Continuing Professional Education and Human Capital Theory

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In this paper, continuing professional education (CPE) is linked to human capital theory. Since human capital theory does not explicitly focus on CPE but does provide important insights on training evaluation, we discuss the differences between CPE and training. We review the main insights on training evaluation and discuss the implications for the evaluation of CPE using human capital theory.

Keywords: Continuing Professional Education, Economics, Human Capital Theory

Continuing Professional Education (CPE) may be defined as "the process of engaging in education pursuits with the goal of becoming up-to-date in the knowledge and skills of one's profession" (Weingand 1999). Both theory and practice surrounding continuing professional education have been fragmented with providers of CPE identifying with their individual professions and not with the field of adult education (Mott & Daley, 2000) or human resource development (HRD). Yet, CPE has been recognized by adult educators as an important area of study and practice since the 1960s (Houle, 1980; Cervero, 1988; Queeney, 2000). For instance, adult education graduate programs teach students effective practice in CPE as facilitators, program planners, and administrators (Cervero, 1989).

CPE is a growing concern for both adult education and HRD because of four trends: the amount of CPE offered in workplaces is surpassing CPE offered by other providers, CPE is increasingly being offered by universities through distance education, collaborations between universities and workplaces are expanding, and using CPE to regulate professionals' practice is increasing (Cervero, 2000). In 1988, Cervero estimated that 25 % of the workforce claimed membership in a profession; this estimate could only have increased over the years (Cervero, 2000). As more professionals become corporate employees, CPE has become an important phenomenon in many workplaces making it the responsibility of HRD practitioners to manage and facilitate. As a result, during the last decades, the amount of CPE offered at the workplace has grown more than any other type of education (Cervero, 2001). Consequently, CPE at work takes resources away from training other classes of workers, the CPE-providers require more education and expertise increasing the costs of securing and retaining trainers, and since CPE is mandated by professional associations the content, timing, and costs to provide it are less controllable by the employer.

Cost benefit analysis and return on investment are terms that are increasingly being used by HRD to support training as a sound investment in human capital (Cascio, 1987; Fitz-enz & Davison, 2002; Swanson, 2001). Human capital has caught the attention of scholars and practitioners outside the economics domain since it is increasingly seen as the "profit lever of a knowledge economy" (Fitz-Enz 2000). Without a workforce that is constantly increasing its knowledge and skills, organizations cannot remain competitive (Fitz-Enz and Davison 2002). Most theoretical and empirical research has implicitly been concerned with cost-benefit analysis for training at the individual or societal level (Burke 1995). Cost-benefit analysis for CPE for individual organizations or for their customers has been rather scarce in the economic literature.

The field of human capital theory has contributed to research on training while paying little attention to the distinct characteristics of continuing professional education or the differences between training and CPE. This is due to the fact that the estimation of costs and benefits of CPE is not as straightforward as it would seem at first sight. Training and CPE are different in ways that make a simple application of training models to understanding the cost-benefit analysis of CPE, impossible. While standard principles from cost-benefit analysis can be used to determine why, how and how much an organization invests in training, these same principles do not directly apply to CPE.

Problem Statement and Research Questions

The main problem we are addressing in this paper is: how can continuing professional education be evaluated using insights from human capital theory? The purpose of this paper is to explore the factors that make CPE different from training and then to examine the issues that make a human capital theory evaluation of CPE different from the economic evaluation of training. Three research questions are addressed:

1. What are the main insights from human capital theory?
2. What are the factors that differentiate continuing professional education from training?
3. What issues play a role when continuing professional education is analyzed using human capital theory?

