The skills: Its importance in the training of professionals

ABSTRACT

The skills were the object of this investigation. Different definitions of international and national context were consulted. The results reflect the following regularities: skills are formed and developed in the activity. They are structured in actions and operations, which have objectives and contents (knowledge). They become modes of action that allow solving theoretical and practical tasks. Their classification changes, although the identification of professional skills is appreciated as a repeated tendency. The development of professional skills is essential for acting professionally.

Key words: Skills, structure, classification.

INTRODUCTION

The skills have been the subject of several investigations, from different points of view and existing discrepant positions in the course of time. The diversity of criteria is debated in terms of the science the skills correspond, as an object of study. Some authors establish differences in their conceptualization; some from psychology and others from pedagogy.

This research presents some authors and their points of view about skills, their conceptualization, classification and aspects related to their formation and development.

The criteria are organized by thematic axes: The activity as a starting point, the ability as an object of science, psychology or pedagogy, the structure of the skills, its classification and professional skills of socio-cultural managers. It is pertinent to clarify that the treatment of these thematic axes is done under the criteria of the authors presenting the different points of view, whether similar or opposed in time and sometimes involving jumps on dates.

The objective of this research is to review the theoretical treatment historically given to skills and its importance in professional training.

MATERIALS AND METHODS

A documentary research was realized in the "Marta Abreu" Central University of Las Villas during the 2016 to 2017 academic year, whose object of study was the history of the skills and their scientific and socio-cultural impact in the professional's formation. Theoretical methods used were: analysis-synthesis and induction-deduction for the study of the main theoretical concepts in the consulted bibliography and the conformation of the investigative report, and the historical-logical for the progression of the treatment of the subject in order to determine its evolution in time. In addition, empirical methods were also used including: the documentary analysis on magazine's articles and the consultation and revision of other texts, with the aim of arriving at integrative considerations.

RESULTS AND DISCUSSION

The activity as a starting point

When deepening in the skills, as a tendency a recurrent starting point was verified: Leontiev (1976, 1981, 1982), and his contributions about the theory of the activity are an important reference in the subject.

Leontiev (1981) defines the activity like "... the process of subject-object's interaction, directed to satisfying the subject's needs, as a result of which there is a transformation of the object and the subject itself" (Cited in Díaz, 2005: 35). Followers of his theory and scholars of
his contributions have become new references for the study of skills, including Talízina.

Talízina (1988) states that "every action includes a certain set of operation carried out in a specific order and in correspondence with a certain rule. The consecutive fulfillment of the operation forms the process of fulfillment of the action". It is called action. According to Leontiev (1982), "the process that is subordinate to the representation of that result that will have to be reached, that is, the process subordinated to a conscious objective" (Llanes, 2011: 15-16).

A criterion previous to these was taken and cited later by González (2001). "Leontiev (1976) assumes the activity like the systematization of actions and operations and its improvement (…), it has its own structure where the needs, motives, conditions in which it develops and means, actions and operations materialize" (cited in Romero, 2011: 37).

The proposed criteria allow understanding of the activity as a result of the subject-object interaction, whose purpose is the satisfaction of the needs of the subject and as a result from this process, both the object and the subject itself are transformed. The activity is executed through actions (which pursue a conscious objective) and these in turn are structured into operations. "The subject appropriates methods and procedures (…) which begins to gradually master the actions from acquired experiences and the use of means that will facilitate the learning to execute the skill, thus, becoming more perfect; (…)" (Martínez et al., 2013).

Why consider that the activity is the starting point for understanding the skills? The skills are the domain of the actions that allows one to achieve an objective with efficiency. They must integrate knowledge and skills acquired in practice. They are formed, executed and developed in the activity, enriching the transformation process (subject-object / subjects) and obtaining satisfactory results in response to the needs that gave rise to the activity through the exercising / systematization of actions. Therefore, to understand the activity, its essence, structure and scope allows the understanding of the skills in the context in which they are formed, executed and developed.

Skills as an object of science, psychology or pedagogy

From the psychology and the pedagogy, the definitions and positions assumed about the abilities are diverse. For example: (...) Skill is a concept in which psychological and pedagogical aspects indissolubly united are linked. From the psychological point of view we talk about actions and operations, and from a pedagogical conception, how to direct the process of assimilation of those actions and operations (Cañedo, 2008: 21).

