10, 12, 14 and 16). Table 17 indicates that most of the results were significant on all factors at the .05 significance level again indicating that the results reveal the respondents' actual preferences rather than simply random rankings.

Table 17

Chi-square non-parametric test indication of significance (Y?N) for category selection factor for individual modalities

Variable	Live Seminar	Live Webinar	Recorded Seminar	Recorded Webinar	Face-to-face full-length Course	Online full-length Course	Self Paced Computer Course
Content	Y	Y	Y	Y	Y	Y	Y
Cost	Y	Y	Y	Y	Y	Y	Y
CPD hour requirement	Y	Y	Y	Y	Y	N	Y
Instructor	Y	Y	Y	Y	Y	N	Y
Networking opportunities	Y	Y	Y	Y	Y	N	Y
Other	Y	Y	Y	Y	Y	N	Y
Pace of course	Y	Y	N	Y	N	N	Y
Time away from work	Y	Y	Y	Y	Y	N	Y

The online full-length course was unique in that it only significant, at the .05 significance level, for content and cost. So only for content and cost can we determine that the selection factors were actually preferences from our participants. For other variables in the online full-length course, we accept the null hypothesis that the results could have been observed by chance alone. The only other two cases where we accept that the rankings are by no different than by chance are for the pace of the course in recorded seminars and face-to-face full-length courses. When taken as a whole, these results indicate that our survey shows actual preferences and rankings by accountants in

their modality selection factors for each of the modalities tested. Full results of the Chi-Square test for individual modalities are found in Appendix D.

Gender.

The Mann-Whitney U tests were run to determine if there were differences in results between female students and male students (see Appendix E). For overall modality preferences, significant differences, at the .05 significance level were found for only two modalities - recorded webinars (p= .006) and face-to-face full length courses (p = .002) where $p < .05$ and the null hypothesis that there is no significant difference should be rejected as shown in Table 18. Women (mean rank 151.82) preferred recorded webinars more than men (mean rank = 154.66). While men (mean rank 143.71) preferred face-to-face full length courses more than women (mean rank 174.94). All other modalities indicated that men and women did not have significantly different preference rankings.

Table 18
Partial Results of Mann-Whitney U Gender Comparison for Modalities

Modality	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Asymp. Sig. (2 tailed)
Recorded webinar					
Female	189	151.82	28694.500		
Male	138	180.68	24933.500		
Total	327			10739.500	0.006
Face-to-face full-length course					
Female	172	174.94	30090.500		
Male	148	143.71	21269.500		
Total	320			10243.500	0.002

When the Mann-Whitney U was run to test for differences in overall selection factors, no significant differences were found at the .05 significance level and we accept the null hypothesis that there are no differences between the two groups in overall

selections factors used as show in Appendix F. That means that there was no significant difference between the selection factor ranking men and women used when thinking about their overall reasons for selecting courses for CPD.

The Mann-Whitney U tests also were run to determine if there were differences in results between female students and male students in each of the modalities.

Table 19
Partial Results of Mann-Whitney U Gender Comparison for Selection Factors for individual modalities

Variable	n	Mean Rank	Sum of Ranks	Mann-Whitney U	Asymp. Sig. (2 tailed)
Live webinar Networking Opportunities					
Female	25	26.30	657.50		
Male	19	17.50	332.50		
Total	44			142.500	0.017
Recorded webinar Time Away from Work					
Female	38	27.99	1063.50		
Male	26	39.10	1016.50		
Total	64			322.500	0.015

As can be seen in Table 19, two of the results showed significant differences at the .05 significance level. In the case of selecting recorded webinars the factor time away from work (p = 0.015) and in the case of live webinars the networking opportunities (p = 0.017) the null hypothesis should be rejected as p<=.05 when comparing genders. In recorded webinars, females (mean rank = 27.99) ranked the time spent away from work higher than males (mean rank = 39.10). Males (mean rank = 17.50) ranked networking opportunities higher than females (mean rank = 26.30) for live webinars. The complete results of the Mann-Whitney U test for selection factors are displayed in Appendix G.

Language.

The Mann-Whitney U tests were run to determine if there were differences in overall results between those respondents who selected to complete the survey in English and those who selected to complete the survey in French (Appendix H). In selecting their preferred modalities, significant differences were found (Table 20), at the .05 significance level, for live seminars (p = .031) and face-to-face full length courses (p = .024). Live seminars were ranked higher by English respondents (mean rank = 202.63) than by French respondents (mean rank = 253.61). Face-to-face full-length courses; however, were ranked higher by French respondents (mean rank = 102.45) than by English respondents (mean rank = 164.68). For other modalities, the overall modality preferences are the same for English and French.

Table 20
Partial Results of Mann-Whitney U Language Comparison Overall

Modality	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Asymp. Sig. (2 tailed)
Live seminar					
English	390	202.63	79026.500		
French	19	253.61	4818.500		
Total	409			2781.500	0.031
Face-to-face full-length course					
English	302	164.68	49734.500		
French	19	102.45	1946.500		
Total	321			1281.500	0.024

The Mann-Whitney U test was also run to determine if there were differences in the selection factors overall (Appendix I). Two of the selection factors indicated statistically significant differences, at the .05 significance level, in the overall selection factors (Table 21).

Table 21
Partial Results of Mann-Whitney U Language Comparison for Selection Factors

Variable	n	Mean Rank	Sum of Ranks	Mann-Whitney U	Asymp. Sig. (2 tailed)
Cost					
English	366	188.86	69124.00		
French	18	266.44	4796.00		
Total	384			1963.000	0.003
Instructor					
English	314	167.33	52543.00		
French	15	116.13	1742.00		
Total	329			1622.000	0.039

The null hypothesis for cost ($p = .003$) and instructor ($p = .039$) should be rejected as $p<.05$. Those filling out the survey in English (mean rank = 188.86) used cost as a selection factor more often than those filing out the survey in French (mean rank =266.44). The instructor was ranked higher by those completing the survey in French (mean rank = 116.13) than those completing the survey in English (mean rank = 167.33).

The Mann-Whitney U test was then run for each modality to determine if there were any significant differences, at the .05 significance level, in selection factors between respondents filling out the survey in the two languages (see Appendix J). No Mann-Whitney U result could be calculated on the following factors as were not ranked by respondents completing the survey in French (English mean rank shown in parentheses):

- Live webinar – instructor (66.50), networking opportunities (22.50)
- Recorded seminar – CPD hour requirement (44.00), networking opportunities (10.00), pace of course (27.50)
- Recorded webinar – networking opportunities (9.50)

- Self-paced computer-aided course – networking opportunities (7.00), time away from work (22.00)

Although this indicated that English respondents ranked these factors higher, statistical inference cannot be made for these selections. However, there were some statistically significant results in the selection factors for modality selections as indicated in Table 22.

Table 22
Partial Results of Mann-Whitney U Language Comparison for Individual Modalities

Variable	n	Mean Rank	Sum of Ranks	Mann-Whitney U	Asymp. Sig. (2 tailed)
Live seminar					
Networking					
English	182	96.53	17569.00		
French	6	32.83	197.00		
Total	188			176.000	0.004
Face-to-face full-length course					
Instructor					
English	94	51.71	4861.00		
French	5	17.80	89.00		
Total	99			74.000	0.008
Networking					
English	70	40.26	2818.00		
French	6	18.00	108.00		
Total	76			87.000	0.016

When selecting a live seminar, the null hypothesis should be rejected and differences can be found between respondents filling out the survey in French or English (at the .05 significance level) for networking opportunities ($p = .004$). In ranking factors for face-to-face full length courses, both the instructor ($p = .008$) and networking opportunities ($p = .016$) show statistically significant differences at the .05 significance

level. French respondents (mean rank = 32.83) ranked networking opportunities higher for live seminars than English respondents (mean rank = 96.53). When selecting face-to-face full-length courses, French language respondents ranked both the instructor (mean rank = 17.80) and networking opportunities (mean rank 18.00) higher than English language respondents (instructor mean rank = 51.71; networking opportunities mean rank = 40.26).

Age.

The Kruskal-Wallis test was run to determine if there were differences in the results among age groups for modality preferences (Appendix K). Age groups were divided into four categories:

Under 34,

34 – 45,

45 – 54, and

55 and over (55+)

For the modalities of live webinars, recorded webinars, face-to-face-full-length courses, online full-length courses and self-paced computer aided-courses we can accept the null hypothesis that there is no statistically significant different among the age groups in their preferences.

However, when looking at modality preferences, significant differences (at the .05 significance level) were found in both live seminars ($H=.008$ $(3,n=407)$ $p<.05$) and recorded seminars ($H=.034$ $(3,n=300)$ $p<.05$) as shown in Table 23.

Table 23
Partial Results of Kruskal-Wallis Age Comparison for Modality Preferences

Modality	N	Mean Rank	Chi-square df = 3	Asymp. Sig. (2 tailed)
Live seminar				
18-34	70	236.08		
35-44	132	202.20		
45-54	127	203.01		
55 +	78	179.87		
Total	407		11.840	0.008
Recorded seminar				
18-34	54	150.00		
35-44	106	167.19		
45-54	87	145.25		
55 +	53	126.25		
Total	300		8.698	0.034

The oldest age group of 55+ (mean rank = 179.87) ranked the live seminars the highest with the youngest age group 18-34 (mean rank = 236.08) ranking them the lowest of the group. However, the ranking did not flow in a straight line as the 35-44 age group (mean rank = 202.20) ranked live seminars higher than the older 45-54 age group (mean rank = 203.01) but both groups were close together in the mean ranks.

Recorded seminars were again ranked highest by the oldest group (mean rank = 126.25) but were ranked lowest by the 35-44 age group (mean rank = 167.19). The 45-54 age group (mean rank = 145.25) ranked recorded webinars higher than the 18-34 age group (mean rank = 150). In both cases, the largest spread in mean ranks if from the oldest age group down to the next level.

The Kruskal-Wallis test was run to determine if there were differences in the results among age groups for selection factors. Significant differences, at the .05 significance level, was found for cost ($H=0.001$ $(3,n=382)$,$p <.05$) as indicated in Table

24. Cost was a stronger influence for the 55+ age group (mean rank = 152.23) and a lesser influence of the 18-34 age group (mean rank = 227.66).

Table 24
Partial Results of Kruskal-Wallis Age Comparison for Overall Selection Factor - Cost

Variable	n	Mean Rank	Chi Square df=3	Asymp. Sig. (2 tailed)
18-34	65	227.66		
35-44	127	190.76		
45-54	121	195.24		
55 +	69	152.23		
Total	382		16.526	0.001

Other modalities did not have significant differences, at the .05 significance level, for the ranking of overall selection factors among the age groups as shown in Appendix L.

The Kruskal-Wallis test was also used to test for significant difference in selection factors of the separate modalities (see Appendix M). As seen in Table 25, in selecting live seminar, a statistically significant difference was found, at the .05 significance level, for cost (H=0.006 (3,n=301),p <.05). The oldest age group 55+ (mean rank = 127.82) found cost to be a more influential factor, while the youngest age group 18-34 (mean rank = 185.82 found it to be the least influential of the age groups.

Table 25
Partial Results of Kruskal-Wallis Age Comparison for Modality Preferences for Live Seminars - Cost

Variable	n	Mean Rank	Chi Square df=3	Asymp. Sig. (2 tailed)
18-34	41	185.82		
35-44	105	145.05		
45-54	96	156.89		
55 +	59	127.82		
Total	301		12.304	0.006

Looking at Table 26, cost (H=0.049 (3,n=106),p <.05) also showed a significant difference, at the .05 significance level, when selecting the face-to-face full-length course. Again it was the oldest age group (mean rank = 41.47) ranking it highest and the youngest age group (mean rank = 68.22) ranking it lowest among the groups.

Table 26
Partial Results of Kruskal-Wallis Age Comparison for Modality Preferences for Face-to-Face Full-Length Course - Cost

Variable	n	Mean Rank	Chi Square df=3	Asymp. Sig. (2 tailed)
18-34	18	68.22		
35-44	36	55.26		
45-54	34	50.21		
55 +	18	41.47		
Total	106		7.837	0.049

When selecting a live webinar, the pace of the course (H=0.019 (3,n=91),p <.05) was the only factor that had a significant difference at the .05 significance level (see Table 27). The oldest age group (mean rank = 30.58) again was the most influenced by pace while the youngest age group (mean rank = 60.72) was the least influenced among the groups.

Table 27
Partial Results of Kruskal-Wallis Age Comparison for Modality Preferences for Live Webinar – Pace of Course

Variable	n	Mean Rank	Chi Square df=3	Asymp. Sig. (2 tailed)
18-34	16	60.72		
35-44	34	44.81		
45-54	28	46.20		
55 +	13	30.58		
Total	91		9.954	0.019

Other individual modalities did not show statically significant results and we can accept the null hypothesis that all age groups ranked the selection factors in the same manner.

Workplace.

The Kruskal-Wallis test was run to determine if there were differences in the results among workplace groups (Appendix N) in modality selection. For four of the modalities, we can accept the null hypothesis that there is no difference among the various workplaces in ranking of their modality preference – live webinars, recorded seminars, recorded webinars, and online full-length courses.

Table 28
Results of Kruskal-Wallis Workplace Comparison for Modality Preferences – Live Seminar

Workplace	n	Mean Rank	Chi-square df = 7	Asymp. Sig. (2 tailed)
Public Practice	100	208.08		
Federal Government	26	190.98		
Provincial Government	57	208.76		
Municipal Government	9	212.67		
Non profit	35	196.76		
Education	36	165.50		
Industry	132	230.75		
Other	26	228.50		
Total	421		14.369	0.045

Table 28 indicates that in modality selection, the live seminar showed a significant difference at the .05 significant level (H=0.045 (7,n=421),p <.05). Those in education sector (mean rank = 165.50) ranked the live seminars higher than other groups. The industry sector ranked this modality the lowest of the groups (mean rank = 230.75). The federal government (mean rank = 190.98) and the non-profit sector (mean rank

196.76) were grouped fairly closely but the public practice (mean rank = 208.08) and provincial government (mean rank = 208.76) were even closer in mean ranks.

Table 29
Results of Kruskal-Wallis Workplace Comparison for Modality Preferences – Face-to-Face Full-Length Courses

Workplace	n	Mean Rank	Chi-square df = 7	Asymp. Sig. (2 tailed)
Public Practice	71	184.90		
Federal Government	23	119.72		
Provincial Government	46	135.20		
Municipal Government	7	167.21		
Non profit	28	162.34		
Education	24	167.83		
Industry	107	172.03		
Other	24	181.79		
Total	330		14.637	0.041

The face-to-face full-length course (Table 29) indicated a significant difference at the .05 significance level (H=0.041 (7,n=330),p <.05). Employees in the federal government (mean rank = 119.72) ranked this selection factor highest in the group while those working in public practice (mean rank = 184.90) had the lowest ranking among the groups. The municipal government (mean rank = 167.21), non-profit sector (mean rank = 162.34), education sector (mean rank 167.83) and industry (mean rank = 172.03) had mean ranks that were fairly closely bunched together and were closer to the public practice ranking than the federal government ranking.

Self-paced computer-aided courses also had a significant difference at the .05 significance level (H=0.050 (7,n=338),p <=.05) as seen in Table 30. In this case, employees in municipal government employees (mean rank = 123.07) ranked it as a higher selection factor than those in other groups with the lowest ranking of the groups coming from employees in the provincial government (mean rank = 196.06). While the

federal government (mean rank = 130.32) and other employments sectors (mean rank = 127.67) had mean ranks near the municipal government, all other workplaces were closer to the provincial government mean ranks.

Table 30
Results of Kruskal-Wallis Workplace Comparison for Modality Preferences – Self-Paced computer-Aided Coruse

Worplace	n	Mean Rank	Chi-square df = 7	Asymp. Sig. (2 tailed)
Public Practice	83	171.43		
Federal Government	20	130.32		
Provincial Government	44	196.06		
Municipal Government	7	123.07		
Non profit	26	166.50		
Education	25	170.76		
Industry	107	178.04		
Other	26	127.67		
Total	338		14.072	0.050

The Kruskal-Wallis test was run to determine if there were differences in the results among workplace groups when ranking selection factors (Appendix O) at the .05 significance level. We can accept the null hypotheses that all industry sectors ranked the selection factors in the same way for content, CPD hour requirement, the instructor and networking opportunities when ranking their overall selection factors. Significant differences were found when ranking the pace (H=0.026 (7,n=293),p <.05) of the course, the cost (H=0.035 (7,n=395),p <.05) and the time away from work (H=0.042 (7,n=370),p <.05).

Table 31
Results of Kruskal-Wallis Workplace Comparison Overall Selection Factor - Cost

Variable	n	Mean Rank	Chi Square df=7	Asymp. Sig. (2 tailed)
Public Practice	94	202.02		
Federal Government	25	203.88		

Provincial Government	58	194.90		
Municipal Government	9	170.94		
Non profit	31	208.03		
Education	33	187.23		
Industry	118	214.08		
Other	27	125.61		
Total	395		15.095	0.035

Table 31 shows that employees in other sectors (mean rank = 125.61) ranked cost as a higher selection factor than those employed in other sectors, the lowest ranking among the groups was found industry (mean rank = 214.08). There is a large difference between the mean rank of other and the next closest which was the municipal government (mean rank 170.94). Public practice (mean rank = 202.02) and the federal government employees (mean rank 203.88) were fairly close in the ranking.

