

Instructional Design Oriented Towards the Development of Competences

Martha Pimienta Giraldo¹ and Alfonso Meléndez Acuña²

Abstract—This article presents instructional design oriented towards the development of competences. First, the competence concept is developed showing its pertinence in the business as well as in the academic field. In the second part, we develop the definition, properties, evolution and components of the instructional design. In the third part, competences and instructional design are integrated and a methodology with basic aspects of design and strategies oriented to the development of competences is proposed. Finally, we present a series of guidelines for applying this model in the development of courses.

Index Terms—Competence, instructional design, methodology

I. INTRODUCTION

THE purpose of this paper is to describe a methodology for doing instructional design, with basic aspects of design and strategies oriented to the development of competences, this methodology fulfills a need in the higher education environment which nowadays is oriented in many countries towards the use of competences. This new paradigm implies different ways of approaching the problems in the learning environment, and also different didactics and methods, in other words instructional design must be adapted to this new paradigm to assure the development and the evaluation of the competences.

II. COMPETENCES

This word comes from the latin word "competere" which has two meanings to compete and to be competent. The first one means a dispute between two persons, opposition or rivalry between two or more persons that work towards the same objective. The second one refers to aptitude or expertise in performing an activity or in participating in a specific matter. The first reference of the use of the word competence in education is Noam Chomsky. Chomsky's theories about language acquisition are based on the concept of competence and performance, competence is the genetic capacity of language acquisition according to grammar rules, and performance is the act of communication with the language [1].

Chomsky's basic postulate is that a child has an innate disposition for learning a language, this learning cannot be explained by external factors, this is called linguistic competence [2]. In the mid 60's, [3] proposed the idea of communicative competence as the capacity to deal with different

kinds of speech, this competence is reinforced by the social experiences, motivations and actions.

This concept was interesting for the cognitive psychologists, they focus their work in the mental activity made by humans in certain tasks. In this respect, the central thing is what the person does, the mental processes that the person develop and the strategies for solving problems. This point of view put in evidence the important of the environment in human acts. A cognitive competence can be defined as a "know-how that every human being receives in his education that is different for each individual and that can only be assessed in action. It is an accumulative domain of formal and informal day to day experiences of different kind that help human beings to interact in real life and lead to the construction of a socio-cultural horizon that allows living in community. In this case, knowledge is not enough, it is necessary to apply this knowledge (procedural intelligence) in different contexts, for solving problems that deal with knowledge" [4].

The word competence had acquired new meanings in psychological and educational settings, R White defines it as a conceptual sum of three basic concepts: achievement, proficiency, and knowledge of a particular domain, but none of the three concepts is a competence, the competence emerges as a unity when the concepts are joined in a particular action [5].

Outside the education environment, in the business world there is an agreement in the definition of competence, Organizations like OIT, CINTERFOR, POLFORM, FUNDACIN CHILE, SENA and countries like Mexico, Spain, Canada, Argentina, Australia, Germany and United Kingdom agreed in defining competence as an identifiable and measurable set of attitudes, knowledge, values, skills, socio affective behavioural, cognitive, psychological, sensorial skills relate to each other that enable satisfactory results in real work situations, additionally competence is capability in performing a task or holding a job, effective capacity to develop a well defined labor activity.

In higher education there is an intense debate about what the "professional competences" are. Universities are working in a profound revision of the University courses to adjust the graduate profile to the development of competences without ignoring the changing business world. Additionally, it is important to generate new learning methods and strategies not only for the development of competences but also for its evaluation.

¹Ing Martha Pimienta Giraldo, Escuela Colombiana de Ingeniería, mpimient@escuelaing.edu.co

²Ing Alfonso Meléndez Acuña, Escuela Colombiana de Ingeniería, amelende@escuelaing.edu.co