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Procedia - Social and Behavioral Sciences 46 (2012) 2389 – 2393

Procedia

Social and Behavioral Sciences

WCES 2012

Competence training in higher education: the case of the technological master “Prestación De Servicios Profesionales” from The Colegio De Postgraduados (México)

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Abstract

The Competency-Based Education in the context of training is intended as a comprehensive approach that seeks to link education with the productive sector and increase the potential of individuals, in the face of social, economic, political and cultural transformations that suffers the world and the contemporary society; this is how educational services associated to the rural area takes part of the global revalorization of the role of learning and knowledge. Under the competence approach and taking into account the CONOCER model, we design a Technological Master from the “*Colegio de Postgraduados*” identifying the competences needed so that the students, professional from different areas of knowledge, managed to develop them, but mainly to achieve the goal of developing the capacities of producers in Mexican rural area.

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Keywords: Competence, CONOCER, Higher Education, Former of Formers.

1. Introduction

One of the biggest challenges in education today is to promote the development of competencies and the acquisition of knowledge, that allow students in a effective manner insert in their social, cultural, political and economic environment, and so we can know and understand the requirements in a global context more diverse.

Gonzalez-Enders (1997) says that is not enough the accumulation of knowledge along the life, we have to be able to update constantly for search and enrich this primary knowledge, but mainly we have to be able to adapt in a world where the only constant is the change, that is to say a globalized world.

Globalization is also a cultural and educational process, in the new society of knowledge; this is the fundamental active, which requires performing constantly scientific and technological innovation, to maintain competitiveness and leadership (Mendoza, 2000).

This way education is considered as a mean of acquisition of skills, focused to the specialization of the disciplines and management of technologies, with the purpose to produce knowledge, which can be useful for

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increase monetary of nations. The knowledge is the largest producer of plus value and therefore the most appropriate way to generate richness. The knowledge is most valuable and that difference developed societies from underdeveloped societies (Vasquez, 2009). So that is also required a new profile of a professional, that can perform in a global economy and in a global society, in which they need to dominate competencies such as technical, interpersonal and methodological.

As a result of globalization and in response of major changes and social, economic, political and cultural transformations worldwide, it surge the Competence-Based Training [CBT] (Martinez-Clares *et. al.*, 2008) in addition to be a response of the economic crisis in the 70's, whose effects on education affected significantly all countries (Thierry, 2004).

Then the CBT is not a principle or a educational theory, nor is it a unilateral tendency, more well is based on a combination of principles, theories, and sciences such as psychology, pedagogy, sociology and in particular from constructivism as a recent paradigm, trying so to obtain significant learning, that is to say that students used their prior knowledge to construct new learning, making them participants in what they learn, implying with that a change of behavior and the development of abilities.

2. The Competence-Based Approach

It has been introduced competence-based approach in higher education, in order to develop a set of skills and specific abilities in new generations of professionals in order to provide better performance in the new labor contexts, in this way, "competency-based training is the teaching-learning process that transfers knowledge, skills and attitudes, enabling students to mobilize in different labor contexts "(Farias, 2009:62) treated as " a strategic medium to increase the competitiveness of companies and economies in global scenarios "(Climént, 2010:91).

But what does it mean the concept of competence? Weinert (2001) say that there is not a single use of the concept of competence neither a widely accepted definition. Mulder *et. al.* (2007) says that the first contributions of the term competence in the field of academia are recorded in the 70's, but in no way means the beginning of the concept in history, in fact the first origins of the concept that we have registered is found in the Hammurabi's Code (1792-1750 BC). The OCDE defines competence as "the ability to respond demands or perform tasks successfully" (OECD, 2005:4). So the concept of competence refers to attitudes, capacities, skills, and abilities in a performance. As we see the concept of competence includes knowledge, the know-how and know-to be, so when people acquire and develop competences, it foments his development as individuals and as professionals.

2.1. The Competence-Based Training

Climént (2010: 98) says that "Competence-Based Education (CBE) supposed that education is based on skills, when really is the reverse, the competence is based on the education of persons, in a widest sense", that the correct thing is to say "to speak of Education oriented to skills when the criteria's are defined by the education sector, and competence-based training when learning objectives, held by standards, are set by the labor market." In that way Competence- Based Training (CBT) does a way to respond to personal, social, professional and cultural need, which is raised by the current society. With this focus of training its intended an evolution from the traditional approach, that is to say, move from training centered on teaching to a learning-centered education (Villa *et. al.*, 2007), where the difference from a traditional education model, students are the center of teaching-learning process, in other words, the most important is what he has to learn, and that he integrate in his learning the knowledge, the know-how, know-being and the know-to be.