Human Capital Theory

Human capital theory is an economic approach to the evaluation of the costs and benefits of the investment in skills and knowledge. While Theodore Schultz coined the term human capital, the foundations of the theory were laid by Gary Becker and Jacob Mincer (Becker, 1962, 1980; Mincer, 1962, 1974). The development of human capital theory began with the recognition that the investment in humans can be analyzed in a similar manner as the investment in physical capital. This implies that the impact of human capital investment (education or training) can be analyzed using economic models on the costs and benefits of investment. Benefits include higher wages, increases in productivity, and a stimulus of research & development and economic growth. Examples of costs are trainees' time investments, tuition fees, and the cost of the educational system.

In early human capital literature, educational background was considered one of the most important determinants of human capital. As a result, the classic empirical human capital studies focus on the value of additional years of education. One of the assumptions underlying classical human capital theory is that labor markets are competitive and that the wage is an unbiased estimator of individual productivity. Therefore, the empirical work relates human capital to wages using so-called 'mincerian' earnings functions.

The notion that various developments render parts of human capital obsolete, attracted attention from human capital theorists later. First, the focus was on "vintage-models", which take into account the differences in education in various periods and the implications for the variation in human capital and wages with age (Rosen, 1975; Ben-Porath, 1967). When the value of certain vintages of human capital decreases, training as a means of human capital investment becomes essential to keep skills up-to-date. The impact of technological, organizational and competitive developments has resulted in increased attention for training as a determinant for human capital (Baldwin & Johnson, 1995; Barrett & O'Connell, 1998; Bartel, 1991; Blundell, Dearden, & Meghir, 1996).

The analysis of training is full of economic considerations. Firstly, the training *need* can be related to the demand for and the supply of skills on the labor market. If the demand for a skill increases, for instance due to the introduction of a new technology in the workplace, it may be profitable for organizations and individuals to invest in training. Secondly, training options can be compared on the basis of costs, benefits or both. Cost comparisons are a relatively simple way of comparing different types of training. Organizations may also look at the long term benefits from training when they develop training programs that serve the strategic needs of the organization. Organizations may also compare different types of training by looking at both costs and benefits.

Human capital theory is known for its ability to address training issues in an abstract and quantitative manner. It predicts that rational agents (individuals, organizations, governments) will invest the amount of resources at which the marginal cost of an investment in training equals the marginal benefit. The *decisions* of whether and how much to invest in training can be analyzed using standard principles from cost-benefit analysis. Cost-benefit analysis is a technique that compares different choices by estimating the associated costs and benefits for each available option. Estimates for training *cost and benefits* at the individual level have been an area of research which human capital theory has become famous for. At the organizational level, cost-benefit analysis may be applied as well, but it is important to recognize that individual benefits and costs from training may not coincide with organizational benefits and costs. This may cause diverging interests between organizations and their employees. When an organization is unable to reap sufficient benefits from a training program while the trained employees benefit in terms of increased wages, this may lead to an under investment in training from an efficiency point of view.

In the classical human capital literature, the under investment in training has usually been linked to the provision of general training. General training leads to the acquisition of human capital that is applicable in many different contexts. Since organizations run a 'poaching' risk of loosing the training investment when trained employees are recruited by other organizations that benefit from the training investment without bearing the cost, the incentive to provide general training is reduced. Although the reduced investment in general human capital may be rational from the organizations' perspective, from society's point of view, under investment occurs: investments that are potentially profitable are not undertaken since the benefits cannot be secured for those who incur the costs.

Factors that Differentiate CPE from Training

A systems view (Senge, 1990) is presented of the factors that influence the cost and benefits of CPE and that make

CPE different than training. This system includes public and private organizations employing professionals who have leadership roles with in the organization and in society and who deliver services that can impact the quality of clients' lives (Scheneman, 1993). Factors include scope, stakeholders, control, and skill transfer.

First, The Scope of Training is Different from the Scope of CPE

According to Swanson (1995), HRD is a "process of developing and unleashing human expertise through organization development and personnel training and development for the purpose of improving performance" (p. 208). Personnel training is organization- and job-specific, occurs through formal, structured sessions designed to facilitate knowledge acquisition and skill development determined useful by the employer, and whether an internal or external service provider conducts the training the employer decides who should attend and what should be offered. Contrast this to CPE where knowledge and attendance are frequently regulated by an entity external to the organization such as a government or professional association.