Table 32
Results of Kruskal-Wallis Workplace Comparison Overall Selection Factor – Pace of Course

Variable	n	Mean Rank	Chi Square df=7	Asymp. Sig. (2 tailed)
Public Practice	76	170.44		
Federal Government	18	99.83		
Provincial Government	36	155.32		
Municipal Government	4	126.63		
Non profit	24	154.15		
Education	24	154.21		
Industry	94	131.82		
Other	17	143.00		
Total	293		15.861	0.026

As seen in Table 32 employees in the federal government (mean rank = 99.83) ranked the pace of the course as a higher selection factors that members of other groups, while public practice members (mean rank = 170.44) ranked it the lowest among the

groups. The non-profit sector (mean rank = 154.15), the education sector (mean rank = 154.21) and the provincial government (mean rank = 155.32) were all quite close in their ranking.

Table 33
Results of Kruskal-Wallis Workplace Comparison Overall Selection Factor – Time Away From Work

Variable	n	Mean Rank	Chi Square df=7	Asymp. Sig. (2 tailed)
Public Practice	95	185.24		
Federal Government	21	196.24		
Provincial Government	48	221.38		
Municipal Government	8	114.06		
Non profit	30	189.60		
Education	33	199.17		
Industry	115	166.07		
Other	20	200.95		
Total	370		14.554	0.042

Table 33 show us that time away from work was ranked highest as a selection factor among the groups by employees in municipal government (mean rank = 114.06) and lowest among the groups by those in the provincial government (mean rank = 221.38). There is a large jump from the municipal government ranking to the next closest mean rank by industry (mean rank = 166.07).

The Kruskal-Wallis test was run to determine if there were differences in the results among workplace groups when ranking selection factors in the different modalities (Appendix P) at the .05 significance level.

Some factors were not ranked by certain workplace groups. Content was ranked by all workplace groups for all modalities. Cost was not ranked as a selection factor in self-paced computer aided courses the federal government employees but was used as a ranking factor for all other groups. The federal government employees did not use CPD

hours when ranking factors for online full-length courses. Municipal government employees did not rank the instructor in recorded seminars, recorded webinars and online full-length courses. Federal government employees also did not rank the instructor in online full-length courses and for self-paced computer aided courses. Networking opportunities was not used as a ranking factor by municipal government employees in live webinars, recorded seminars and recorded webinars. Networking opportunities was not used as a ranking factor by federal government employees in selecting recorded webinars, online full-length courses and self-paced computer aided courses. Networking opportunities were also not used as a ranking factor for self-paced computer aided courses for provincial government employees and those in the education sector. Those in other sectors did not use networking opportunities as a factor in recorded seminars or recorded webinars. The pace of the course was not used as a selection factor for online full-length courses by federal government employees but was used by all other sectors. Time away from work was not used as a selection factor by municipal government employees in selecting recorded seminars and self-paced computer aided courses. Time away from work was not used by other sectors in recorded webinars and online full-length courses.

Table 34
Results of Kruskal-Wallis Workplace Comparison Live Seminar Selection Factors

Variable	n	Mean Rank	Chi Square df=7	Asymp. Sig. (2 tailed)
Cost				
Public Practice	75	174.92		
Federal Government	20	174.25		
Provincial Government	46	136.03		
Municipal Government	9	182.89		
Non profit	26	177.10		
Education	22	159.16		

Industry	93	152.12		
Other	21	98.45		
Total	312		18.290	0.011
Time away from work				
Public Practice	74	133.68		
Federal Government	17	139.76		
Provincial Government	32	169.55		
Municipal Government	5	50.90		
Non profit	21	134.57		
Education	20	135.13		
Industry	83	124.01		
Other	15	133.93		
Total	267		14.783	0.039

Significant differences were found among workplace groups, at the .05 significance level, when selecting live seminars (Table 34) in the use of cost (H=0.011 (7,n=312),p <.05) and time away from work (H=0.039 (7,n=267),p <.05).

Cost was ranked highest by other sectors (mean 98.45) and lowest by municipal government employees (mean rank = 182.89). However, public practice (mean rank = 174.92), federal government (mean rank = 174.25) and the not-profit sector (mean rank = 177.10) were close the municipal employees in the mean rank. On the other hand, time away from work was ranked highest by municipal government employees (mean rank = 50.90) and lowest among the groups by provincial government employees (mean rank = 169.55). Again, we see a large jump between the mean ranking of the municipal government employees and the nearest mean rank of industry (mean rank = 124.01).

Although some workplace groups did not rank networking opportunities, significant differences were found (H=0.026 (4,n=18),p <.05) when ranking selection factors for recorded webinars as seen in Table 35. The education sector (mean rank =

1.50) ranked it highest and the provincial government ranked it lowest (mean rank = 15.50).

Table 35
Results of Kruskal-Wallis Workplace Comparison Recorded Webinar Selection Factor – Networking Opportunities

Variable	n	Mean Rank	Chi Square df=4	Asymp. Sig. (2 tailed)
Public Practice	7	12.14		
Provincial Government	2	15.50		
Non profit	3	9.00		
Education	1	1.50		
Industry	5	5.30		
Total	18		11.045	0.026

Face-to-face full length courses showed a significant difference, at the .05 significance level, when ranking CPD hours (H=0.020 (7,n=105),p <.05). Those in other sectors (mean rank = 27.00) ranked it highest while municipal government employees (mean rank = 80) ranked it the highest among the groups as can be seen in Table 36.

Table 36
Results of Kruskal-Wallis Workplace Comparison Face-to-face Full-Length Course Selection Factor – CPD Hours

Variable	N	Mean Rank	Chi Square df=7	Asymp. Sig. (2 tailed)
Public Practice	22	46.45		
Federal Government	6	54.58		
Provincial Government	17	46.24		
Municipal Government	3	80.00		
Non profit	8	62.44		
Education	12	75.79		
Industry	32	51.42		
Other	5	27.00		
Total	105		16.667	0.020

Table 37 indicates that significant differences were found for online full-length courses in the ranking of instructor (H=0.010 (5,n=29),p <.05), cost (H=0.017 (7,n=45),p <.05) and networking opportunities (H=0.024 (6,n=20),p <.05).

The non-profit sector (mean rank = 5.50) found the instructor to be a more important selection factor than the lowest among the groups – the provincial government employees (mean rank = 24.00). The municipal government employees (mean rank = 1.00) ranked the networking opportunities higher than the employees in the provincial government (mean rank = 19.50). The cost of the online course was found to be most important to those in other sectors (mean rank = 8.50) and least important among the groups to those in education (mean rank = 34.08).

Table 37
Results of Kruskal-Wallis Workplace Comparison Online Full-Length Course Selection Factors

	n	Mean Rank	Chi Square	df	Asymp. Sig. (2 tailed)
Instructor					
Public Practice	8	19.19			
Provincial Government	1	24.00			
Non profit	4	5.50			
Education	5	7.00			
Industry	10	18.15			
Other	1	19.00			
Total	29		15.130	5	0.010
Networking Opportunities					
Public Practice	5	13.40			
Provincial Government	1	19.50			
Municipal Government	1	1.00			
Non profit	3	4.00			
Education	3	5.67			
Industry	6	14.08			
Other	1	9.00			
Total	20		14.518	6	0.024

Designation.

The Kruskal-Wallis test was run to determine if there were differences in the results among the designations held by the respondent. Although other designated accountants did complete the survey, there were only seven respondents who did not have at least one of the three Canadian designations for professional accountants. The testing of significance, at the .05 significance level, was therefore limited to the three designations of CA, CGA and CMA.

When reviewing overall preferences for modality (see Appendix Q), five of the modalities had no differences in preferences among the designations – live seminars, live webinars, recorded seminars, online full-length courses and self-paced computer-aided courses.

As shown in Table 38, the recorded webinar ($H=0.000,(2,n=330),p<.05$) revealed a statistically significant difference, at the .05 significance level, among the designations. The CAs ranked it highest (mean rank = 132.28) and the CMAs ranked it lowest among the groups (mean rank = 168.90) with the CGAs (mean rank = 155.03) in the middle of the groups. The face-to-face full-length course also showed a significant difference at the .05 significance level. The CMAs (mean rank = 132.65) ranked it the highest followed by the CAs (mean rank = 170.72) and then the CGAs (mean rank = 201.99).

Table 38
Partial Results of Kruskal-Wallis Designation Comparison for Modality Preferences

Modality	n	Mean Rank	Chi-square df = 2	Asymp. Sig. (2 tailed)
Recorded webinar				
CGA	203	155.03		
CMA	91	201.99		
CA	36	132.28		
Total	330		20.708	0.000

Face-to-face full-length course				
CGA	187	176.22		
CMA	109	132.65		
CA	25	170.72		
Total	321		16.039	0.000

When looking at overall selection factors, there was a statistically significant difference found, at the .05 significance level, in a number of the selection factors. Only the instructor, pace of the course and time away from work did not have statistically significant differences (see Appendix R). For these selection factors we can accept the null hypothesis and infer that there is no differences in how the three designations ranked the factors.

Table 39
Partial Results of Kruskal-Wallis Designation Comparison for Selection Factors Overall

Variable	n	Mean Rank	Chi Square df=2	Asymp. Sig. (2 tailed)
Content				
CGA	255	216.72		
CMA	115	194.80		
CA	45	192.34		
Total	415		6.130	0.047
Cost				
CGA	238	182.04		
CMA	111	214.07		
CA	37	205.51		
Total	386		7.000	0.030
CPD hour requirement				
CGA	241	177.33		
CMA	102	205.64		
CA	32	212.14		
Total	375		6.903	0.032
Networking opportunities				
CGA	165	159.40		
CMA	88	112.28		
CA	30	133.50		

Total	283	20.234	0.000

Table 39 shows that a statistically significant difference was seen in content (H=0.047,(2,n=415),p<.05) was significant with CAs (mean rank=192.34) ranked content higher than the CMAs (mean rank 194.80) or the CGAs (mean rank 216.72). Cost (H=0.030,(2,n=386),p<.05) was also significant with the CGAs (mean rank = 182.04) ranking it the highest, followed by the CAs (mean rank = 205.51) and the CMAs (mean rank = 214.07). The CPD hour requirement (H=0.032,(2,n=375),p<.05) was also ranked highest by the CGAs (mean rank = 177.33) but in this case was followed by the CMAs (mean – 205.64) and then the CAs (mean rank = 212.14). Networking opportunities (H=0.000,(2,n=283),p<.05) was ranked highest by the CMAs (mean rank = 112.28) followed by the CAs (mean rank = 133.50) and then the CGAs (mean rank = 159.40).

The Kruskal-Wallis test was also used to test for significant difference in selection factors of the separate modalities (see Appendix S).

There were two factors where the CAs did not rank networking opportunities as a selection factor – recorded webinars and recorded seminars.

When selecting live seminars, a significant difference in ranking of selection factors, at the .05 significance level, was found for content (H=0.034,(2,n=415),p<.05), instructor (H=0.043,(2,n=328),p<.05) and networking opportunities (H=0.000,(2,n=283),p<.05) as seen in Table 40.

Table 40
Partial Results of Kruskal-Wallis Designation Comparison for Selection Factor Live Seminar

Variable	n	Mean Rank	Chi Square df=2	Asymp. Sig. (2 tailed)
Content				

CGA	236	198.27		
CMA	102	177.52		
CA	41	173.45		
Total	379		6.789	0.034
Instructor				
CGA	170	145.01		
CMA	75	120.87		
CA	26	120.75		
Total	271		6.314	0.043
Networking opportunities				
CGA	104	107.10		
CMA	63	77.38		
CA	19	72.50		
Total	186		15.681	0.000

CAs (mean rank = 173.45) ranked content higher than CMAs (mean rank = 177.52) or CGAs (mean rank = 198.27). The instructor was more important to the CAs (mean rank = 120.75), followed closely by the CMAs (mean rank = 120.87) and lastly the CGAs (145.01). When looking at networking opportunities the CAs (mean rank = 72.50) ranked it higher than the CMAs (mean rank = 77.38) or the CGAs (mean rank = 107.10).

Table 41
Partial Results of Kruskal-Wallis Designation Comparison for Selection Factor Live Webinar

Variable	n	Mean Rank	Chi Square df=2	Asymp. Sig. (2 tailed)
Content				
CGA	191	157.76		
CMA	74	136.31		
CA	35	140.89		
Total	300		9.933	0.007
Instructor				
CGA	76	77.52		
CMA	39	49.10		
CA	17	57.15		
Total	132		16.182	0.000
Pace of course				

CGA	61	41.57		
CMA	18	62.83		
CA	11	38.95		
Total	90		10.505	0.005

As seen in Table 41, a statistically significant difference in ranking of selection factors, at the .05 significance level, was found when ranking live webinars for content (H=0.007,(2,n=300),p<.05), instructor (H=0.000,(2,n=132),p<.05) and the pace of the course (H=0.005,(2,n=90),p<.05). Content was ranked highest by the CMAs (mean rank = 136.31) followed by the CAs (mean rank = 140.89) and the CGAs (mean rank = 157.76). The instructor was also ranked highest by the CMAs (mean rank = 49.10) followed by the CAs (mean rank = 57.15) and the CGAs (mean rank = 77.52). The pace of the course, on the other hand, was ranked highest by the CAs (mean rank = 38.95) followed by the CGAs (mean rank = 41.57) and then the CMAs (mean rank = 62.83).

Table 42
Partial Results of Kruskal-Wallis Designation Comparison for Selection Factor Recorded Seminar

Variable	n	Mean Rank	Chi Square df=2	Asymp. Sig. (2 tailed)
Cost				
CGA	64	43.38		
CMA	21	59.43		
CA	8	43.31		
Total	93		6.237	0.044
CPD hour requirement				
CGA	59	39.64		
CMA	21	55.50		
CA	7	46.29		
Total	87		6.891	0.032
Instructor				
CGA	37	40.42		
CMA	22	21.64		
CA	7	34.21		

Total	66		14.635	0.001
Pace of course				
CGA	37	30.12		
CMA	10	24.75		
CA	6	11.50		
Total	53		8.031	0.018

A significance difference, as shown in Table 42, was found among the designations in factors used to select recorded seminars, at the .05 significance level, for cost (H=0.044,(2,n=93),p<.05), CPD hour requirements (H=0.032,(2,n=87),p<.05), the instructor (H=0.001,(2,n=66),p<.05) and the pace of the course (H=0.018,(2,n=53),p<.05). When selecting cost, the CAs (mean rank = 43.31) ranked it higher, but fairly close to the CGAs (mean rank = 43.38) while the CMAs (mean rank = 59.43) ranked it lower. CPD hour requirements were ranked highest by the CGAs (mean rank = 39.64) followed by the CAs (mean rank = 46.29) and the CMAs (mean rank = 55.50). The instructor was ranked highest by the CMAs (mean rank = 21.64) and then the CAs (mean rank = 34.21) and the CGAs (mean rank = 40.42). The pace of the course was ranked higher by the CAs (mean rank = 11.50) than either the CMAs (mean rank = 24.75) or CAs (mean rank = 30.12).

Table 43
Partial Results of Kruskal-Wallis Designation Comparison for Selection Factor Recorded Webinar

Variable	n	Mean Rank	Chi Square df=2	Asymp. Sig. (2 tailed)
Content				
CGA	98	88.94		
CMA	46	76.00		
CA	24	82.67		
Total	168		8.239	0.016
Cost				

CGA	75	51.60		
CMA	24	71.96		
CA	14	60.29		
Total	113		8.101	0.017
Instructor				
CGA	39	50.08		
CMA	28	26.82		
CA	10	29.90		
Total	77		20.924	0.000

When selecting recorded webinars (Table 43), there was a significant difference found, at the .05 significance level, among the designations when using content (H=0.016,(2,n=168),p<.05), cost (H=0.017,(2,n=113),p<.05) and the instructor (H=0.000,(2,n=77),p<.05) as selection factors. Content was ranked higher by the CMAs (mean rank = 76.00) than the CAs (rank = 82.67) or CGAs (rank = 88.94). Cost, on the other hand, was ranked highest by the CGAs (mean rank = 51.60) and lowest by the CMAs (mean rank = 71.96) with the CAs falling in the middle (mean rank = 60.29). The instructor was ranked higher as a selection factor by the CMAs (mean rank = 26.82) than by the CAs (rank = 29.90) or the CGAs (rank = 50.08).

