

# Chapter 5

## Knowledge, Skills, and Competency

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### ABSTRACT

- Competency Profiles in Practice
  - Competencies in business and the workplace
  - Competencies in the definition of professions
  - Educational competencies
- Analysis of Competency Approaches
- The Concept of Competency

A search on the Internet shows the renewed importance given to competency-based approaches in Education and Administration. Ministries of education, school boards, and teacher training institutes use competency profiles to define school

programs or required qualities from the teachers, especially in the use of technologies in education. Consulting companies present their expertise by enumerating competencies, marketing their services in this way. Other companies offer services or computerized tools to help their prospective customers define or manage the competence of their staff, looked upon as the main asset of an organization in a knowledge management perspective. Governmental agencies or professional associations use competency-based approaches to define conditions to the exercise of a profession and to orient their vocational training programs.

Competencies provide learning and training objectives for educational programs and courses. They help define evidence to assess competency acquisition, state requirements for a job in an orga-

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nization to recruit new personnel, or plan instruction to enable persons to fill competency gaps.

Most often, competencies are expressed as simple natural language sentences, stating informally that a group of persons has the “capacity” or the “knowledge” to do certain things. Competency profiles are in general loosely structured collections of such texts that are not always easy to interpret, communicate, or use, especially if the goal is to plan learning events to support the acquisition of new competencies.

According to Kierstead (1998), part of the confusion surrounding the concept of competence can be attributed to the very broad definition given by an influential American author in the field, Boyatzis (1982). He defined competency as an underlying characteristic of a person that is related to a reason, a character, an ability, an aspect of self-image, the social role of the person, or a body of knowledge that he or she uses. We note, however, that this idea already contained the notion of a dynamic relationship between the various components of competency and its related aspects of performance. In organizational sciences, competency is seen as a process carried out by competent persons enabling them, with the resources at hand, to produce effective actions. For example, Le Boterf (1999) provides the following definition: “A competent person is someone who knows how to act appropriately in a particular context by selecting and mobilizing a double resource base: personal resources (knowledge, abilities, personal qualities, culture, emotions, etc.) and network resources (databases, document networks, expert networks, etc.). Knowing how to act appropriately means being able to perform a set of activities according to certain desirable criteria” (p. 38, translated by the author).

In recent years, efforts have been made to facilitate the use of competencies in education and training. For example, the IMS organization, involved in defining eLearning standards, produced in 2002 a Reusable Definition of Competency or Educational Objective (IMS-RDCEO 2002).

It defines an information model for describing, referencing, and exchanging definitions of competencies, primarily in the context of online and distributed learning. Its goal is to enable the interoperability among learning systems that deal with competency information by providing a means for them to refer to common definitions with common meanings. Even though the RDCEO does not provide structural information about a competency, it mentions that “this information may be refined using a user-defined model of the structure of a competency.”

We will provide here such a competency model based on knowledge representation techniques.

To do this, we will first present examples of competency profiles and dictionaries used in job training, vocational training, and school curricula. We will then perform a critical analysis, highlighting the diversity of concepts and teaching strategies that underlie the so-called “competency-based approach.”

Next, we will discuss and define related concepts such as generic problems, tasks, and skills to provide a structural basis for a definition of a competency.

We will conclude by providing a clear definition of the concept of competency that will allow us to graphically represent competencies and integrate them into a knowledge model.

## **5.1 COMPETENCIES IN BUSINESS AND THE WORKPLACE**

Over the past ten years, the “competency movement” has become widespread in the area of human resources management. Competency profiles, variance analyses, classification and compensation, performance evaluation, staffing, and many other uses of the competency approach are now well integrated into the activities of organizations. In the public sector as in the private sector, the development of competencies is seen as a major factor in productivity and competitiveness.

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