Continuing professional education is directed towards the knowledge and skills in the professions. Commonly viewed characteristics of a profession are that preparation is through a distinct pre-professional college curriculum, that formal and informal learning is required throughout the working life, and that the profession is regulated through a set of professional standards or codes, accreditation, and/or licensure. These characteristics are predicated upon the belief that the profession's knowledge base is continually advancing and to stay current professionals must continue their education (Queeney, 2000). The need for CPE is often based on the desire to protect clients or society from ill informed or poorly prepared professionals. The training received is specific to the profession and not to the firm.

Second, Training has Different Stakeholders than CPE

Stakeholder theory defines stakeholder as "any group or individual who can affect or is affected by the achievement of an organization's purpose" (Freeman, 1984, p. 53). Taking this a step further a primary task for management is "to influence, or manage, or balance the set of relationships that can affect the achievement of an organization's purpose" (Freeman & Phillips, 2002). The balancing of competing stakeholder interests is a fundamental concern when considering the growing trend of corporations hiring professionals whose mandated continuing education requirements must be monitored or facilitated by HRD professionals.

Human capital models differentiate between specific training and general training. Specific training is felt to increase productivity in one specific firm while general training more readily goes with the individual (Veum, 1999). In specific training the key stakeholders are the employee and the organization since the benefit of this training is the organization as long as the employee remains. This simplistic model ignores the traditions behind lifelong learning that learning has the potential to enhance intellectual, cognitive, and social growth (Tennant & Pogson, 1995) which would mean the worker's knowledge, skills, and abilities are enhanced through specific and general training. While in some organizations training is moving away from the banking approach of depositing knowledge and into conceptions of learning organizations and lifelong learning, CPE does not seem to have moved beyond instrumental rationality (Battersby, 1999).

Training of professionals occurs prior to joining the firm and continues beyond any one firm being specific to the profession. For CPE the key stakeholders are society or the state, the professional organization, the professional, and the client. Since we are concerned with CPE when the professional is employed by an organization and not self employed or autonomous the employing organization is also a stakeholder. These five stakeholders-- the state, the professional organization, the firm, the professional, and the client—have overlapping interests and concerns. From an economic perspective, each stakeholder makes the decision whether to invest in CPE and the investment intensity is guided by cost-benefit considerations. Most theoretical and empirical research has implicitly been concerned with cost-benefit analysis for CPE at the individual or societal level (Burke 1995). Cost-benefit analysis for CPE for individual organizations or for their customers has been rather scarce in the economic literature. A reason for this is that the estimation of costs and benefits of CPE is not as straightforward as it would seem at first sight.

The state and professional association. The public and the professional association have an interest in professional services being regulated for consistency, to maintain quality, and to ensure the integrity of the professional and the service (Queeney, 2000). Both the professional organization and the state accomplish this through mandating and providing pre-professional education and continuing education content or amount of education measured in units of time often known as continuing education units. In some cases the state requirements and the association's requirements are coordinated and in other cases what the profession deems competent practice may not coincide with what the state feels is competent practice. In the United States, each state system regulates access to pre-professional education by determining the number and location of subsidized institutions of higher education offering pre-professional education in fields such as nursing, medicine, dentistry, accounting, and law. The location and number of state institutions determines who has access to preprofessional educational

opportunities, limits the number of professionals, increasing the cost of their services, and limiting the access of clients.

The state and or the professional association regulate entrance into the profession after the preprofessional education is completed through exams. The more specialized the pre-professional training and difficult the exams the more expensive the continuing education will be, because it will require well trained professionals from the same field to facilitate CPE.