Table 44
Results of Kruskal-Wallis Designation Comparison for Selection Factor Face-to-Face Full-Length Course – Factor Networking Opportunities

Designation	n	Mean Rank	Chi Square df=2	Asymp. Sig. (2 tailed)
CGA	36	43.00		
CMA	31	32.34		
CA	5	15.50		
Total	72		10.048	0.007

Face-to-face full-length courses were found to have a difference in selection factors, at the .05 significance level, among the designations when looking at networking

opportunities (H=0.007,(2,n=72),p<.05). As indicated in Table 44, the CAs (mean rank = 15.50) found that networking opportunities were a higher ranked selection factor than did the CMAs (mean rank = 32.34) or the CGAs (mean rank = 43.00).

Table 45
Results of Kruskal-Wallis Designation Comparison for Selection Factor Self-Paced Computer-Aided Course – Factor Time Away From Work

Designation	n	Mean Rank	Chi Square df=2	Asymp. Sig. (2 tailed)
CGA	27	21.46		
CMA	12	17.63		
CA	3	37.33		
Total	42		6.602	0.037

When selecting a self-paced computer aided course, there was a difference found, at the .05 significance level, among the designations when using time away from work (H=0.037,(2,n=42),p<.05) as a selection factor (Table 45). The CMAs (mean rank = 17.63) ranked this selection factor higher than CGAs (mean rank = 21.46) or CAs (mean rank = 37.33).

Use of Selection Factors Overall versus Individual Modalities.

The Friedman test was run to determine if there was a difference in the use of selection factors that respondents indicated they used when selecting CPD and those factors they indicated they used when actually selecting their latest course for an individual modality. In the case of instructor, networking and time away from work, there were not enough valid cased to compute the statistic. As shown in Table 46, in all other selection factors, we could not reject the null hypothesis, at the .05 significance level (p-value >.05), that there was no difference in the use of the selection factors.

Table 46
Results of Friedman Test on Selection Factors

Variable	Content (N = 4) Mean Rank	Chi Square df=7	Asymp. Sig. (2 tailed)	Cost (N = 2) Mean Rank	Chi Square df=7	Asymp. Sig. (2 tailed)
Overall	4.13			4.75		
Live Seminar	4.13			4.75		
Live Webinar	4.13			2.75		
Recorded Seminar	4.13			4.75		
Recorded Webinar	4.13			2.75		
Face-to-face Full-Length Course	5.00			6.75		
Online Full-Length Course	5.00			2.75		
Self-paced Computer Aided Course	5.38			7.65		
Total		7.000	0.429		10.111	0.182
	CPD Hour Requirement (N = 4)			Pace (N = 3)		
	Mean Rank	Chi Square df=7	Asymp. Sig. (2 tailed)	Mean Rank	Chi Square df=7	Asymp. Sig. (2 tailed)
Overall	6.63			5.83		
Live Seminar	4.13			5.67		
Live Webinar	3.13			5.33		
Recorded Seminar	4.63			2.67		
Recorded Webinar	2.25			4.83		
Face-to-face Full-Length Course	6.75			3.67		
Online Full-Length Course	4.25			4.17		
Self-paced Computer Aided Course	4.25			3.83		
Total		12.512	0.085		4.749	0.691

Additional Comments from Respondents

The final question on the survey was open-ended to allow accountants to respond to individual perceptions on CPD. At total of 111 respondents included additional comments. These comments were copied into a word file and then to an excel file for analysis.

The comments were read through to get a feel for the information received from respondents just to get an idea of what information was provided. Data was additionally massaged as a result of this read through as follows:

- Six of the comments were "no" or "none" and they were removed from the document as they were not considered relevant.
- Two responses were received in French and these were translated to English using Google Translate.
- Comments typed all in capitals were converted to sentence case to reduce any perception of level of importance.
- Two comments stating that they hoped this information was useful were deleted.

I read through the responses making some preliminary codes and starting to look for patterns. A number of categories seem to be emerging. A count showing a total of 41 separate topic areas were noted. This seems to be quite high but many may be in the same category. I left the information to percolate for a day and then made a second read through of the responses for coding to see if other areas/topics needed to be included or if topics should be combined. During this scan, I did not add any new codes but I found that some responses fit into more than one code (i.e. both a comment that indicated it was about both cost and location). Changes were made to some codes where wording differences were combined (such as factors are equal and equal factors). After completing the coding run-through, I found I had 38 codes. While that seemed like a lot to me, I could also see that many of the codes were going to fit into categories so I did

not reduce the number of codes but proceeded with axial coding to look for links and categories.

I found that I could categorize the comments into four main categories – course design, course access, work/life balance and other. Figure 2 shows the distribution of the comments in these categories and Figure 3 show the detail of the codes found in each category.

Figure 2 Distribution of Topics

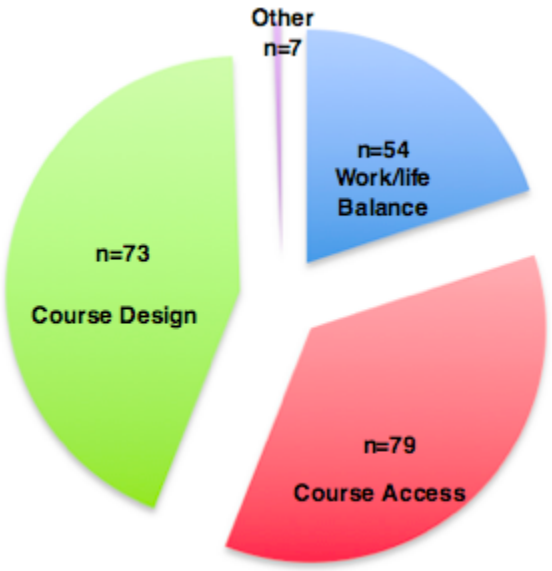
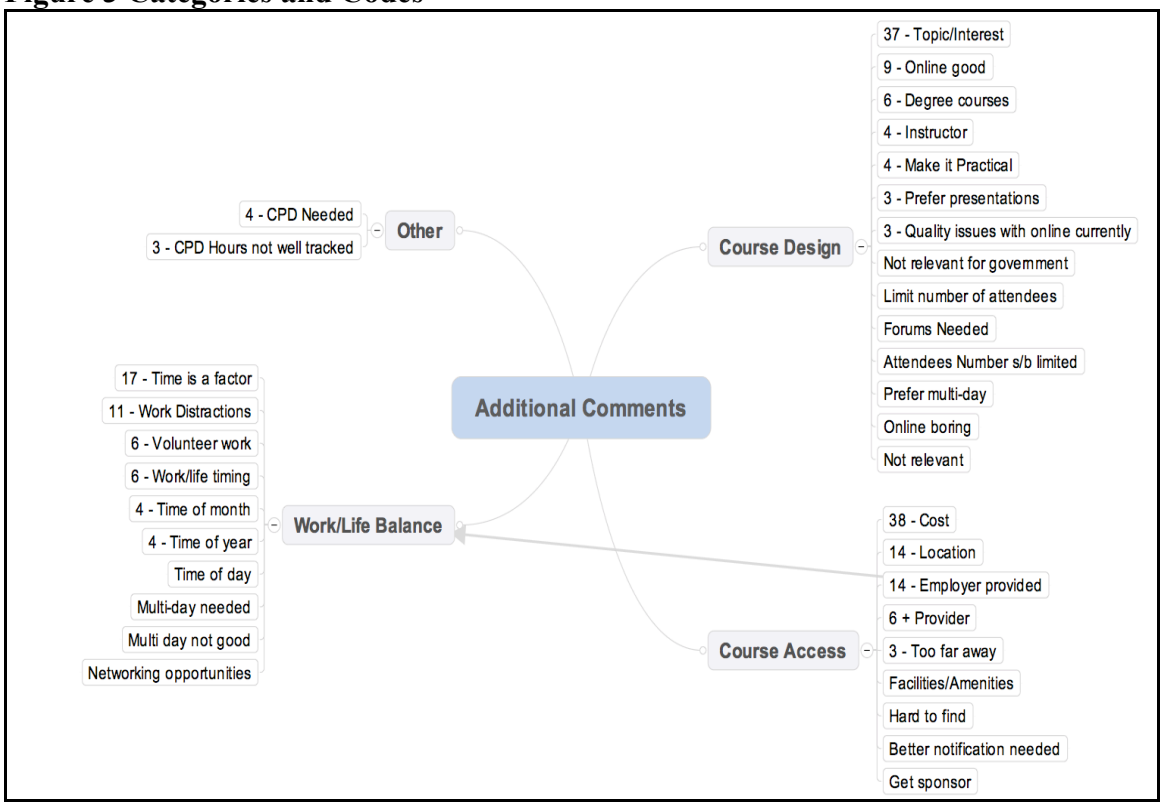


Figure 3 Categories and Codes



Cost was the most often mentioned comment with the topic of the course a close second. Many comments from respondents included both ("Overall, it has to be interesting, worth the time (both in PD points and cost) and bring some value to what I do"; "Topic and location are my priorities and cost"). Respondents were also influenced by whether or not their employer provided the course, this would also reflect a cost factor as there would be no charge to the employee ("Since my employer pays for everything, cost isn't an issue"; "It needs to be relevant to my employer in order to get financial assistance").

Respondents indicated that time away from work is an issue, whether it is related to the scheduling of the CPD or the work itself ("Time away from work with its critical deadlines meant that fitting in a seminar worked best"; "live webinars are almost

impossible during work hours"; "I've never been able to sit through a complete webinar without distraction and interruption").

A balance needed in the respondents work and home life was also found in many of the responses ("I am also very busy in my personal life (two kids) so need convenient locations and times for PD courses/seminars"; "I live in a remote location & have a young family, so attending live in-person seminars/sessions is quite difficult and requires a lot of planning & cost").

The CMAs allow members to earn CPD credits through volunteer hours and some respondents indicated that they made use of this for CPD credits ("I believe you should also give back to the organization/professional association (IE CMA Canada) so I try to stay involved and assist where I can which also qualifies for CPD credits"; "Volunteering is good value for time").

Some respondents liked the online option ("I prefer online CPD opportunities because location is irrelevant"; "Although I have not used webinars (live or recorded) or online material I think I would be more inclined in the future to use them because my time and my avoidance of additional travel are very important to me"; "Webinars are the best alternative"). However some found the quality lacking ("The questions can't be heard, it drops the conversation, coughing in the background, etc.") and the cost an issue ("I find the costs of webinars to be high, given the fact that no facility rental is required").

Many respondents noted the need for more practical courses ("Give me practical advice ") and less theory ("I do not need to pay money to see someone who feels it important to impart their textbook theory"; "mandatory sessions . . . did not deliver a lot of useful, practical information").

Summary

SPSS and excel programs were used to look at the results of the survey. Descriptive statistics indicated a good variety of respondents across gender, workplace and designations. Chi-square tests confirmed that in the categorical data there were differences between the observed responses and those that may be expected to arise by chance. Mann-Whitney U and Kruskal Wallis tests run on the data found that significant differences, at the .05 significance level, occurred in many of the categorical comparisons. Additional comments were reviewed and four main categories emerged from the data. Respondents indicated as many comments on the availability and access of the courses as they did on the course design. The following chapter provides a discussion on the results.

Chapter 5.

Discussion and Conclusion

Introduction

This study was undertaken to examine and explore the factors that influence accountants selections of modalities when pursuing continuing professional development (CPD). The purpose of this survey research study was to examine the relationships between personal and professional characteristics of accountants and the factors that influence their selection of delivery modality in professional development.

High quality CPD is of value to accountants in increasing their competencies and maintaining currency in their field. In order to be high quality CPD, courses should be based on a strong pedagogy that is relevant to adults and meets a variety of quality design indicators. A review of the literature suggests that courses that employ constructivist theory principles is one of the ways to ensure that the courses are high quality. Distance education can provide accountants with high quality CPD. How accountants are selecting their courses for CPD can help us understand why they are selecting the modalities they select and perhaps gain an understanding of how we can promote distance CPD as viable learning opportunities for accountants.

The sample was not random but was a cross sectional sample created by self selection from a researchers' email invitation, thus it is not possible make definite inferences about the whole population of accountants. The responses received are also not representative of the accounting population by designation. There were fewer CAs responses received than either CMA or CGAs but the CAs make up the majority of the population. Therefore, this may affect how broadly the results may be interpreted. In

addition, the fact that only electronic means were used to contact accountants and not all regions forwarded information to their members, not all accountants across Canada were contacted. The study asks respondents to recall their selection factors on courses they had taken over the last three years. The accuracy of the responses was limited by the ability to respondents to recall and report accurately the factors used at the time of selecting the CPD. Another limitation was the fact that Limesurvey had know issues with Windows 7 and had other security issues which may have stopped some accountants from accessing the survey.

Review and Discussion of Results

Accountants participated in all the tested modalities. As it is the traditional way of earning CPD, it is not unexpected that the live seminars were the CPD modality taken most often. Accountants are making use of online and distance modalities as can be seen from the high use of live webinars (72%), recorded webinars (41%) and recorded seminars (34%). Full-length courses, both face-to-face and online, were taken by accountants and indicated by some respondents as being a preferred modality to earn CPD credits. This is perhaps due to the large number of credits that can be earned with each course. Self-paced computer-aided course were also quite popular as 31% of accountants have taken at least one of these courses in the last three years.

Modality Preference.

Overall, accountants prefer to take live seminars with live webinars the second choice. Live seminars and live webinars are both offered at the regional level rather than the national level, so this may indicate that there is a preference for CPD courses that are locally provided, rather than nationally developed.

Modalities with a possibility for student-to-student interaction, such as seminars, webinars and face-to-face full-length courses, were ranked above those where only recordings or computer-to-student interaction occurred. Recorded webinars were ranked higher than recorded seminars. This may be due to the fact that webinars are already designed for viewing on the computer and a better quality is expected, and received, than the recordings of seminars. The online full-length course was ranked the lowest preference by respondents overall. This may be due to a perception of lack of interaction or may be due to a lack of suitable courses available to respondents.

Live seminars were preferred by those accountants completing the survey in English over those completing the survey in French. It may be that there are less seminars available in French and choices may be more limited. The oldest age group preferred the live seminars and the youngest age group ranked them the lowest of the groups. This indicates that the preference for live seminars may be reduced as older accountants retire. The education sector preferred the live seminar more than other groups with industry ranking it the lowest among the groups. This may be a factor of the relevance of topics needed mentioned in the additional comments as those teaching accounting would be interested in a much broader range of subjects than those in specific industries.

Live webinars were preferred by CAs and those in the oldest age group. Those aged 34-44 preferred them the least among the groups. This may be because of the work distractions noted in additional comments.

Women preferred to watch recorded webinars more than did the men in the study. This may be because of the work/life balance issues noted in additional comments as

watching the recorded webinars would allow them to schedule their time most effectively. The study did not reveal differences in the selection of recorded seminars. Although these are both distance modalities, it is the source of the recording that is relevant. The quality of recordings, particularly in recorded seminars, was noted as an issue by respondents and this may have affected their selection.

Face-to-face full-length courses had many differences among the groups. They were preferred by men over women; by French respondents over English respondents; by federal government employees and least by public practice; and by CMAs more than CAs or CGAs. There were no significant differences seen in face-to-face full-length course preferences in age groups. This is interesting because it does not seem to make a difference where they are in the career, full courses may still be of interest to accountants. Online full-length courses did not rank as high as other modalities. This may be because there are not as many online courses available or it may be that accountants do not yet perceive the online full-length course to be as beneficial to them based on a cost-time-benefit analysis.

Self-paced computer aided courses were preferred more by municipal government employees and least by provincial government employees. This is most likely to be a result of the number of available courses in the topic areas needed.

Selection Factors.

The respondents were asked what selection factors they used to select CPD overall (i.e. not for a specific course). Then, for individual modalities, respondents were asked to rank the factors based on the latest course they had taken in the past three years in that specific modality. The results of the Friedman test indicate that we cannot assume

that respondents use different values when selecting different modalities. This indicates that respondents are using the same general criteria when they are selecting a course as what they believe or want to use overall. It also indicates that accountants are likely using the same criteria when evaluating distance and face-to-face modalities as well as synchronous and asynchronous modalities. Table 47 indicates the ranking by respondents for overall and individual modalities and indicates where significant differences were found.

Table 47
Selection factor by modality

	Overall	Live Seminar	Live Webinar	Recorded Seminar	Recorded Webinar	Face-to-Face Full-Length Course	Online Full-Length Course	Self-Paced Computer Adided Course
Content	1[k]	1[k]	1[m]	1[k]	1[,m]	1	1	1
Cost	2[c,e,f,n]	2[e,f]	2	2	2[n]	3[e]	2[f]	2
CPD hour requirement	3[n]	3	3[d]	3[c,n]	3	2[f]	3	3
Time away from work	4[h]	5[h]	4	5	5[a]	5	5	5[c,m]
Instructor	5[d]	4[k]	5[c,m]	4[m]	4[m]	4[d]	4[,j]	6
Pace of course	6[,g]	7	6[,e,k]	6[,c]	6	7	6	4
Networking opportunities	7[m]	6[,d,m]	7[c]	7[c,k]	7[b,c,i]	6[d,k]	7[h]	7[c]

[a]Women ranked higher than men

[b]Men ranked higher than women

[c]English ranked higher than French (incudes those not ranked by French)

[d]French ranked higher than English

[e]55+ age group ranked highest

[f]"Other" employment sectors ranked highest

[g]Federal government employees ranked highest

[h]Municipal government employees ranked highest

[i]Education sector ranked highest

[j]Non-profit sector ranked highest

[k]CAs ranked highest

[m]CMAs ranked highest

[n]CGAs ranked highest

Content was consistently ranked as the first selection factor. There were some differences found among the organizational groups in all but full-length courses and self-paced computer-aided courses. Overall, and in live seminars and recorded seminars, the CAs had a higher ranking than other designations whereas in live webinars and recorded webinars the CMAs ranked content higher. This may have to do with the availability of the content as the CAs offer a large number of live and recorded seminars when compared to other groups.