Ducci (1997) affirms that there are at least three reasons why the issue of competence-based training is important in the field of training and development of human resource: i) emphasizes and focuses on economic development efforts and social over valorization of human resources and human capacity for building development; ii) responds to the need to find a promising point of convergence between education and employment, between educational efforts and training of manpower in one hand, and labor market performance, in the other, and iii) The competence approach is adapted at the need for change, omnipresent in the society.

With this approach, "seeks to a new balance between the offer of education and training on one side, and demand for professional skills in the labor market on the other. We passed from a stage in which the proposal in offered training programs was dangerous, away from the real needs of the productive apparatus, to an emphasis on explicit demands of the labor market "(Ducci, 1997:19).

3. The Training in the Rural Area in México

In the last 10 years, yield to the requirements of the rural sector (related to a decrease in direct government actions in the productive processes, marketing and processing), and with a greater participation of the farmers, it has been revalued the strategic importance for training services, counseling, consulting, promotion, technical assistance and extension for the rural farmers.

This revalued is traduced in the participation of Federal Government and State Public Institutions in the finance of these services, through different programs. In that way in the last decade it has been taken programs that finance and oriented in one year until 10,000 independent rural professionals (called in México "Prestador de Servicios Profesionales" [PSP]). In much of the cases it has include training actions, mainly with courses and diplomas, tending to increase the capacities of this persons. The most importance of educational services in the rural areas is part of the worldwide revaluation of the role of learning and the knowledge in the economic development and therefore, the provision of services related to that knowledge expansion.

Therefore it is more and more emphatic the insistence of various international bodies, in particular the FAO (2005), about the importance of knowledge in the context of the economy globalization. Under this importance, the requirements for companies and countries of greater flexibility, competitiveness, innovation and adaptation to changing conditions in the environment, it's translated into new approaches of organizational and functional work, and in new multi-active and creative profiles of workers.

One of the aspects of the phenomenon indicated, has led to the increasingly influential approach to education and training approach to labor demand and competence, with its variant in training-based on labor competence norms. These initiatives are taking a leading role n México, from at least the last years and will assume greater importance in the action they will be known and incorporated into the certification systems by the companies.

4. The case of the Technological Master "Prestación de Servicios Profesionales"

The Technological Master in Providing Professional Services "Prestación de Servicios Profesionales" of the Colegio de Postgraduados (ColPos), surges from a Federal Program of training services, counseling and consulting for Farmers and Rural Financial Intermediaries called "PIFCCPIFR" from a Institution called Financiera Rural (FR), that is a decentralized agency of the Federal Public Administration that depends of the Ministry of Finance and Public Credit (SHCP-México).

This program is based in the development of a competence management model for clients and users of the FR that allowed the established of permanent and healthy financial arrangements, with the objective of impulse productivity, richness generation, and mayor welfare in the rural area, mainly to poor farmers. So this program search to give a mayor credit flow in the rural area, it also search for a better credit management although training the farmers and help them to identify strategic projects.

This Master seeks to break with traditional methodological approaches in education. In this way it tries to convert it in a systematic process and theoretical-practical feedback, from the training activities, advisory or consulting, when each Professional Service Provider (PSP) is performing with a group of farmers and companies. This implies that the specialized training modules (Diplomas) organized by a working-learning approach, are conducted by specialist and experts that as teachers and tutors, accompanied the PSP by a personalized way, ensuring the quality of the services provided by them and the learning of labor competences. The modules of the training program are referred in table 1.

Table 1. Modules of the Master Program

Module	
Module I	Methodology for training services
Module II	Training specialized in Diagnostic & Business Plans
Module III	Training specialized in Business Support & Rural Business Incubation
Module IV	Training specialized in Theoretical & Methodological Service Provider
Module V	Master Thesis Seminary

This master was structured under competence norms in the CONOCER (Consejo Nacional de Normalización y Certificación de Competencias Laborales) model. Under this model it should be generated competence norms where they must express what the person is able to do (what), the way that the person is judged if he make it well (how) and under what conditions the persons has to demonstrate his aptitudes (context). A competence norm it's integrated by a principal function (for more information visit <http://www.conocer.gob.mx/>). So under this model the objective is to get professionals complaining the next functions (Table 2).