Professional organizations are accountable to the public (Queeney, 2000) and to members. Public accountability is maintained through credentialing and establishing standards or codes of conduct. The development of standards or codes of conduct become ingrained in the professional culture and in the requirements for membership. This creates another barrier to entrance and can act to increase the prestige of a profession. In order to maintain membership in the professional association CPE is required in terms of content and hours. The professional association also determines content, number of hours, and acceptable CPE delivery systems. The prestige a profession enjoys is often illustrated by the glamorous locations selected for CPE programs.

For these two stakeholders costs are incurred a) by subsidizing CPE, b) during the deliberations that end with decisions about what CPE is needed, and c) in delivering CPE. Benefits are having a skilled professional workforce and when CPE programs offered by the state institutions and professional associations earn a profit.

The employing organization and the professional. Organizations that intentionally employ professionals do so because the organization needs these professionals for instance when an insurance company hires medical personnel or in the retailing of professional services (i.e. Sears Dental Clinics). Organizations also hire professionals because the professional training acts as an indicator of the level of skills and knowledge the worker possesses not because they need for instance someone trained in the law. In either case to maintain membership in the professional association or maintain licensure or certification the organization must allow time off for CPE, to pay for CPE, or to provide CPE. If the organization hired medical personnel specifically for the credential then it makes sense that the organization assumes the cost for the CPE and for the release time and replacement cost of the employee while engaged in CPE.

However, if the organization hired a lawyer because of knowledge and problem solving skills to manage a division and not to practice law the assumption of cost becomes a matter for negotiation and consideration within the organization's tradition and culture. The professional has a vested interest in maintaining membership in the association because the pre-professional training loses value when the professional is no longer a certified member of the profession. The professional working for an organization in a capacity other than what he or she was trained for has to decide on the value of maintaining the certification as in the example of the lawyer managing a division.

Costs incurred by the employing organization are release time, replacement time, and the cost of the CPE. The benefit is a professional employee in good standing in the field. This might fulfill a legal requirement for the employing organization or the professional's services might be the product sold by the organization as in the case of law or accounting firms. The professional might have to take vacation time and pay for the CPE.

CPE at the client/customer level. Internal and external clients want and expect competent professionals. Yet "CPE is neither a guarantee of competence nor the sole answer to competence assurance" (Queeney, 2000, p. 375). To ensure competence, evaluation procedures need to be developed that adequately measure the effects of CPE on performance and CPE should be delivered in ways that are practice oriented and context relevant which will increase the costs of CPE. Costs of CPE are passed down to clients through increased fees for service. A good example of this is what an accountant charges versus a certified public accountant.

Third, Training is Controlled by the Organization; CPE is Not

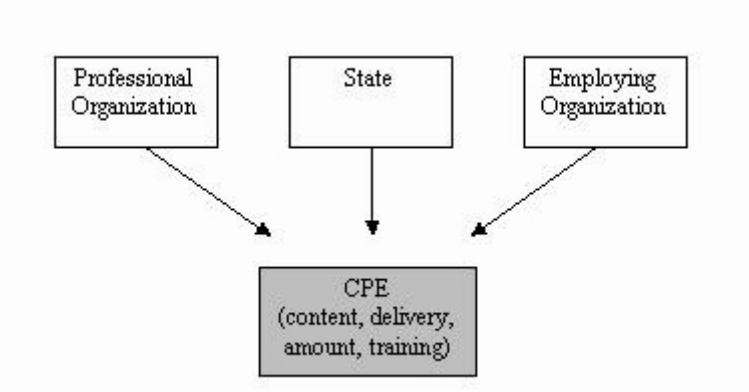
Training is largely controlled by the organization. Organizations determine who is trained, when and how much training the employee receives, and what the content of the training will be. The training content is determined by the upper hierarchy or training department of the firm. In contrast, most organizations only have a limited influence over CPE. CPE is largely controlled by a professional association and often guided if not legislated at the local, state, and federal levels. The association and government regulations dictate the amount and content of education the professional needs to maintain currency in the knowledge base of the field on a time sensitive basis. CPE is treated as a commodity that someone else designs and delivers and that through this process the professional's worth is increased (Battersby, 1999). The entities that have an impact on the content, the amount and the timing of CPE are summarized in figure 1.