Cost was ranked second and CPD hour requirements ranked third in all modalities except the face-to-face full-length course where the rankings are reversed. As full-length courses offer a large number of CPD points, it is possible that some full-length courses are being taken only to fulfill CPD requirements. The 55+ age group found cost more persuasive than other groups overall as well as when taking live seminars and face-to-face full-length courses. This does not necessarily indicate that the younger age groups were not concerned about the cost of the course but that it was a stronger factor for those older age groups. Live seminar, online full-length course and when looking at courses overall were all ranked higher by "other" employment sectors. This may stem from the difficulty in finding suitable content related courses. CGAs indicated that cost was a factor overall and in recorded webinars.

CPD hour requirement's ranking third (and second for one modality) indicates that it is a strong factor in the decision making for taking courses. Federal government employees did not rank cost or CPD hours as a decision factor. This may be because there are many federal government employees employed by the Canada Revenue Agency and they are taking employer required courses. As indicated in the additional comments,

as these courses fulfill the CPD requirements and are paid by the employer, there is no need for either to be a selection factor. The fact that CGAs ranked CPD hour requirement higher than other designations may indicate a higher focus on that requirement by their governing body.

Although respondents indicated that the instructor was a higher ranking factor than time away from work when they were thinking about taking courses overall, when it came to actual courses taken, the time away from work ranked higher than the instructor. With the work/life balance being an indicated factor in the additional comments, it is not surprising that time away from work is ranked high. The time away from work when selecting the recorded webinar, which can be watched at any time, was indicated as more of a factor for women than men. Perhaps indicating that women are looking at this factor more often. The ranking of this factor in the middle of all the factors should increase the desire for more accountants to take distance modality courses as they offer greater flexibility.

The instructor is an important component of any course – face-to-face or distance modality. Overall, respondents completing the survey in French ranked the instructor higher than English speaking respondents. In fact, most differences in the ranking of the instructor were found between the language of respondents or among the designations. As the modality responses were based on individual courses, the great variability of ranking for each of the modalities may indicate the strength of the instructor for that particular course taken only rather than an instructor's influence overall. The instructor was not ranked differently for synchronous versus asynchronous courses.

When looking at the differences between live seminars and live webinars, time away from work is a greater influential factor in the distance modality. This does not hold true when the course is a full-length course as the ranking was the same for distance versus online in that case.

It was expected that the pace of the course would be a stronger influence for distance modalities than face-to-face modalities. This was, in fact, the case and ranked the highest in the self-paced computer-aided course modality. Not surprising as students can set their own pace for these courses. Although federal government employees ranked the pace of the course higher overall, that did not translate into actual courses taken by those employees (no individual modalities were also ranked higher by federal government employees.

Not surprisingly, networking opportunities ranked highest in the face-to-face courses although there was variance among the various categories within the ranking. Although CMAs ranked the networking opportunities higher than other designations, this was only repeated in live seminars.

Full length courses, distance or face-to-face varied in which groups found them to be more influential. Face-to-face courses were ranked higher by French respondents and CAs while online were ranked higher by municipal government employees.

It was surprising that it was ranked at all as a factor in the recorded seminar and recorded webinar categories. I could not see any networking opportunities in these two categories. However, another accountant (tongue placed firmly in cheek) informed me that he used these recordings for networking purposes all the time. He started the recording at his desk and then went to get coffee and chat to fellow employees while the

recording played. However, it is possible that some respondents felt that they should rank all possibilities despite the instructions stating otherwise.

Implications for Providers

One of the expected results, based on previous interviews with professionals, was that the ranking for CPD hour requirements would be a strong factor and this was, in fact, the case. However, fortunately, content remains the most important factor in selection. Accounting organizations will need to continue to monitor future results as the goal of CPD should be the achieving and maintaining of competencies not the CPD hour requirement. In this regard, accounting organizations may also want to look further into the output method of CPD or a mixed input/output method with the emphasis on the training and currency rather than on the counting of CPD hours.

The accessibility of CPD courses was a recurring theme among those respondents providing additional comments. Whether it is the cost, location or a combination of factors, participants are concerned that they do not have sufficient access to courses. Accounting providers may want to look at providing more high quality online CPD to facilitate access for accountants.

Respondents noted the need for more practical courses for CPD as well as more relevant courses. Providers need to look at ways to provide a wider variety of courses in order to satisfy the needs of more of their members. Again, online options may be more economical for this purpose.

The differences in selection factors among the designations may lead to some interesting discussions in the currently on-going amalgamation discussions for the three designations. If the Chartered Professional Accountant designation goes forward, how

one body will satisfy the varying CPD requirements with the varying focuses will be a hurdle that must be overcome.

Formal educational institutions should be encouraged by the number of respondents who indicated that full-length courses were a good way to satisfy CPD requirements - when those courses were relevant. These institutions may want to offer more certificate programs that can be taken after the accounting degree.

Distance education providers should take note of the fact that many respondents were concerned over access to courses. Distance modalities offer access to a wider audience than face-to-face courses particularly where travel is a factor. Mobile technologies may also be a viable way to provide accountants with high quality CPD that is accessible from more locations.

Summary of Results

Overall, factors most important to accountants are content, cost and CPD hours. Generally, the differences found in selection factors for distance versus face-to-face modalities was the flexibility of the distance course to reduce time away from work. Networking opportunities ranked as a higher selection factor for face-to-face modalities over distance modalities. Synchronous courses in general did not differ in selection factors from asynchronous courses with the exception of self-paced courses where the pace and time away from work were ranked higher than other courses.

Suggestions for Further Research

Additional comments from respondents highlighted that recorded webinars and seminars can be lacking in quality. Another issue anecdotally noted was that work distractions often make the viewing of these non-productive. While they definitely serve

a purpose for those accountants who cannot attend the live seminar or webinar, we need to determine if accountants are receiving value from these modalities. Both of these modalities are lacking in social interaction but can have valuable topical information. Further research is suggested on accountants' actual use and value of recordings.

High quality CPD should make use of a pedagogical underpinning. Synchronous sessions do give opportunities for constructivist dialogue and asynchronous sessions can include questions or games to implement application of feedback. Further research is needed to determine the extent of constructivist practices in all forms of CPD.

Constructivist theory makes use of problem solving and building on prior knowledge. Comments from respondents requesting more practical and less theory-based information sessions for CPD were noted. However, many live seminars and live webinars are "talking head" style with very little student interaction. Further research is suggested to determine whether or not accountants are increasing/maintaining currency from live seminars and webinars.

Currently, there are a very limited number of CPD courses being offered using mobile technology. There is potential for use of mobile technology in live webinars, recorded seminars, recorded webinars as well as self-paced computer-aided technology. Some conferencing providers are already offering conferencing abilities on the iPad (e.g. WebEx) and recordings and e-learning production are slowly starting to be available. Further research is suggested on the potential use of mobile technologies and accountants' reception and use of mobile technologies for CPD courses.

Last, but definitely not least, various statistically significant differences were found in the rankings done in the categorical factors explored. There were differences

between men and women, between respondents who filled out the survey in English and those who filled it out in French, among the age groups, workplace groups and designations. Further research should be done to explore why these differences exist and explore the cultural and gender differences.

References

Allen, J. (2009). Is podcasting the new powerpoint flop?. *Virginia English Bulletin*, 59(1), 32-36. Retrieved from EBSCO*host*.

Anderson, L., & Anderson, T. (2009). Online Professional Development Conferences: An Effective, Economical and Eco-Friendly Option. *Canadian Journal of Learning and Technology*, 35(2), Retrieved from EBSCO*host*.

Bates, T. (2005). Charting the evolution of lifelong learning and distance higher education: The role of research. In C. McIntosh (Ed.) & Z. Varoglu (Ed. Coord.), *Lifelong Learning & Distance Higher Education* (pp.133-149). Vancouver, BC, Canada: Commonwealth of Learning/UNESCO Publishing.

Baviskar, S.N., Hartle, R., & Whitney, T. (2009). Essential Criteria to Characterize Constructivist Teaching: Derived from a review of the literature and applied to five constructivist-teaching method articles. *International Journal Of Science Education*, *31*(4), 541-550. doi:10.1080/09500690701731121

Baukal, C.E. (2010). Continuing engineering education through distance learning. *European Journal of Engineering Education*, 35(2), 225-233. doi:10.1080/03043790903560018

Berg, M.C. (2007). Continuing Professional Development - The IFAC Position. *Accounting Education*, 16(4), 319-327. doi:10.1080/09639280701646430

Bernard, R.M., Abrami, P.C., Yiping, L., Borokhovski, E., Wade, A., Wozney, L., & Binru, H. (2004). How Does Distance Education Compare With Classroom Instruction? A Meta-Analysis of the Empirical Literature. *Review of Educational Research*, 74(3), 379-439. Retrieved from ProQuest Education Journals.

(Document ID: 744577661).

Brown, A. & Green, T. (2003). Showing up to class in pajamas (or less!) The fantasies and realities of on-line professional development. *Clearing House*, 76(3), 148. Retrieved from Academic Search Complete database.

Bryant, S.M., Kahle, J.B., & Schafer, B.A. (2005). Distance education: A review of the contemporary literature. *Issues in Accounting Education*, 20(3), 255-272. Retrieved from EBSCO*host*.

Canadian Council on Learning. (2011) *What is the Future of Learning in Canada?* Ottawa: Canadian Council on Learning.

Canadian Institute of Chartered Accountants (CICA), The Society of Management Accountants of Canada, and Certified General Accountants Association of Canada. Retrieved from http://cpacanada.ca.

Cervero, Ronald M. 2001. "Continuing professional education in transition, 1981–2000." *International Journal of Lifelong Education* 20, no. 1/2: 16-30. *Academic Search Complete*, EBSCO*host* (accessed May 27, 2011).

Chalmers, L., & Keown, P. (2006). Communities of practice and professional development. *International Journal of Lifelong Education*, 25(2), 139-156. doi:10.1080/02601370500510793

Cobb, S. (2004). Internet continuing education for health care professionals: An integrative review. *Journal of Continuing Education in the Health Professions*, 24(3), 171-180. Retrieved from EBSCO*host*.

Cooper, D.R. & Schindler, P.S. (2003). *Business Research Methods (Eighth Edition)*. New York NY: McGraw-Hill Irwin.

Creswell, John W. (2009). *Research Design: Qualitative, quantitative, and mixed methods approaches, 3rd Edition.* Thousand Oaks, CA, USA: Sage Publications Inc.

Donavant, B.W. (2009). The new, modern practice of adult education: online instruction in a continuing professional education setting. *Adult Education Quarterly: A Journal of Research and Theory*, 59(3), 227-245. Retrieved from EBSCO*host.*

Doolittle, P.E. & Camp, W.G. (1999). Constructivism: The Career and Technical Education Perspective. *Journal of Vocational and Technical Education,* Vol 16, No 1, p 1-15. Retrieved from: http://scholar.lib.vt.edu/ejournals/JVTE/v16n1/doolittle.html.

Driscoll, M. (2005) *Psychology of learning for instruction (3rd ed)*. Boston. Pearson Education Inc.

Epilogue: Professional Continuing Education into the Twenty-First Century. (2006). *ASHE Higher Education Report*, 32(2), 83-96. Retrieved from EBSCO*host*.

Fordis, M., King, J.E., Ballantyne, C.M., Jones, P.H., Schneider, K.H., Spann, S.J., Greenberg, S.B., Greisinger, A.J. (2005 Sep 7). Comparison of the instruction efficacy of Internet-based CME with live interactive CME workshops. A randomized controlled trial. *The Journal of the American Medical Association*. 294(9):1043–51. doi: 10.1001/jama.294.9.1043

Fosnot, C.T., Perry, R.S. (2005). Constructivism: A Psychological Theory of Learning. In C.T. Fosnot (Ed). *Constructivism: Theory, Perspectives and Practice* (pp 8-38). Columbia University, NY. Teachers College Press.

Friedman, A., & Phillips, M. (2004). Continuing Professional Development: developing a vision. *Journal of Education & Work*, 17(3), 361-376. doi:10.1080/1363908042000267432

Gibbs, M.G., Bracey, G., & Gay, P. (2009). Podcasts: An additional content delivery method for college students. *International Journal of Technology in Teaching & Learning*, 5(1), 75-92. Retrieved from EBSCO*host*.

Hean, S., Craddock, D., & O'Halloran, C. (2009). Learning theories and interprofessional education: a user's guide. *Learning In Health & Social Care*, *8*(4), 250-262. doi:10.1111/j.1473-6861.2009.00227.x

Heerwegh, D., & Loosveldt, G. (2009). Explaining the intention to participate in a web survey: a test of the theory of planned behaviour. *International Journal Of Social Research Methodology*, *12*(3), 181-195. doi:10.1080/13645570701804235

Holtzblatt, M., & Tschakert, N. (2010). The design and implementation of an enlivened IFRS course. *American Journal of Business Education*, 3(6), 103-113. Retrieved from EBSCO*host*.

IES 7, Continuing professional development: A program of lifelong learning and continuing development of professional competence (2010). *Exposure Draft.* International Federation of Accountants. Retrieved from: http://www.iaesb.org.

Knighton, T., Hujaleh, F., Iacampo, J. & Werkneh G., (2009) Lifelong Learning *Among Canadians Aged 18 to 64 Years: First Results from the 2008 Access and Support to Education and Training Survey* (Catalogue no 81- 595-M, no. 79). Ottawa: Statistics Canada.

Leflore, D. (2000). Theory support design guidelines for web-based instruction. In B. Abbey (Ed.) *Instructional and Cognitive Impacts of Web-based Education* (pp 102—117). Hershey, PA. IDEA Group Publishing.

Lynn, V.A., Bose, A., & Boehmer, S.J. (2010). Librarian instruction-delivery modality preferences for professional continuing education. *Journal of the Medical Library Association*, 98(1), 57-64. Retrieved from EBSCO*host*.

Manfreda, K., Bosnjak, M., Berzelak, J., Haas, I., & Vehovar, V. (2008). Web surveys versus other survey modes. *International Journal Of Market Research*, *50*(1), 79-104.

Matthews, D. (2002). The use of the postal questionnaire in accounting history research. *Accounting, Business & Financial History*, 12(1), 113-129. doi:10.1080/09585200110107984

Means, B., Toyama, Y., Murphy. R., Bakia., Jones, K. (2010). *Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies.* U.S. Department of Education, Office of Planning Evaluation, and Policy Development, Policy and Program Studies Services. Retrieved from http://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf.

Metrejean, E., & Noland, T.G. (2010). An analysis of CPA firm recruiters' perceptions of online masters of accounting degrees. *Journal of Education for Business*, 86(1), 25-30. doi:10.1080/08832321003713754

Moller, L., Forshay, W., & Huett, J. (2008). The evolution of distance education: Implications for instructional design on the potential of the web. *TechTrends: Linking Research & Practice to Improve Learning*, 52(3), 70-75. doi:10.1007/s11528-008-0158-5

Moore, M.G., & Kearsley, G. (2005). *Distance education: A systems view* (second edition). Belmont, CA: Wadsworth.

Neuhauser, C. (2002). Learning Style and Effectiveness of Online and Face-to-Face Instruction. *American Journal Of Distance Education, 16(2)*, 99.

Neuman, W.L. (2006). *Social Research Methods Qualitative and Quantitative Approaches*. Boston MA: Pearson Education, Inc.

Organization for Economic Co-operation and Development, (2003) *Beyond Rhetoric: Adult Learning Policies and Practices*. Paris: OECD Publications.

Pange A, Pange J. Is E-learning Based On Learning Theories? A Literature Review. *World Academy Of Science, Engineering & Technology* [serial online]. August 2011; 80:62-66. Retrieved from Academic Search Complete.

Paisey, C., Paisey, N. J., & Tarbert, H. (2007). Continuing Professional Development Activities of UK Accountants in Public Practice. *Accounting Education*, 16(4), 379-403. doi:10.1080/09639280701646554

Pongsuwan, S., Hoksuwan, S., In-udom, W., & Chalakbang, W. (2011). Development of an E-learning Model Based on the Meaningful Learning Process through a Constructivist Theory. *European Journal Of Social Science*, *24*(4), 625-633.

Raosoft, Inc. (2004). Sample Size Calculator. Retrieved from http://www.raosoft.com/samplesize.html.