Table 2. Principal Functions of the Technological Master

Principal Functions	Components
Service Provider: (Serving to help producers to learn the necessary for successfully leads their business (training services).	Projection of development Detections of needs of service Execution of the training process Feedback of the training process

To develop its norms it was considered that the training services provided by the PSP have to satisfy the next central criteria's. 1) The sustainability of the credit granted by the FR and Rural Financial Intermediaries (RFI's) is based on farmers and members of the RFI's learning's, their knowledge and competences, that ensure the success of their companies; 2) The PSP has to be able to guarantee the learning of the farmers and RFI's with the consequent application and results in the efficient use of the credit and the management of their companies.

The competence elements obtain by this model where 12 with their respective performance criteria (for more information please contact the authors). With this components and competence elements the PSP must meet the capacities of: i) Training (Theory): with which has the theoretical and methodological training required to perform, depending on the service provided, each of the four components that form an integral service, ii) Instrumental Capacity: with which is able to generate the required instruments, depending on the service it provides, for each of the four service components, iii) Pragmatics Capacity (Practice): with which has the ability to generate the expected results depending on the service it provides, in each of the four service components. The PSP should reach the capabilities that enable to perform as trainer of trainers of rural farmers, meeting the requirements of the selected labor competence norm.

This Master purpose PSP to have a formation with a interdisciplinary approach of training and learning, in which attend various fields of the scientific knowledge with their contributions to the object of studying: to learn in their specific area, the rural development. This is importance because the work done by the PSP with farmers and their companies is essentially a trainer action that is to say that his job is to enable producers to obtain the necessary learning's to make their businesses be sustainable economic socially and environmentally.

With this Competence-Based Training and under the work-learning approach, it seeks to put training activities as a tool for capacity development of individuals with the technologies and production processes, impacting in the economic, social and cultural development in the rural area. "The training should stop being as an instrument linked only to the technical training, to concentrate in the cognitive development of the participant and thus to their capabilities" (Garza-Bueno, 2006: 155). So that the rethinking training to place it in service skill development requires a particular stance where it becomes a particular way of educating -carried out in and for work- and requires, therefore, a specialized didactic style, different from the school model. (Garza-Bueno, 2006).

The approach of working-learning considers that training process should constitute a situation of reflection and on the conditions and working processes of the former, forcing a diagnosis of the binomial social subject-economic

unit, and recognizing that change or betterment of economic activity must be first in the mind of the user, making the trainer (provider) and trained (farmer) develop capacities, attitudes and skills.

Under this approach when the student completes his training, he must be able to reach capabilities that allow him to serve as trainer of trainers for rural farmers, that it says, it must ensure that farmers and other actors in rural areas can increase their capabilities, in addition to the economic development of their productive units and / or companies. With this Master we seek to give a new profile of PSP, visualizing it as a development agent of individuals and economic units (Financiera Rural, 2006).

5. Conclusions

In the new global economic environment, characterized by the appearance of new models of production based on knowledge, higher education must incorporate dynamically changes in the scientific and technological advances, integrating in the training process the most modern training practices that are incorporated in labor world (Gurovich & Waldameer, 2005).

In this way the competences in their status as norms, constitute a reference of the performance of an individual, with respect to a predetermined set of requirements by the sectors of education and/or work. "So, they are destined at strengthening and recognition of the know-how of individuals, and particularly of the labor force of an economy; purpose that assumed to raise the levels of education and training in the population, which, therefore, should help the policy and initiatives in competence-based training"(Climént, 2010:104).

With this approach was designed the Technological Master in Professional Services Provider, under the standards and requirement of Financiera Rural, identifying the competences needed to develop it, and taking into account the CONOCER model for the elaboration of competences norms. It was developed the corresponding functional map, creating 4 competence units (components) and generating a total of 12 competence elements, with their respective performance standards, that will be the required to achieve the objectives of training the PSP (to know more about competence elements and performance standards, contact the authors). Finally this Technological Master has 739 students in 4 generations, of a total of 6814 Professional Services Provider ascribed and accredited in Financiera Rural.

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