Fourth, There are Differences in the Transferability of Training and CPE

Corporate training is industry and organization specific. Poaching of well-trained employees is a possibility if the prospect can demonstrate that skills are transferable to another organization. Non-professional employees are more mobile than professional employees because they can change industries and career tracks. Corporations run the

risk of training employees whose skills are valued by other firms in the industry and leave or who change careers and leave wasting resources spent training the employee.

Figure 1. Entities Controlling CPE Content, Delivery and Timing



CPE on the other hand is viewed as maintaining the professionals' currency or advanced knowledge of scientific and practice-specific knowledge and skills, which makes the professional desirable by all organizations that need the expertise of specific professionals. Or that value professional training as a proxy for advanced ability. Professional employees are viewed as knowledge workers with higher order cognitive abilities demonstrated by their professional credentials whose knowledge can go with them across industries. Organizations that require professional workers have no choice but to facilitate CPE for these workers. Even though the knowledge and credentials maintained belong to the professional and not to the organization. It is less likely that professionals will change careers because of the investment already incurred in the pre-professional education, certification and licensure, and competency maintenance.

A Summary of the Factors

These four factors: narrower scope, more stakeholders, less organizational control, and decreased transferability of professional training increase the costs to an organization to provide or facilitate CPE of professional workers. The more specialized the pre-professional training the more costly to hire the specialists to provide CPE.

Issues in an Analysis of CPE using Human Capital Theory

The four identified differences between training and CPE have implications for the way human capital theory should be applied to evaluate investments in CPE. Two aspects that make an analysis of CPE different from an analysis of training investments are discussed in turn.

The Cost-benefit Structure is Different

Training can be seen as the outcome of joint optimization decisions of individuals and organizations regarding the investment in human capital. Although individual professionals and organizations do play a role in who participates in CPE and what is learned, the state has a greater impact by setting professional standards and by regulating the profession. In terms of human capital theory, the assertion that the scope of training is different from the scope of CPE implies that both costs and benefit structures are different. The differences between training and CPE in terms of costs and benefits are laid out in table 1.

The provision of training has costs and benefits at three levels: the individual level, the organizational level and the level of the economy as a whole. Costs at the individual level include direct costs such as tuition and training materials and indirect costs such as time investment and effort. The indirect individual costs are usually opportunity costs, which imply that these costs do not necessarily lead to money outlays but rather represent the value of lost time or income. The individual benefits of training include increases in productivity, wage increases and improved career prospects. At the organizational level, examples of direct costs of training provision are tuition, the cost of materials, trainers'salaries and classroom space required for training activities. Indirect costs include the loss in production when training activities take place. Training requires that some effort or time of employees cannot be used in the production process, which implies that productivity will suffer in the short run. The long term benefit of training could be an *increase* in productivity. When workers are better trained, it is likely that their productivity will increase following the training period. Another possible benefit of training at the organizational level is that personnel will be more flexible, e.g. in a situation where tasks that are not part of the regular job need to be carried

out. At the level of the economy as a whole, the provision of training implies that resources that could have been used for other purposes have been spent on training. The benefits at the level of society include societies' economic success factors, such as economic growth, competitiveness and innovation.

The final column in Table 1 displays the additional societal costs and benefits for continuing professional education (CPE). Examples of the additional costs of CPE are the costs of having a preprofessional curriculum, professional organizations, the costs associated with regulating the professions and the enforcement costs. The benefits of CPE are an improved level of product and service quality and a reduction of risks associated with quality variations for clients of products and services. An example of the latter benefit is the guarantee that patients have that a certain level of quality of medical procedures is provided when a system for mandatory CPE for surgeons is in place.