Rising interest in online ed (2006). BizEd, 5(4), 49-50. Retrieved from Academic Search Complete database.

Ryan, A. (2011). CPD COMPLIANCE THE HEAT IS ON!. *Accountancy Ireland*, 43(2), 74-75. Retrieved from EBSCO*host*.

Russell, T. L. (1997). Technology wars: Winners & losers. *Educom Review*, 32(2), 44. Retrieved from EBSCOhost.

Saba, F. (2000). Research in Distance Education: A Status Report. *The International Review Of Research In Open And Distance Learning, 1*(1), Article 1.1.4. Retrieved from http://www.irrodl.org/index.php/irrodl/article/view/4.

Sandars, J., Walsh, K., & Homer, M. (2010). High users of online continuing medical education: A questionnaire survey of choice and approach to learning. *Medical Teacher*, 32(1), 83-85. doi:10.3109/01421590903199171

Schimming, L. M. (2008). Measuring medical student preference: a comparison of classroom versus online instruction for teaching PubMed. *Journal Of The Medical Library Association, 96(3)*, 217-222. doi: 10.3163/1536-5050.96.3.007

Schwartz, R., & Bryan, W. (1998). What is professional development?. *New Directions for Student Services*, 3-13. doi: 10.1002/ss.8401

Shih, T., & Fan, X. (2007) Preferences in web-mail mixed-mode surveys: a meta-analysis. *International Journal of Internet Science.* 2007,2 (1) 59-82. Retrieved from http://www.ijis.net/ijis2_1/ijis2_1_shih_pre.html.

Sutton-Brady, C., Scott, K. M., Taylor, L., Carabetta, G., & Clark, S. (2009). The value of using short-format podcasts to enhance learning and teaching. *ALT-J:*

Research in Learning Technology, 17(3), 219-232. doi:10.1080/09687760903247609

St. Pierre, K., Wilson, R.S., Ravenscroft, S.P., & Rebele, J.E. (2009, May). The role of accounting education research in our discipline--An editorial. *Issues in Accounting Education*. pp. 123-130. Retrieved from EBSCO*host*.

Taylor, L., & Clark, S. (2010). Educational design of short, audio-only podcasts: The teacher and student experience. *Australasian Journal of Educational Technology*, 26(3), 386-399. Retrieved from EBSCO*host*.

Wessels, S. B. (2007). Accountants' Perceptions of the Effectiveness of Mandatory Continuing Professional Education. *Accounting Education*, 16(4), 365-378. doi:10.1080/09639280701646539

VanVoorhis, C.W., & Morgan, B.L. (2001). Statistical rules of thumb: what we don't want to forget about sample sizes. *Psi Chi Journal Of Undergraduate Research*, 16(2), 58-72.

Appendix A

Proposed Survey

(The survey will use LimeSurvey tool at AU – to be completed before data gathering)

Q #	Written	Options	Notes
1	Introduction and Participant Agreement (see Appendix B)	• I agree, proceed • I do not agree, exit	Required Answer
2	Thinking about your professional development overall, rank the factors that are important to you when you decide to participate in CPD	• Topic or Content • Cost • Number of CPD Hours Provided • Instructor/Presenter • Networking Opportunities • Time away from work or home • Pacing (self-paced or required timing • Other (please list)	Rank required
3	A face-to-face live seminar is any seminar that you have attended where your physical presence was required. It might include a full-day training seminar or a breakfast that included a speaker. In the past three years have you attended a live seminar for professional development?	• Yes • No	Answer required
4	Thinking about the most recent face-to-face live seminar that you attended, rank the factors that were important to you when deciding to take this CPD.	Same as Q2	Respondent will see this question only if they answered yes to previous question.
5	A live webinar is an online broadcast in real time. You were not required to leave your desk, but you must have watched the live meeting, training or presentation in real time. In the past three years have you	• Yes • No	Answer required

	attended a live webinar for CPD?		
6	Thinking about the most recent live webinar that you attended, rank the factors that were important to you when deciding to take this CPD.	Same as Q2	Respondent will see this question only if they answered yes to previous question.
7	A recorded seminar is a recording of a live seminar. Whether downloadable from an online source or on a CD. It must be a recording of a session including a speaker with an audience. In the past three years have you watched a recorded seminar for CPD?	• Yes • No	Answer required
8	Thinking about the most recent recorded seminar that you watched, rank the factors that were important to you when deciding to take this CPD.	Same as Q2	Respondent will see this question only if they answered yes to previous question.
9	A recorded webinar is a recording of a previously held webinar or webcast. In the past three years have you watched a recorded webinar for CPD?	• Yes • No	Answer required
10	Thinking about the most recent recorded webinar that you watched, rank the factors that were important to you when deciding to take this CPD.	Same as Q2	Respondent will see this question only if they answered yes to previous question.
11	A face-to-face full-length course is a course that required more than one session. An example might be a university course or a week-long executive style training course. In the past three years have you attended a face-to-face full-length course for CPD?	• Yes • No	Answer required
12	Thinking about the most recent		Respondent will

	face-to-face full-length course that you attended, rank the factors that were important to you when deciding to take this CPD.	Same as Q2	see this question only if they answered yes to previous question.
13	An online full-length course is a multi-session course that included an instructor and fellow student. This would include, for instance, a paced course at a university or an advanced tax course taken through your association. In the past three years have you attended an online full-length course for CPD?	• Yes • No	Answer required
14	Thinking about the most recent online full-length course that you attended, rank the factors that were important to you when deciding to take this CPD.	Same as Q2	Respondent will see this question only if they answered yes to previous question.
15	A self-paced computer-aided course is a course that did not require an instructor. All modules and tests were computerized. In the past three years have you watched a self-paced computer-aided course for CPD?	• Yes • No	Answer required
16	Thinking about the most recent self-paced computer-aid course you undertook, rank the factors that were important to you when deciding to take this CPD.	Same as Q2	Respondent will see this question only if they answered yes to previous question.
17	Rank the following profession development delivery methods by your order of preference.	• Live face-to-face seminars • Live webinars • Recorded seminars • Recorded webinars • Face-to-face full-length Courses • Online full-length Courses • Self-paced, Computer-aided Courses • Other (please list)	Rank required

18	Are you a member of any of the following accounting associations?	• Certified General Accountant • Certified Management Accountant • Chartered Accountant • Other (Please specify) (open ended)	Respondents may include all that apply
19	Where do you work?	• Public Practice • Government – Federal • Government – Provincial • Government - Municipal • Industry • Non-profit • Education • Other (Please specify) (open ended)	Respondents may include all that apply
20	Please indicate your age.	• 18-24 • 25-34 • 35-44 • 45-54 • 55-64 • 65 +	Respondents may select only one
21	What is your gender	• Male • Female	Respondents may select only one
22	Do you have any additional comments about your selection criteria for CPD? If so, please include it below.	Open ended	

Appendix B

Introduction and Participant Consent

Thank you for your interest in completing this survey.

As an accountant you participate in continuing professional development (CPD). This survey is collecting data to assist in understanding any relationships between the factors that influence your selection of delivery modality when you choose which professional development to undertake.

The survey is to be completed anonymously and there will be no attempt made to personally identify you or your response. There are no foreseeable risks to you in completing this survey. This survey should take less than 15 minutes to complete but you may take as long as you wish to complete the survey.

In recognition of time spent to participate in this research, you may enter a draw for an ipad2 to be given to one participant who completes the survey. Email addresses provided for the purposes of the draw will only be used to notify the winner. Email addresses will be retained in a confidential database and will be destroyed once the winner has been drawn. Odds of winning will vary according to the number of participants who choose to enter.

Participant Understanding:

By completing this survey I understand that the project does not involve deception, or involve any known risks. I also understand that I may refuse to answer any questions or withdraw at any time. I may contact Kathie Ross at 250-881-0649 or Dr. Terry Anderson at 780-497-3421 if I have any questions or concerns.

This research has been reviewed by the Athabasca University Research Ethics Board. You may contact that board by emailing rebsec@athabascau.ca or calling 1-780-675-6718, if you wish to discuss your treatment as a participant in this research.

By selecting agree, you confirm that you are giving your consent to participate in this study.

[French Version]

Merci de votre intérêt envers ce sondage.

En tant que comptable, vous consacrez une partie de votre temps au développement professionnel permanent (DPP). Ce sondage a pour objet de recueillir des données nous aidant à comprendre la relation entre les facteurs qui influencent votre choix d'une méthode d'enseignement dans le cadre de votre développement professionnel.

Vous pouvez répondre au sondage dans l'anonymat le plus complet, et personne ne cherchera à vous identifier, ainsi que vos réponses. Il n'y a aucun risque prévisible pour ceux qui répondent au sondage. Ce sondage prend moins de 15 minutes, mais vous pouvez prendre le temps que vous désirez pour y répondre.

Pour vous remercier d'avoir pris le temps de participer à cette étude, nous faisons tirer un iPad2. Le gagnant sera sélectionné parmi les participants qui ont répondu au sondage, et choisi de s'inscrire au tirage. Les adresses de courriel fournies aux fins du tirage ne serviront qu'à aviser le gagnant. Les adresses de courriel seront conservées dans une banque de données confidentielles, et seront supprimées après le tirage. Les probabilités de gagner varient selon le nombre de répondants qui ont choisi de s'inscrire au tirage.

<u>Déclaration du répondant :</u>

En répondant à ce sondage, je suis conscient que le programme ne comporte aucune tromperie, et n'implique aucun risque. Je suis conscient que je peux refuser de répondre à quelconque question ou me retirer en tout temps. Pour toutes questions, je peux contacter Kathie Ross au 250-881-0649 ou D^{r} Terry Anderson au 780-497-3421.

Cette étude a été approuvée par le Conseil d'éthique de l'Université Athabasca. Vous pouvez contacter le Conseil en écrivant à rebsec@athabascau.ca ou en appelant le 1-780-675-6718. Si vous désirez discuter de traitement en que participant à cette étude.

En acceptant ces modalités, vous confirmez avoir consenti à participer à cette étude.

Appendix C

Initial Email to Potential Participants

My name is Kathleen Ross and I am currently a Master of Education (Distance Education) student at Athabasca University. I am exploring what influences you to choose the method of delivery for your professional development.

As an accountant, you are required to accumulate a minimum number of hours of continuing professional development (CPD) in order to maintain your designation. There is a variety of CPD to choose from in different delivery formats (modality). Why you select which CPD is of interest to me in my research. The results will be useful for those developing CPD courses to best meet your interests and concerns.

In recognition of the time spent to participate in this research, you may enter a draw for an iPad2. The winner will be selected from among those participants who have completed the survey and choose to enter the draw. The survey may be completely anonymously (without entering the draw) and should take less than 15 minutes to complete but you may take as long as you wish to complete the survey.

This research has been approved by the Ethics review Board at Athabasca University. You may withdraw from the survey at any time. All information collected from you will be stored in a secure electronic location that can be accessed by the researcher only and will be destroyed in a confidential manner three years from the date of collection. Furthermore, the data stored will include no identifying information. Finally, the study contains no deceptions and is of minimal risk to yourself.

The results of this research will be published online at the Athabasca University Library's Digital Thesis and Project Room; and a final research paper will be publicly available.

You can access the survey at the following link:

[link here]

Thank you for assisting in the research and helping to increase our knowledge on influential factors in modality selection. If you have any questions, you can contact me at 250-881-0649 or my supervisor, Dr. Terry Anderson at 780-497-3421.

[French Version]

Je m'appelle Kathleen Ross, et je fais présentement une maîtrise en éducation (formation à distance) à l'Université Athabasca. Je cherche à analyser ce qui influence votre choix quant à la méthode d'enseignement pour votre développement professionnel.

En tant que comptable, vous devez accumuler un nombre minimum d'heures consacrées au développement professionnel permanent (DPP) afin de conserver votre titre. Il existe plusieurs formes de DPP, et l'enseignement est fournie de différentes façons (modalités). Dans le cadre de ma recherche, je veux savoir pourquoi vous choisissez une certaine méthode de DPP. Les résultats seront utiles pour ceux qui élaborent des cours de DPP afin de répondre à vos attentes.

Pour vous remercier d'avoir pris le temps de participer à cette étude, nous faisons tirer un iPad2. Le gagnant sera sélectionné parmi les participants qui ont répondu au sondage, et choisi de s'inscrire au tirage. Vous pouvez répondre au sondage dans l'anonymat complet (sans participer au tirage). Le sondage prend moins de 15 minutes, mais vous pouvez prendre le temps que vous désirez pour y répondre.

Cette étude a été approuvée par le Conseil d'éthique de l'Université Athabasca. Vous pouvez quitter le sondage en tout temps. Tous les renseignements recueillis seront sauvegardés de façon électronique dans un lieu sécurisé auquel seul le chercheur peut accéder, et seront supprimés en toute confidentialité trois ans après avoir été recueillis. En outre, les données sauvegardées ne renferment aucun élément susceptible de vous identifier. Enfin, cette étude ne comporte aucun piège, et le risque d'y répondre est minime.

Les résultats de cette étude seront publiés en ligne dans la salle de thèses et de projets numériques de la bibliothèque de l'Université Athabasca. Un document de recherche final sera mis à la disposition du public.

Pour accéder au sondage, veuillez cliquer sur le lien suivant :

[link here]

Je vous remercie d'avoir contribué à cette étude et de nous avoir aidés à améliorer nos connaissances quant aux facteurs qui influencent la sélection des modalités. Pour toutes questions, n'hésitez à me contacter au 250-881-0649, ou mon superviseur, Dr Terry Anderson, au 780-497-3421.

Appendix D

Chi-square non-parametric test: Category selection factor for modalities

	Live Seminar n = 397			Live Webinar n = 308		
Variable	Chi-square	df	p Value	Chi-square	Df	p Value
Content	1030.240	5	.000	807.973	4	.000
Cost	194.875	7	.000	298.699	7	.000
CPD hour requirement	209.426	7	.000	202.356	6	.000
Instructor	160.000	7	.000	62.621	6	.000
Networking opportunities	66.468	7	.000	35.364	5	.000
Pace of course	92.507	7	.000	41.538	6	.000
Time away from work	174.946	7	.000	67.556	6	.000

	Recorded Seminar n = 146			Recorded Webinar n = 173		
	Chi-square	df	p Value	Chi-square	Df	p Value
Content	305.837	3	.000	374.82	3	.000
Cost	49.903	5	.000	119.115	6	.000
CPD hour requirement	75.414	5	.000	116.794	5	.000
Instructor	55.761	6	.000	32.154	5	.000
Networking opportunities	13.895	4	.008	15.333	5	.009
Pace of course	14.444	6	.025	19.661	6	.003
Time away from work	23.767	6	0.001	28.692	5	.000

	Face-to-face full-length Course n = 172			Online full-length Course n = 66		
	Chi-square	df	p Value	Chi-square	df	p Value
Content	280.835	3	.000	121.625	3	.000
Cost	55.439	6	.000	42.14	6	.000
CPD hour requirement	94.535	7	.000	11.833	6	.066
Instructor	69.323	7	.000	9.667	5	.085
Networking opportunities	26.105	7	.000	5.333	6	.502
Pace of course	14.462	7	.044	5.941	6	.430
Time away from work	56.927	7	.000	9.625	5	.087

	Self-paced computer course n = 130		
	Chi-square	df	p Value
Content	204.322	3	.000
Cost	87.273	6	.000
CPD hour requirement	60.577	5	.000
Instructor	18.000	6	.006
Networking opportunities	13.769	3	.003
Pace of course	18.538	5	.002
Time away from work	17.140	5	.004

Appendix E

Results of Mann-Whitney U Gender Comparison for Modalities

Modality	n	Mean Rank	Sum of Ranks	Mann-Whitney U	Asymp. Sig. (2 tailed)
Live seminar					
Female	228	203.64	46430.000		
Male	179	204.46	36598.000		
Total	407			20324.000	0.935
Live webinar					
Female	206	179.48	36972.000		
Male	153	180.71	27648.000		
Total	359			15651.000	0.909
Recorded seminar					
Female	173	148.29	25655.000		
Male	128	154.66	19796.000		
Total	301			10604.000	0.523
Recorded webinar					
Female	189	151.82	28694.500		
Male	138	180.68	24933.500		
Total	327			10739.500	0.006
Face-to-face full-length course					
Female	172	174.94	30090.500		
Male	148	143.71	21269.500		
Total	320			10243.500	0.002
Online full-length course					
Female	155	137.44	21302.500		
Male	118	136.43	16098.500		
Total	273			9077.500	0.915
Self-paced computer aided course					
Female	180	160.32	28858.000		
Male	146	167.42	24443.000		
Total	326			12568.000	0.493