Table 1. *Training and CPE: Examples of Cost and Benefits at Various Levels*

	Continuing Professional Education (CPE)			
	Training			
	Individual	Organizational	Economy	Society
Costs	• Direct costs: tuition, training materials • Indirect costs: time investment, effort	• Direct costs: tuition, provision of materials, trainers, space • Indirect costs: production losses due to time investments	• Resources spent on training	• Costs of preprofessional curriculum • Costs of professional organizations • Cost of regulation • Enforcement costs
Benefits	• Increase in productivity • Possible wage increase • Improved career prospects	• Increase in productivity • Added flexibility	• Economic growth • Competitive-ness • Innovation	• Improved level of product and service quality • Risk-reduction for clients of products and services

To determine the optimal level of investment in human capital from a society's perspective, cost-benefit analysis applies the equimarginal principle, which simply means that the level of human capital investment is optimal when the marginal costs of an extra unit of investment (e.g. a training course) equal the marginal benefits. The implication of the additional costs and benefits of CPE is that a cost-benefit analysis for CPE is different from a similar cost-benefit analysis for training.

CPE Evaluation is Normative

The discussion has already focused on the different stakeholders involved in CPE. The fact that CPE has more stakeholders than training implies that the determination of the optimal level of investment in human capital needs to take account of many more aspects. If there are conflicting interests between stakeholders, the analysis necessarily becomes *normative* instead of positive. If e.g. a mandatory CPE system acts as a deterrent to individuals that consider entering the profession, the earnings and other benefits of the certified professionals (the 'insiders') need to be weighed against the losses of those denied entry into the profession (the 'outsiders'). It is important to realize that human capital theory is only capable of judging different CPE options in terms of efficiency. The question of what stakeholders should lose or gain from CPE arrangements is a normative issue, which is left for political systems to decide upon. Human capital theory can however play an important role into providing decision makers with options that make sense from an economic point of view.

Conclusions and Recommendations

At first sight, an economic analysis of continuing professional education (CPE) has a lot to gain from the existing work on the evaluation of training, which plays a major role in the field of human capital theory. However, this paper has shown that CPE differs in four important aspects from training: The scope is different for training and CPE, CPE typically has more stakeholders, CPE is less controllable by organizations, and decreased transferability of professional training increase the costs to an organization to provide or facilitate CPE of professional workers.

The implications of these differences for a human capital analysis of CPE is that the cost-benefit structures are different for CPE evaluation and that the evaluation is normative since there typically are diverging interests between different CPE stakeholders.

The implications of the analysis in this contribution are both theoretical and practical. From a theoretical viewpoint, including elements from human capital theory, while keeping in mind that ideas and concepts from human capital theory need to be adjusted to reflect the distinct characteristics of CPE, has two advantages. First, it enables us to better explain the patterns and characteristics of the CPE programs that are currently in place. Second, it allows for the design of those CPE systems that benefit society most.

On a practical level, using human capital theory in the evaluations of CPE are important for three reasons. First, it allows CPE professionals to demonstrate the potential benefits of their efforts. Secondly, the professionals and their associations may use the new insights to optimize professional performance. Finally, at the level of governments or states, economic evaluations of CPE may guide the design and implementation of preprofessional curricula and CPE regulation that make sense from an economic point of view.

Future research has an important role to play in putting the ideas brought forward in this paper into practice. A first step could be the development of a cost-benefit analysis methodology, which incorporates the distinct characteristics of CPE. This methodology may subsequently be used in applied research that discusses the value and efficiency of current or future CPE systems.

Contribution to HRD

This study has shown that the combination of insights from human capital theory and human resource development adds to our understanding of the field of continuing professional education. This does not imply that a theoretically sound evaluation of continuing professional education using human capital theory can be achieved by merely applying existing concepts and methodologies. Rather, we have shown that the distinct characteristics of CPE require adjustment of the evaluation methodologies available in human capital theory. Such an approach is useful in expanding and reenforcing the multidisciplinary nature of HRD.

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