Appendix F

Results of Mann-Whitney U Gender Comparison for Selection Factors

Variable	n	Mean Rank	Sum of Ranks	Mann-Whitney U	Asymp. Sig. (2 tailed)
Content					
Female	233	207.72	48399.00		
Male	179	204.91	36679.00		
Total	412			20569.000	0.756
Cost					
Female	217	189.76	41178.00		
Male	165	193.79	31975.00		
Total	382			17525.000	0.718
CPD hour requirement					
Female	212	190.00	40279.00		
Male	161	183.06	29472.00		
Total	373			16431.000	0.530
Instructor					
Female	178	166.83	29696.50		
Male	150	161.73	24259.50		
Total	328			12934.500	0.622
Networking opportunities					
Female	152	144.11	21905.00		
Male	130	138.45	17998.00		
Total	282			9483.000	0.552
Pace of course					
Female	153	141.46	21644.00		
Male	128	140.45	17977.00		
Total	281			9721.000	0.915
Time away from work					
Female	205	173.76	35621.00		
Male	152	186.07	28282.00		
Total	357			14506.000	0.255

Appendix G

Results of Mann-Whitney U Gender Comparison for Selection Factors for modalities

	Live Seminar					Live Webinar				
Variable	n	Mean Rank	Sum of Ranks	Mann-Whitney U	Asymp. Sig. (2 tailed)	n	Mean Rank	Sum of Ranks	Mann-Whitney U	Asymp. Sig. (2 tailed)
Content										
Female	212	190.78	40444.50			178	151.39	26947.00		
Male	165	186.72	30808.50			121	147.96	17903.00		
Total	377			17113.500	0.623	299			10522.000	0.584
Cost										
Female	174	147.74	25706.50			125	102.60	12825.00		
Male	128	156.61	20046.50			80	103.63	8290.00		
Total	302			10481.500	0.370	205			4950.000	0.897
CPD hour requirement										
Female	161	144.45	23257.00			110	99.50	10945.00		
Male	129	146.81	18938.00			80	90.00	7200.00		
Total	290			10216.000	0.807	190			3960.000	0.215
Instructor										
Female	146	139.70	20396.00			71	66.69	4735.00		
Male	125	131.68	16460.00			60	65.18	3911.00		
Total	271			8585.000	0.390	131			2081.000	0.816
Networking opportunities										
Female	104	91.95	9563.00			25	26.30	657.50		
Male	83	96.57	8015.00			19	17.50	332.50		
Total	187			4103.000	0.556	44			142.500	0.017
Pace of course										
Female	66	64.17	4235.50			54	43.88	2369.50		
Male	67	69.78	4675.50			36	47.93	1725.50		
Total	133			2024.500	0.388	90			884.500	0.460
Time away from work										
Female	147	123.81	18199.50			78	63.52	4954.50		
Male	111	137.04	15211.50			47	62.14	2920.50		
Total	258			7321.500	0.148	125			1792.500	0.832

	Recorded Seminar					Recorded Webinar				
	n	Mean Rank	Sum of Ranks	Mann-Whitney U	Asymp. Sig. (2 tailed)	n	Mean Rank	Sum of Ranks	Mann-Whitney U	Asymp. Sig. (2 tailed)
Content										
Female	76	69.43	5277.00			94	84.44	7937.00		
Male	64	71.77	4593.00			72	82.28	5924.00		
Total	140			2351.000	0.528	166			3296.000	0.575
Cost										
Female	51	46.78	2386.00			63	57.67	3633.50		
Male	41	46.15	1892.00			49	54.99	2694.50		
Total	92			1031.000	0.906	112			1469.500	0.643
CPD hour requirement										
Female	45	39.20	1764.00			57	52.50	2992.50		
Male	41	48.22	1977.00			49	54.66	2678.50		
Total	86			729.000	0.076	106			1339.500	0.697
Instructor										
Female	30	36.80	1104.00			39	40.05	1562.00		
Male	36	30.75	1107.00			38	37.92	1441.00		
Total	66			441.000	0.182	77			700.000	0.665
Networking opportunities										
Female	5	11.40	57.00			6	9.92	59.50		
Male	13	8.77	114.00			12	9.29	111.50		
Total	18			23.000	0.314	18			33.500	0.802
Pace of course										
Female	28	25.88	724.50			33	26.82	885.00		
Male	25	28.26	706.50			25	33.04	826.00		
Total	53			318.500	0.567	58			324.000	0.156
Time away from work										
Female	34	26.59	904.00			38	27.99	1063.50		
Male	25	34.64	866.00			26	39.10	1016.50		
Total	59			309.000	0.069	64			322.500	0.015

	Face-to-face full-length Course					Online full-length Course				
	n	Mean Rank	Sum of Ranks	Mann-Whitney U	Asymp. Sig. (2 tailed)	n	Mean Rank	Sum of Ranks	Mann-Whitney U	Asymp. Sig. (2 tailed)
Content										
Female	89	77.37	6886.00			36	31.78	1144.00		
Male	68	81.13	5517.00			27	32.30	872.00		
Total	157			2881.000	0.440	63			478.000	0.855
Cost										
Female	57	56.96	3247.00			21	22.98	482.50		
Male	49	49.47	2424.00			21	20.02	420.50		
Total	106			1199.000	0.198	42			189.500	0.410
CPD hour requirement										
Female	57	47.14	2687.00			17	14.71	250.00		
Male	41	52.78	2164.00			18	21.11	380.00		
Total	98			1034.000	0.314	35			97.000	0.059
Instructor										
Female	53	49.56	2626.50			12	11.67	140.00		
Male	45	49.43	2224.50			14	15.07	211.00		
Total	98			1189.500	0.982	26			62.000	0.243
Networking opportunities										
Female	47	37.66	1770.00			7	8.21	57.50		
Male	29	39.86	1156.00			11	10.32	113.50		
Total	76			642.000	0.668	18			29.500	0.406
Pace of course										
Female	26	26.00	676.00			15	16.23	243.50		
Male	25	26.00	650.00			18	17.64	317.50		
Total	51			325.000	1.000	33			123.500	0.673
Time away from work										
Female	46	37.33	1717.00			12	19.08	229.00		
Male	35	45.83	1604.00			19	14.05	267.00		
Total	81			636.000	0.099	31			77.000	0.123

	Self-paced computer course				
	n	Mean Rank	Sum of Ranks	Mann-Whitney U	Asymp. Sig. (2 tailed)
Content					
Female	57	58.61	3340.50		
Male	63	62.21	3919.50		
Total	120			1687.500	0.408
Cost					
Female	36	37.53	1351.00		
Male	40	39.38	1575.00		
Total	76			685.000	0.699
CPD hour requirement					
Female	34	33.47	1138.00		
Male	36	37.42	1347.00		
Total	70			543.000	0.389
Instructor					
Female	9	12.72	114.50		
Male	14	11.54	161.50		
Total	23			56.500	0.671
Networking opportunities					
Female	5	6.70	33.50		
Male	8	7.19	57.50		
Total	13			18.500	0.788
Pace of course					
Female	34	31.25	1062.50		
Male	30	33.92	1017.50		
Total	64			467.500	0.557
Time away from work					
Female	17	22.62	384.50		
Male	25	20.74	518.50		
Total	42			193.500	0.614

Appendix H

Results of Mann-Whitney U Language Comparison Overall

Modality	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Asymp. Sig. (2 tailed)
Live seminar					
English	390	202.63	79026.500		
French	19	253.61	4818.500		
Total	409			2781.500	0.031
Live webinar					
English	344	177.97	61222.000		
French	15	226.53	3398.000		
Total	359			1882.000	0.068
Recorded seminar					
English	291	152.22	44295.000		
French	11	132.55	1458.000		
Total	302			1392.000	0.455
Recorded webinar					
English	315	164.27	51746.000		
French	13	170.00	2210.000		
Total	328			1976.000	0.829
Face-to-face full-length course					
English	302	164.68	49734.500		
French	19	102.45	1946.500		
Total	321			1281.500	0.024
Online full-length course					
English	259	140.05	36273.500		
French	15	93.43	1401.500		
Total	274			4176.500	0.541
Self-paced computer aided course					
English	316	163.59	51695.000		
French	11	175.73	1933.000		
Total	327			1609.000	0.671

Appendix I

Results of Mann-Whitney U Language Comparison for Selection Factors

Variable	n	Mean Rank	Sum of Ranks	Mann-Whitney U	Asymp. Sig. (2 tailed)
Content					
English	395	207.70	82042.50		
French	19	203.29	3862.50		
Total	414			3672.500	0.837
Cost					
English	366	188.86	69124.00		
French	18	266.44	4796.00		
Total	384			1963.000	0.003
CPD hour requirement					
English	357	187.80	67045.00		
French	18	191.94	3455.00		
Total	375			3142.000	0.872
Instructor					
English	314	167.33	52543.00		
French	15	116.13	1742.00		
Total	329			1622.000	0.039
Networking opportunities					
English	267	143.51	38318.00		
French	16	116.75	1868.00		
Total	283			1732.000	0.194
Pace of course					
English	265	143.70	38080.50		
French	17	107.21	1822.50		
Total	282			1669.500	0.069
Time away from work					
English	340	179.17	60918.50		
French	18	185.69	3342.50		
Total	358			2948.500	0.790

Appendix J

Results of Mann-Whitney U Language Comparison for Modalities

	Live Seminar					Live Webinar				
Variable	n	Mean Rank	Sum of Ranks	Mann-Whitney U	Asymp. Sig. (2 tailed)	n	Mean Rank	Sum of Ranks	Mann-Whitney U	Asymp. Sig. (2 tailed)
Content										
English	364	191.30	69633.00			293	150.45	44082.00		
French	15	158.47	2377.00			6	128.00	768.00		
Total	379			2257.000	0.120	299			747.000	0.306
Cost										
English	297	150.92	44824.50			205	103.60	21238.50		
French	6	205.25	1231.50			1	82.50	82.50		
Total	303			571.500	0.123	206			81.500	0.706
CPD hour requirement										
English	281	146.92	41285.00			189	96.76	18288.50		
French	10	120.10	1201.00			2	23.75	47.50		
Total	291			1146.000	0.308	191			44.500	0.050
Instructor										
English	264	137.73	36359.50			132	66.50	8778.00		
French	8	96.06	768.50				0.00	0.00	n/a	
Total	272			732.500	0.131	132				
Networking opportunities										
English	182	96.53	17569.00			44	22.50	990.00		
French	6	32.83	197.00				0.00	0.00		
Total	188			176.000	0.004	44			n/a	
Pace of course										
English	130	68.05	8846.00			90	46.26	4163.50		
French	4	49.75	199.00			1	22.50	22.50		
Total	134			189.000	0.340	91			21.500	0.359
Time away from work										
English	253	129.65	32802.00			124	63.95	7930.00		
French	6	144.67	868.00			2	35.50	71.00		
Total	259			671.000	0.619	126			68.000	0.260

	Recorded Seminar					Recorded Webinar				
	n	Mean Rank	Sum of Ranks	Mann-Whitney U	Asymp. Sig. (2 tailed)	n	Mean Rank	Sum of Ranks	Mann-Whitney U	Asymp. Sig. (2 tailed)
Content										
English	138	71.17	9822.00			164	84.16	13801.50		
French	3	63.00	189.00			3	75.50	226.50		
Total	141			183.000	0.533	167			220.500	0.558
Cost										
English	92	47.15	4338.00			112	57.16	6401.50		
French	1	33.00	33.00			1	39.50	39.50		
Total	93			32.000	0.586	113			38.500	0.568
CPD hour requirement										
English	87	44.00	3828.00			105	53.44	5611.00		
French		0.00	0.00	n/a		2	83.50	167.00		
Total	87					107			46.000	0.143
Instructor										
English	66	34.29	2263.00			77	39.81	3065.50		
French	1	15.00	15.00			1	15.50	15.50		
Total	67			14.000	0.304	78			14.500	0.270
Networking opportunities										
English	19	10.00	190.00			18	9.50	171.00		
French		0.00	0.00				0.00	0.00	n/a	
Total	19			n/a		18				
Pace of course										
English	54	27.50	1485.00			58	29.78	1727.00		
French		0.00	0.00	n/a		1	43.00	43.00		
Total	54					59			16.000	0.436
Time away from work										
English	59	30.64	1808.00			64	33.18	2123.50		
French	1	22.00	22.00			1	21.50	21.50		
Total	60			21.000	0.616	65			20.500	0.526

	Face-to-face full-length Course					Online full-length Course				
	n	Mean Rank	Sum of Ranks	Mann-Whitney U	Asymp. Sig. (2 tailed)	n	Mean Rank	Sum of Ranks	Mann-Whitney U	Asymp. Sig. (2 tailed)
Content										
English	146	78.91	11521.00			60	32.83	1970.00		
French	12	86.67	1040.00			4	27.50	110.00		
Total	158			790.000	0.395	64			100.000	0.379
Cost										
English	104	53.88	5603.50			40	22.21	888.50		
French	3	58.17	174.50			3	19.17	57.50		
Total	107			143.500	0.808	43			51.500	0.670
CPD hour requirement										
English	97	50.52	4900.00			34	19.15	651.00		
French	2	25.00	50.00			2	7.50	15.00		
Total	99			47.000	0.197	36			12.000	0.121
Instructor										
English	94	51.71	4861.00			24	14.75	354.00		
French	5	17.80	89.00			3	8.00	24.00		
Total	99			74.000	0.008	27			18.000	0.152
Networking opportunities										
English	70	40.26	2818.00			17	9.47	161.00		
French	6	18.00	108.00			1	10.00	10.00		
Total	76			87.000	0.016	18			8.000	0.922
Pace of course										
English	48	27.39	1314.50			33	17.30	571.00		
French	4	15.88	63.50			1	24.00	24.00		
Total	52			53.500	0.139	34			10.000	0.501
Time away from work										
English	80	41.14	3291.00			30	16.10	483.00		
French	2	56.00	112.00			2	22.50	45.00		
Total	82			51.000	0.371	32			18.000	0.338

	Self-paced computer course				
	n	Mean Rank	Sum of Ranks	Mann-Whitney U	Asymp. Sig. (2 tailed)
Content					
English	119	61.19	7282.00		
French	2	49.50	99.00		
Total	121			96.000	0.494
Cost					
English	75	38.91	2918.50		
French	2	42.25	84.50		
Total	77			68.500	0.824
CPD hour requirement					
English	70	36.23	2536.00		
French	1	20.00	20.00		
Total	71			19.000	0.407
Instructor					
English	23	12.96	298.00		
French	1	2.00	2.00		
Total	24			1.000	0.114
Networking opportunities					
English	13	7.00	91.00		
French		0.00	0.00	n/a	
Total	13				
Pace of course					
English	63	33.48	2109.00		
French	2	18.00	36.00		
Total	65			33.000	0.242
Time away from work					
English	43	22.00	946.00		
French		0.00	0.00	n/a	
Total	43				

Appendix K

Results of Kruskal-Wallis Age Comparison for Modality Preferences Overall

Modality	n	Mean Rank	Chi-square df = 3	Asymp. Sig. (2 tailed)
Live seminar				
18-34	70	236.08		
35-44	132	202.20		
45-54	127	203.01		
55 +	78	179.87		
Total	407		11.840	0.008
Live webinar				
18-34	62	196.25		
35-44	125	182.85		
45-54	106	170.05		
55 +	64	169.59		
Total	357		3.436	0.329
Recorded seminar				
18-34	54	150.00		
35-44	106	167.19		
45-54	87	145.25		
55 +	53	126.25		
Total	300		8.698	0.034
Recorded webinar				
18-34	57	174.89		
35-44	109	158.15		
45-54	96	164.72		
55 +	64	160.64		
Total	326		1.295	0.730
Face-to-face full-length course				
18-34	67	151.89		
35-44	110	165.13		
45-54	92	156.43		
55 +	50	166.16		
Total	319		1.263	0.738

Online full-length course				
18-34	59	129.03		
35-44	100	140.50		
45-54	74	128.24		
55 +	40	156.24		
Total	273		4.231	0.238
Self-paced computer aided course				
18-34	62	173.09		
35-44	112	168.62		
45-54	94	159.81		
55 +	58	149.34		
Total	326		2.492	0.477

Appendix L

Results of Kruskal-Wallis Age Comparison for Selection Factors

Variable	n	Mean Rank	Chi Square df=3	Asymp. Sig. (2 tailed)
Content				
18-34	71	212.85		
35-44	138	207.12		
45-54	126	196.26		
55 +	77	216.29		
Total	412		2.846	0.416
Cost				
18-34	65	227.66		
35-44	127	190.76		
45-54	121	195.24		
55 +	69	152.23		
Total	382		16.526	0.001
CPD hour requirement				
18-34	65	178.77		
35-44	127	190.38		
45-54	111	197.13		
55 +	70	172.46		
Total	373		2.872	0.412
Instructor				
18-34	59	173.33		
35-44	106	166.45		
45-54	104	157.79		
55 +	58	161.16		
Total	327		1.180	0.758
Networking opportunities				
18-34	63	129.02		
35-44	99	140.63		
45-54	82	138.52		
55 +	37	167.91		
Total	281		5.749	0.124

Pace of course				
18-34	60	127.94		
35-44	90	148.18		
45-54	80	150.77		
55 +	50	125.32		
Total	280		5.464	0.141
Time away from work				
18-34	65	175.92		
35-44	117	179.38		
45-54	109	171.08		
55 +	65	191.93		
Total	356		1.797	0.616

Appendix M

Results of Kruskal-Wallis Age Comparison for Modality Preferences for Modalities

	Live Seminar				Live Webinar			
Variable	n	Mean Rank	Chi Square df=3	Asymp. Sig. (2 tailed)	n	Mean Rank	Chi Square df=3	Asymp. Sig. (2 tailed)
Content								
18-34	56	174.92			36	140.18		
35-44	126	190.30			107	156.84		
45-54	120	184.11			97	147.44		
55 +	75	205.15			58	145.18		
Total	377		5.336	0.149	298		3.687	0.297
Cost								
18-34	41	185.82			25	116.58		
35-44	105	145.05			69	100.75		
45-54	96	156.89			71	105.11		
55 +	59	127.82			40	94.64		
Total	301		12.304	0.006	205		2.619	0.454
CPD hour requirement								
18-34	43	138.94			25	90.40		
35-44	98	152.65			69	94.69		
45-54	86	146.26			59	101.27		
55 +	63	137.81			37	91.26		
Total	290		1.600	0.659	190		1.224	0.747
Instructor								
18-34	43	143.24			22	67.41		
35-44	91	136.11			53	71.20		
45-54	84	132.57			39	65.15		
55 +	52	132.77			18	54.47		
Total	270		0.640	0.887	132		2.775	0.428
Networking opportunities								
18-34	31	83.92			13	21.62		
35-44	72	98.17			18	26.39		
45-54	56	88.13			10	19.45		
55 +	28	106.20			3	13.17		
Total	187		3.703	0.295	44		4.362	0.225

Pace of course							
18-34	26	59.52			16	60.72	
35-44	49	71.35			34	44.81	
45-54	39	73.03			28	46.20	
55 +	20	57.68			13	30.58	
Total	134		3.855	0.278	91	9.954	0.019
Time away from work							
18-34	39	111.32			20	64.95	
35-44	86	136.67			45	70.31	
45-54	85	126.49			42	55.67	
55 +	48	136.74			19	63.16	
Total	258		3.893	0.273	126	3.751	0.290

	Recorded Seminar				Recorded Webinar			
	n	Mean Rank	Chi Square df=3	Asymp. Sig. (2 tailed)	n	Mean Rank	Chi Square df=3	Asymp. Sig. (2 tailed)
Content								
18-34	15	70.87			18	78.86		
35-44	41	72.17			60	85.66		
45-54	57	68.10			54	82.12		
55 +	26	70.25			33	81.86		
Total	139		0.830	0.842	165		1.287	0.732
Cost								
18-34	9	54.83			12	61.54		
35-44	30	39.75			42	54.24		
45-54	33	49.53			36	59.03		
55 +	19	45.55			21	51.17		
Total	91		3.554	0.314	111		1.444	0.695
CPD hour requirement								
18-34	7	58.21			11	51.68		
35-44	31	46.42			41	59.74		
45-54	30	38.82			34	52.19		
55 +	18	40.56			20	43.93	4.335	0.227
Total	86		4.654	0.199	106			

Instructor						
18-34	8	25.75		11	41.45	
35-44	21	39.38		35	40.10	
45-54	25	34.52		20	40.78	
55 +	12	26.25		11	29.82	
Total	66	5.550	0.136	77	2.353	0.502
Networking opportunities						
18-34	2	8.00		4	8.63	
35-44	9	11.06		8	9.50	
45-54	7	8.57		6	10.08	
55 +	1	14.50				
Total	19	1.965	0.580	18	0.206	0.902
Pace of course						
18-34	5	31.80		6	37.75	
35-44	23	31.11		29	32.71	
45-54	19	25.21		19	27.34	
55 +	7	18.79		5	15.10	
Total	54	4.284	0.232	59	6.421	0.093
Time away from work						
18-34	9	26.61		7	35.93	
35-44	21	36.14		26	35.83	
45-54	21	26.95		21	31.43	
55 +	9	29.50		11	27.45	
Total	60	3.696	0.296	65	1.970	0.579

	Face-to-face full-length Course				Online full-length Course			
	n	Mean Rank	Chi Square df=3	Asymp. Sig. (2 tailed)	n	Mean Rank	Chi Square df=3	Asymp. Sig. (2 tailed)
Content								
18-34	27	82.63			16	31.59		
35-44	51	78.88			20	32.08		
45-54	52	75.27			22	31.93		
55 +	27	82.78			6	38.42		
Total	157		1.600	0.659	64		1.695	0.638

Cost								
18-34	18	68.22			9	16.22		
35-44	36	55.26			17	24.68		
45-54	34	50.21			12	22.08		
55 +	18	41.47			5	23.10		
Total	106		7.837	0.049	43		3.011	0.390
CPD hour requirement								
18-34	13	42.77			4	11.63		
35-44	33	58.14			15	20.20		
45-54	32	50.39			13	18.58		
55 +	21	41.10			4	18.75		
Total	99		5.928	0.115	36		2.187	0.534
Instructor								
18-34	21	40.45			3	10.83		
35-44	33	53.74			12	15.38		
45-54	30	51.07			10	13.80		
55 +	14	49.71			2	11.50		
Total	98		3.117	0.374	27		1.108	0.775
Networking opportunities								
18-34	20	33.55			1	17.5		
35-44	28	39.34			9	10.28		
45-54	19	43.63			5	9.80		
55 +	9	36.06			3	4.00		
Total	76		2.251	0.522	18		5.854	0.119
Pace of course								
18-34	12	23.00			4	7.25		
35-44	21	25.17			3	7.50		
45-54	17	30.85			4	4.63		
55 +	2	24.50			1	8		
Total	52		2.304	0.512	12		1.757	0.624
Time away from work								
18-34	15	44.80			6	13.17		
35-44	22	40.75			16	16.13		
45-54	30	40.35			8	21.44		
55 +	15	41.60			4	21.63		
Total	82		0.400	0.940	34		3.483	0.323

Self-paced computer course

	n	Mean Rank	Chi Square df=3	Asymp. Sig. (2 tailed)
Content				
18-34	17	56.65		
35-44	44	63.66		
45-54	42	57.93		
55 +	18	65.78		
Total	121		2.506	0.474
Cost				
18-34	9	38.06		
35-44	27	37.28		
45-54	27	42.65		
55 +	14	35.89		
Total	77		1.323	0.724
CPD hour requirement				
18-34	9	34.89		
35-44	26	32.38		
45-54	24	38.75		
55 +	12	39.17		
Total	71		1.728	0.631
Instructor				
18-34	4	9.50		
35-44	3	15.67		
45-54	11	13.73		
55 +	6	10.67		
Total	24		2.230	0.526
Networking opportunities				
18-34	2	8.00		
35-44	2	8.00		
45-54	6	6.92		
55 +	3	5.83		
Total	13		0.802	0.849
Pace of course	26	32.85		
18-34	21	38.07		
35-44	7	28.79		
45-54	65			

55 +				
Total	7	17.71	3.391	0.335
Time away from work	15	24.83		
18-34	17	21.00		
35-44	4	23.13		
45-54	43			
55 +	18	58.69		
Total	130		1.842	0.606

Appendix N

Results of Kruskal-Wallis Workplace Comparison for Modality Preferences

Modality	n	Mean Rank	Chi-square df = 7	Asymp. Sig. (2 tailed)
Live seminar				
Public Practice	100	208.08		
Federal Government	26	190.98		
Provincial Government	57	208.76		
Municipal Government	9	212.67		
Non profit	35	196.76		
Education	36	165.50		
Industry	132	230.75		
Other	26	228.50		
Total	421		14.369	0.045
Live webinar				
Public Practice	87	171.19		
Federal Government	18	227.36		
Provincial Government	49	210.87		
Municipal Government	9	146.72		
Non profit	32	204.89		
Education	31	175.56		
Industry	122	178.95		
Other	22	189.32		
Total	370		10.687	0.153
Recorded seminar				
Public Practice	75	157.98		
Federal Government	19	167.08		
Provincial Government	42	125.70		
Municipal Government	8	172.63		
Non profit	28	162.38		
Education	24	162.67		
Industry	95	161.49		
Other	21	159.64		
Total	312		6.197	0.517

Recorded webinar				
Public Practice	84	163.77		
Federal Government	20	212.50		
Provincial Government	43	170.03		
Municipal Government	7	179.36		
Non profit	29	179.31		
Education	30	173.33		
Industry	108	164.12		
Other	18	162.89		
Total	339		5.090	0.649
Face-to-face full-length course				
Public Practice	71	184.90		
Federal Government	23	119.72		
Provincial Government	46	135.20		
Municipal Government	7	167.21		
Non profit	28	162.34		
Education	24	167.83		
Industry	107	172.03		
Other	24	181.79		
Total	330		14.637	0.041
Online full-length course				
Public Practice	70	137.79		
Federal Government	17	117.26		
Provincial Government	31	157.73		
Municipal Government	6	143.00		
Non profit	25	153.24		
Education	20	134.85		
Industry	92	143.12		
Other	20	127.00		
Total	281		4.364	0.737
Self-paced computer aided course				
Public Practice	83	171.43		
Federal Government	20	130.32		
Provincial Government	44	196.06		
Municipal Government	7	123.07		
Non profit	26	166.50		
Education	25	170.76		
Industry	107	178.04		
Other	26	127.67		
Total	338		14.072	0.050

Appendix O

Results of Kruskal-Wallis Workplace Comparison Overall Selection Factors

Variable	n	Mean Rank	Chi Square df=7	Asymp. Sig. (2 tailed)
Content				
Public Practice	101	204.15		
Federal Government	26	203.42		
Provincial Government	56	207.59		
Municipal Government	10	202.35		
Non profit	34	209.16		
Education	38	191.92		
Industry	135	226.06		
Other	26	248.90		
Total	426		9.939	0.192
Cost				
Public Practice	94	202.02		
Federal Government	25	203.88		
Provincial Government	58	194.90		
Municipal Government	9	170.94		
Non profit	31	208.03		
Education	33	187.23		
Industry	118	214.08		
Other	27	125.61		
Total	395		15.095	0.035
CPD hour requirement				
Public Practice	90	211.84		
Federal Government	23	201.39		
Provincial Government	55	202.43		
Municipal Government	8	227.56		
Non profit	32	168.30		
Education	30	224.22		
Industry	126	176.47		
Other	24	186.15		
Total	388		10.886	0.144

Instructor				
Public Practice	86	168.01		
Federal Government	21	152.10		
Provincial Government	42	167.07		
Municipal Government	6	214.08		
Non profit	26	186.13		
Education	33	148.91		
Industry	104	179.61		
Other	22	163.30		
Total	340		5.438	0.607
Networking opportunities				
Public Practice	75	143.24		
Federal Government	19	134.26		
Provincial Government	38	139.36		
Municipal Government	5	138.10		
Non profit	24	128.90		
Education	24	123.77		
Industry	91	160.62		
Other	15	168.40		
Total	291		7.519	0.377
Pace of course				
Public Practice	76	170.44		
Federal Government	18	99.83		
Provincial Government	36	155.32		
Municipal Government	4	126.63		
Non profit	24	154.15		
Education	24	154.21		
Industry	94	131.82		
Other	17	143.00		
Total	293		15.861	0.026
Time away from work				
Public Practice	95	185.24		
Federal Government	21	196.24		
Provincial Government	48	221.38		
Municipal Government	8	114.06		
Non profit	30	189.60		
Education	33	199.17		
Industry	115	166.07		
Other	20	200.95		
Total	370		14.554	0.042

Appendix P

Results of Kruskal-Wallis Workplace Comparison for Modalities

	Live Seminar					Live Webinar				
Variable	N	Mean Rank	Chi Square	df	Asymp. Sig. (2 tailed)	n	Mean Rank	Chi Square	df	Asymp. Sig. (2 tailed)
Content										
Public Practice	94	186.65				74	151.57			
Federal Government	25	168.50				18	140.78			
Provincial Government	51	190.55				39	155.42			
Municipal Government	10	191.00				8	132.50			
Non profit	31	195.97				23	161.22			
Education	33	185.27				30	142.43			
Industry	121	205.19				100	164.70			
Other	24	227.21				17	151.29			
Total	389		9.927	7	0.193	309		7.962	7	0.336
Cost										
Public Practice	75	174.92				57	118.32			
Federal Government	20	174.25				9	93.89			
Provincial Government	46	136.03				29	101.22			
Municipal Government	9	182.89				6	114.50			
Non profit	26	177.10				14	113.75			
Education	22	159.16				20	103.85			
Industry	93	152.12				70	104.53			
Other	21	98.45				9	89.61			
Total	312		18.290	7	0.011	214		4.205	7	0.756
CPD hour requirement										
Public Practice	74	157.61				50	86.13			
Federal Government	19	165.42				6	89.92			
Provincial Government	42	146.99				22	100.84			
Municipal Government	7	131.14				5	89.00			
Non profit	25	131.26				18	72.92			
Education	24	160.38				18	114.58			
Industry	94	151.19				70	110.76			
Other	16	138.16				9	118.11			
Total	301		3.511	7	0.834	198		13.194	7	0.068

Instructor									
Public Practice	72	143.85				40	72.24		
Federal Government	17	89.62				6	33.00		
Provincial Government	36	140.86				10	65.90		
Municipal Government	5	130.80				1	111.50		
Non profit	20	142.00				12	73.25		
Education	25	118.82				13	63.23		
Industry	88	152.60				46	72.97		
Other	17	146.76				10	67.55		
Total	280		11.284	7	0.127	138		7.518	7	0.377
Networking opportunities									
Public Practice	51	91.46				13	24.38		
Federal Government	12	96.83				2	4.00		
Provincial Government	24	89.58				4	33.00		
Municipal Government	3	99.33							
Non profit	16	84.16				5	15.80		
Education	19	86.68				4	20.63		
Industry	60	111.68				17	25.91		
Other	9	105.17				2	34.50		
Total	194		6.887	7	0.441	47		10.704	6	0.098
Pace of course									
Public Practice	39	77.65				27	50.54		
Federal Government	8	48.75				2	46.50		
Provincial Government	13	85.38				8	39.94		
Municipal Government	1	39.00				1	82.50		
Non profit	11	80.18				10	58.90		
Education	14	79.71				8	41.13		
Industry	46	57.22				34	45.88		
Other	7	76.07				5	44.50		
Total	139		13.116	7	0.069	95		5.057	7	0.653
Time away from work									
Public Practice	74	133.68				35	65.33		
Federal Government	17	139.76				7	58.00		
Provincial Government	32	169.55				13	65.77		
Municipal Government	5	50.90				2	19.50		
Non profit	21	134.57				9	78.17		
Education	20	135.13				10	85.65		
Industry	83	124.01				50	63.99		
Other	15	133.93				6	72.00		

Total	267		14.783	7	0.039	132		7.527	7	0.376

	Recorded Seminar					Recorded Webinar				
	n	Mean Rank	Chi Square	df	Asymp. Sig. (2 tailed)	n	Mean Rank	Chi Square	df	Asymp. Sig. (2 tailed)
Content										
Public Practice	42	70.33				45	83.10			
Federal Government	8	63.50				7	77.50			
Provincial Government	17	75.94				21	85.26			
Municipal Government	3	63.50				2	77.50			
Non profit	11	63.50				17	87.97			
Education	11	63.50				15	77.50			
Industry	42	75.26				57	89.47			
Other	8	81.44				7	102.93			
Total	142		7.635	7	0.366	171		7.396	7	0.389
Cost										
Public Practice	28	49.46				35	56.01			
Federal Government	5	48.10				3	54.33			
Provincial Government	11	39.77				14	46.29			
Municipal Government	2	47.75				1	41.50			
Non profit	10	56.50				14	68.61			
Education	6	51.92				9	63.56			
Industry	26	45.23				35	59.43			
Other	5	32.00				5	72.10			
Total	93		4.492	7	0.722	116		5.295	7	0.624
CPD hour requirement										
Public Practice	24	43.79				28	52.57			
Federal Government	2	34.25				3	42.17			
Provincial Government	11	47.82				12	58.92			
Municipal Government	1	18.00				1	72.50			
Non profit	9	47.83				14	54.36			
Education	7	48.71				9	65.22			
Industry	30	42.52				39	55.03			
Other	4	51.38				4	58.25			
Total	88		2.709	7	0.911	110		2.418	7	0.933

Instructor								
Public Practice	21	40.62			24	46.96		
Federal Government	3	22.50			4	21.25		
Provincial Government	9	25.00			7	31.93		
Municipal Government								
Non profit	7	42.07			9	55.83		
Education	6	29.83			6	30.50		
Industry	19	30.95			25	37.14		
Other	3	46.33			5	38.10		
Total	68		9.005	6	0.173	80	11.905	6	0.064
Networking opportunities								
Public Practice	8	11.81			7	12.14		
Federal Government								
Provincial Government	2	14.50			2	15.50		
Municipal Government								
Non profit	2	9.50			3	9.00		
Education	2	8.00			1	1.50		
Industry	5	6.30			5	5.30		
Other								
Total	19		5.373	4	0.251	18	11.045	4	0.026
Pace of course								
Public Practice	20	29.00			16	37.69		
Federal Government	2	22.50			2	30.00		
Provincial Government	5	34.40			7	31.36		
Municipal Government	2	11.75			2	12.50		
Non profit	5	27.80			9	27.33		
Education	2	28.25			6	26.67		
Industry	15	25.63			16	33.28		
Other	3	28.17			3	15.00		
Total	54		3.703	7	0.813	61	8.241	7	0.312
Time away from work								
Public Practice	23	30.80			20	32.70		
Federal Government	5	25.00			4	30.38		
Provincial Government	8	33.25			6	31.67		
Municipal Government					10	35.40		
Non profit	5	28.00			5	26.60		
Education	3	38.83			17	36.94		
Industry	13	29.08			3	21.50		
Other	3	32.00			65			

Total	60	1.668	6	0.948	178	2.884	6	0.823

	Face-to-face full-length Course				Online full-length Course			
	n	Mean Rank	Chi Square	df	Asymp. Sig. (2 tailed)	n	Mean Rank	Chi Square	df	Asymp. Sig. (2 tailed)
Content										
Public Practice	32	77.69				18	33.75			
Federal Government	13	86.85				1	28.50			
Provincial Government	26	77.42				7	38.79			
Municipal Government	5	86.00				3	28.50			
Non profit	14	68.00				4	28.50			
Education	15	68.00				8	28.50			
Industry	48	91.81				23	34.24			
Other	10	92.90				2	44.25			
Total	163		13.591	7	0.059	66		5.877	7	0.554
Cost										
Public Practice	27	58.22				9	13.33			
Federal Government	8	66.00				1	14.00			
Provincial Government	18	48.28				4	18.25			
Municipal Government	4	40.63				2	30.00			
Non profit	12	60.67				3	34.00			
Education	11	57.32				6	34.08			
Industry	28	60.25				18	24.69			
Other	5	52.80				2	8.50			
Total	113		3.647	7	0.819	45		17.133	7	0.017
CPD hour requirement										
Public Practice	22	46.45				9	17.89			
Federal Government	6	54.58								
Provincial Government	17	46.24				5	12.30			
Municipal Government	3	80.00				1	24.50			
Non profit	8	62.44				2	31.00			
Education	12	75.79				4	28.75			
Industry	32	51.42				15	18.40			
Other	5	27.00				2	20.50			
Total	105		16.667	7	0.020	38		7.876	6	0.247

Instructor										
Public Practice	22	60.93				8	19.19			
Federal Government	8	24.44								
Provincial Government	12	57.92				1	24.00			
Municipal Government	3	54.67								
Non profit	13	47.23				4	5.50			
Education	8	48.69				5	7.00			
Industry	33	54.33				10	18.15			
Other	5	53.70				1	19.00			
Total	104		10.251	7	0.175	29		15.130	5	0.010
Networking opportunities										
Public Practice	17	43.82				5	13.40			
Federal Government	4	39.13								
Provincial Government	14	31.57				1	19.50			
Municipal Government	2	60.50				1	1.00			
Non profit	10	38.35				3	4.00			
Education	7	32.43				3	5.67			
Industry	23	44.30				6	14.08			
Other	3	48.67				1	9.00			
Total	80		6.018	7	0.538	20		14.518	6	0.024
Pace of course										
Public Practice	14	28.71				9	20.72			
Federal Government	4	21.13								
Provincial Government	6	29.08				3	14.00			
Municipal Government	1	34.50				1	5.00			
Non profit	6	36.58				3	23.00			
Education	5	37.00				5	21.90			
Industry	16	23.50				13	16.27			
Other	3	21.33				2	21.25			
Total	55		6.214	7	0.515	36		4.515	6	0.607
Time away from work										
Public Practice	19	48.63				9	19.22			
Federal Government	9	37.44				1	13.50			
Provincial Government	13	37.35				2	9.25			
Municipal Government	3	14.67				1	5.00			
Non profit	8	49.81				2	25.50			
Education	9	38.50				5	18.80			
Industry	22	47.11				14	17.14			
Other	3	56.33								

Total	86		8.665	7	0.278	34	4.985	6 0.546

	Self-paced computer course				
	n	Mean Rank	Chi Square	df	Asymp. Sig. (2 tailed)
Content					
Public Practice	27	58.37			
Federal Government	4	64.13			
Provincial Government	19	61.89			
Municipal Government	3	50.00			
Non profit	9	57.50			
Education	8	50.00			
Industry	43	69.36			
Other	10	56.75			
Total	123		7.830	7	0.348
Cost					
Public Practice	16	39.78			
Federal Government					
Provincial Government	9	35.11			
Municipal Government	1	28.50			
Non profit	9	54.33			
Education	4	42.25			
Industry	31	36.53			
Other	7	33.07			
Total	77		6.468	6	0.373
CPD hour requirement					
Public Practice	16	39.56			
Federal Government	1	20.00			
Provincial Government	7	28.36			
Municipal Government	2	44.25			
Non profit	7	25.29			
Education	4	42.88			
Industry	30	37.78			
Other	4	33.50			
Total	71		5.604	7	0.587

Instructor					
Public Practice	8	11.75			
Federal Government					
Provincial Government	2	6.25			
Municipal Government	1	9.00			
Non profit	2	14.00			
Education					
Industry	11	14.23			
Total	24		2.867	4	0.580
Networking opportunities					
Public Practice	4	8.00			
Federal Government					
Provincial Government					
Municipal Government	1	1.50			
Non profit	1	1.50			
Education					
Industry	7	8.00			
Other					
Total	13		7.062	3	0.070
Pace of course					
Public Practice	18	38.83			
Federal Government	2	25.00			
Provincial Government	9	28.17			
Municipal Government	1	15.50			
Non profit	6	31.92			
Education	3	28.17			
Industry	24	34.83			
Other	4	37.00			
Total	67		3.931	7	0.788
Time away from work					
Public Practice	12	24.08			
Federal Government	3	10.67			
Provincial Government	3	12.17			
Municipal Government					
Non profit	5	19.90			
Education	2	15.25			
Industry	15	26.10			
Other	3	22.33			
Total	43		7.427	6	0.283

Appendix Q

Results of Kruskal-Wallis Designation Comparison for Modality Preferences

Modality	n	Mean Rank	Chi-square df = 2	Asymp. Sig. (2 tailed)
Live seminar				
CGA	251	207.78		
CMA	115	204.33		
CA	44	195.52		
Total	410		0.578	0.749
Live webinar				
CGA	220	178.16		
CMA	106	191.26		
CA	36	173.17		
Total	362		1.460	0.482
Recorded seminar				
CGA	191	146.06		
CMA	86	168.90		
CA	27	145.81		
Total	304		4.332	0.115
Recorded webinar				
CGA	203	155.03		
CMA	91	201.99		
CA	36	132.28		
Total	330		20.708	0.000
Face-to-face full-length course				
CGA	187	176.22		
CMA	109	132.65		
CA	25	170.72		
Total	321		16.039	0.000
Online full-length course				
CGA	165	134.82		
CMA	88	138.33		
CA	22	160.55		
Total	275		2.110	0.348
Self-paced computer aided course				
CGA	199	159.54		
CMA	94	182.10		
CA	35	145.46		
Total	328		5.343	0.069

Appendix R

Results of Kruskal-Wallis Designation Comparison for Selection Factors Overall

Variable	n	Mean Rank	Chi Square df=2	Asymp. Sig. (2 tailed)
Content				
CGA	255	216.72		
CMA	115	194.80		
CA	45	192.34		
Total	415		6.130	0.047
Cost				
CGA	238	182.04		
CMA	111	214.07		
CA	37	205.51		
Total	386		7.000	0.030
CPD hour requirement				
CGA	241	177.33		
CMA	102	205.64		
CA	32	212.14		
Total	375		6.903	0.032
Instructor				
CGA	198	174.33		
CMA	96	149.30		
CA	34	150.21		
Total	328		5.521	0.063
Networking opportunities				
CGA	165	159.40		
CMA	88	112.28		
CA	30	133.50		
Total	283		20.234	0.000
Pace of course				
CGA	171	148.37		
CMA	82	128.63		
CA	29	137.38		
Total	282		3.435	0.180
Time away from work				
CGA	221	180.63		
CMA	98	184.09		
CA	39	161.54		
Total	358		1.454	0.483

Appendix S

Results of Kruskal-Wallis Designation Comparison for Modalities

	Live Seminar				Live Webinar			
Variable	n	Mean Rank	Chi Square df=2	Asymp. Sig. (2 tailed)	n	Mean Rank	Chi Square df=2	Asymp. Sig. (2 tailed)
Content								
CGA	236	198.27			191	157.76		
CMA	102	177.52			74	136.31		
CA	41	173.45			35	140.89		
Total	379		6.789	0.034	300		9.933	0.007
Cost								
CGA	200	145.58			146	102.33		
CMA	81	167.04			43	109.59		
CA	22	154.98			17	98.12		
Total	303		3.671	0.160	206		0.736	0.692
CPD hour requirement								
CGA	193	138.97			131	93.18		
CMA	72	162.42			42	110.80		
CA	26	152.69			19	87.79		
Total	291		4.499	0.105	192		4.140	0.126
Instructor								
CGA	170	145.01			76	77.52		
CMA	75	120.87			39	49.10		
CA	26	120.75			17	57.15		
Total	271		6.314	0.043	132		16.182	0.000
Networking opportunities								
CGA	104	107.10			29	24.29		
CMA	63	77.38			12	16.25		
CA	19	72.50			2	23.25		
Total	186		15.681	0.000	43		3.932	0.140
Other								
CGA	40	28.28			15	12.50		
CMA	13	34.54			6	16.42		
CA	5	26.20			4	9.75		
Total	58		1.616	0.446	25		2.273	0.321

Pace of course							
CGA	85	71.52			61	41.57	
CMA	38	61.12			18	62.83	
CA	12	64.83			11	38.95	
Total	135		2.052	0.358	90	10.505	0.005
Time away from work							
CGA	167	128.94			83	65.52	
CMA	66	138.86			28	55.18	
CA	26	114.33			15	67.83	
Total	259		2.205	0.332	126	2.042	0.360

	Recorded Seminar				Recorded Webinar			
	n	Mean Rank	Chi Square df=2	Asymp. Sig. (2 tailed)	n	Mean Rank	Chi Square df=2	Asymp. Sig. (2 tailed)
Content								
CGA	84	73.79			98	88.94		
CMA	40	65.20			46	76.00		
CA	18	74.83			24	82.67		
Total	142		4.371	0.112	168		8.239	0.016
Cost								
CGA	64	43.38			75	51.60		
CMA	21	59.43			24	71.96		
CA	8	43.31			14	60.29		
Total	93		6.237	0.044	113		8.101	0.017
CPD hour requirement								
CGA	59	39.64			70	50.94		
CMA	21	55.50			24	63.85		
CA	7	46.29			14	56.25		
Total	87		6.891	0.032	108		3.592	0.166
Instructor								
CGA	37	40.42			39	50.08		
CMA	22	21.64			28	26.82		
CA	7	34.21			10	29.90		
Total	66		14.635	0.001	77		20.924	0.000
Networking opportunities								
CGA	13	10.15			12	9.92		
CMA	4	5.25			5	6.80		
CA								
Total	17		3.269	0.071	17		1.511	0.219

Pace of course						
CGA	37	30.12		36	30.74	
CMA	10	24.75		13	28.27	
CA	6	11.50		8	22.38	
Total	53	8.031	0.018	57	1.767	0.413
Time away from work						
CGA	37	33.55		44	33.48	
CMA	17	27.24		16	30.09	
CA	6	20.92		5	38.10	
Total	60	3.709	0.156	65	0.821	0.663

	Face-to-face full-length Course				Online full-length Course			
	n	Mean Rank	Chi Square df=2	Asymp. Sig. (2 tailed)	n	Mean Rank	Chi Square df=2	Asymp. Sig. (2 tailed)
Content								
CGA	83	80.93			40	33.98		
CMA	60	76.54			21	28.95		
CA	12	65.00			3	37.67		
Total	155		3.378	0.185	64		3.126	0.209
Cost								
CGA	58	51.47			27	21.02		
CMA	43	54.17			14	21.96		
CA	4	62.63			1	28.00		
Total	105		0.648	0.723	42		0.381	0.827
CPD hour requirement								
CGA	62	47.45			23	18.02		
CMA	32	53.52			11	17.41		
CA	4	49.13			1	24.00		
Total	98		1.039	0.595	35		0.399	0.819
Instructor								
CGA	53	53.62			16	14.38		
CMA	39	40.81			8	11.13		
CA	3	42.17			1	6.00		
Total	95		5.284	0.071	25		2.134	0.344
Networking opportunities								
CGA	36	43.00			12	8.29		
CMA	31	32.34			3	9.67		
CA	5	15.50			1	7.50		
Total	72		10.048	0.007	16		0.255	0.880

Pace of course								
CGA	29	28.10			24	18.08		
CMA	22	27.66			8	16.19		
CA	2	3.75			2	15.75		
Total	53		4.845	0.089	34		0.292	0.864
Time away from work								
CGA	47	42.84			16	16.53		
CMA	31	44.35			12	13.83		
CA	5	19.50			2	17.25		
Total	83		4.957	0.084	30		0.768	0.681

	Self-paced computer course			
	n	Mean Rank	Chi Square df=2	Asymp. Sig. (2 tailed)
Content				
CGA	262	213.43		
CMA	121	212.45		
CA	45	226.26		
Total	428		0.735	0.693
Cost				
CGA	50	38.56		
CMA	20	39.92		
CA	6	33.25		
Total	76		0.478	0.787
CPD hour requirement				
CGA	45	35.73		
CMA	18	36.69		
CA	8	35.94		
Total	71		0.032	0.984
Instructor				
CGA	16	12.31		
CMA	5	12.20		
CA	2	9.00		
Total	23		0.466	0.792
Networking opportunities				
CGA	9	6.33		
CMA	2	6.75		
CA	1	7.50		
Total	12		0.150	0.928

Pace of course				
CGA	42	35.17		
CMA	15	31.37		
CA	9	29.28		
Total	66		0.989	0.610
Time away from work				
CGA	27	21.46		
CMA	12	17.63		
CA	3	37.33		
Total	42		6.602	0.037

Appendix T

Research Ethics Board Approval Memo

MEMORANDUM

Athabasca University
Canada's Open University

DATE: August 4, 2011

TO: Kathleen Ross

COPY: Dr. Terry Anderson & Dr. Cynthia Blodgett-Griffin (Research Co-Supervisors)
Janice Green, Secretary, Research Ethics Board
Dr. Simon Nuttgens, Chair, Research Ethics Board

FROM: Dr. Rhiannon Bury, Acting Chair, Research Ethics Board

SUBJECT: **Ethics Proposal #11-33 *"Influential Factors in the Selection of Delivery Modalities for Accounting Professional Development"***

The Athabasca University Research Ethics Board reviewed the above-noted proposal and supporting documentation. I am pleased to advise that this project has been granted **FULL APPROVAL** on ethical grounds.

Prior to participant recruitment, please provide a revised application package, using yellow highlight to show the following minor changes and requested additional information, **for FILE PURPOSES ONLY** (further review not required).

1. **Application Form**
   - **B2-5:** add wording at the end to indicate who will delete the identifiable data.
   - **B5-8:** last sentence does not quite make sense; perhaps you meant "…whether or not the input method [or] requirement for CPS is…" Please revise/correct to make meaning clear.
   - **C1-1:** how many participants are expected? If not able to accurately estimate; please state minimum number that would be required to provide adequate sample for the methodology chosen.
   - **C1-5:** states that participants may take "as long as they wish" and that it is "expected to take less than 15 minutes". The two appendices for participant informed consent (A & C), however, only address the expected maximum. Wording in C1-5 and the two appendices should match.
2. **Appendix C (Informed Consent)**
   - **First Paragraph:** Collegial Comment **–** Reviewers suggest rewording first sentence to read "Thank you for [your interest in completing] this survey", as the current wording typically appears at the end of a survey rather than the beginning.
   - **Fourth Paragraph:** Add a statement discussing confidentiality in terms of retention/storage and destruction of personal information gathered for draw purposes only.
3. **Appendix F – Support for participant recruitment access** – Please ensure appropriate permissions are in place to access participants for recruitment purposes through non-public venues and lists; as/when available, provide copies of any support or permission documentation (for file purposes only).

The approval for this study "as presented" is **valid from the date of this memo for a period of 12 months.** A **Final Progress Report** (form) is to be submitted when the research project is completed. Reporting forms are available online at http://www.athabascau.ca/research/ethics/.

As you progress with implementation of the proposal, if you need to make any changes or modifications please forward this information to the Research Ethics Board as soon as possible. If you have any questions, please do not hesitate to contact rebsec@athabascau.ca

Athabasca University Research Ethics Board
University Research Services, Research Centre
1 University Drive, Athabasca, AB, Canada T9S 3A3
e-mail: janiceg@athabascau.ca
Telephone: (780) 675-6718 Fax: (780) 675-6722