It is a vision that argues that both sciences have contributed to the skills and their conceptualization; there are other criteria that restrict it to one or the other such as the case of Danilov and Skatkin (1980); they assume it as an extraordinarily complex and broad pedagogical concept.

Other authors do not declare the skills as a definition of one or another science. However, in the conceptualization that they offer, the preponderance of one or another approach is perceived. For example, Petrovski (1976: 159) defines the skill like: "the domain of a complex system of psychic actions and necessary practices for a rational regulation of the activity with the help of knowledge and habits that the person possesses". He uses terms from the field of psychology such as the psyche and the rational regulation of activity. Something similar happens with the definition offered by Tomachevski (1996), "Consider the abilities as psychic features that are an essential condition for the successful execution of one or more activities" (Llanuez and Pérez, 2005: 5).

A criterion from the pedagogy, states: "constitute the system of actions of cognitive activity that the student can deploy independently and with quality depending on the conditions and objectives pursued" (Talízina, 1984: 25). As can be seen in the last example, the conception of skills is placed in the teaching scenario, specifically, the student, as the protagonist of his own training process.

From the pedagogical point of view the skill is formed and developed by man to use creatively the knowledge, both during the process of the theoretical and practice activity. They always start from knowledge and support on knowledge. Skill is knowledge in action (González et al., 2013: 3).

The purpose is not to enter into contradictions. On the contrary, all the positions and criteria in this regard contribute to the objective, to understand the essence and scope of the skills. However, in this regard, the authors consider very correct the following criterion, which corresponds to what was stated by Cañedo Iglesias previously. (...) the skill is not a purely pedagogical concept, but a pedagogical and psychological category, since both sciences conceive it in its categorial system; psychology studies it as a psychological phenomenon, its characteristics, regularities, formation and development, and the pedagogy uses it as an element to consider for the integral formation of personalities, as well as, it looks for the ways, methods and procedures to make more effective the process of its formation in the individual (Llanuez and Pérez, 2005: 3).

After presenting these points of view, it can be reaffirmed that psychology and pedagogy contribute favorably to the study and enrichment of skills. They contribute to their understanding, training and development from theory and practice. Psychology studies its essence, the pedagogy, its formation and improvement.
The consulted sources evidence criteria found in this regard revised both positions and evaluated an integrated vision; skills was assumed as an object of research of both sciences.

The structure of the skills

There are several approaches about the structure of skills, their components and the relationship between them based on their function and scope. The functional structure of a skill is represented graphically as a temporary succession of operations in the horizontal and in the vertical the domain's stages that are reached (...). The sequence of operations is the generalized method of solving problems (...). In each skill there will be a minimum of operations, essential to perform that action, which constitutes a basic level of depth (Mestre, 1996: 51).

This affirmation supports the modeling of the gradual formation of the skills horizontally and vertically. From the pedagogical point of view, it is a guide for the formation of skills.

In another definition, it offers Fuentes (1990 to 1998), (cited in Fuentes, 2000). In this case, it incorporates important aspects to understand the structure of the skills. When referring that the skills are the content of the integrated action by a set of operations, it reiterates that they have an objective, and that they are assimilated in the process. It also adds the subject-object / subject interaction mode, in the activity and communication.

Therefore, assuming these criteria, each skill is structured in actions and operations, executable in the activity, which in turn, has an objective and content. The objective determines a goal for the subject, which must perform actions (have a content) integrated by a set of operations that make both the activity and its purpose possible.

On the other hand, when referring to the general structure of the skill, González (1998), (cited in Otero, 2011) also shares the criterion that it always includes certain knowledge, as well as, a system of actions and operations, and it is these elements that allow the concrete application of knowledge, being a premise for the ability. The expressed criteria, allow us to assume knowledge as a premise for the skill, and at the same time, are part of the content.

When referring to the structure of skills, Ginoris et al. (2006) assumes it as a system of essential actions - functional invariants and in addition they pointed: (...) the determination of functional invariants of an execution allows us to identify what this action is and not another performed by individuals in a specific context, although each of them (people) perform it according to their style and acting tendency. Its pedagogical implication is that if the functional invariants of the execution are systematized, it can be mastered as skill, habit or capacity according to the level of manifestation (Ginoris et al., 2006: 32).

The importance of knowing the functional invariants is reiterated and a series of requirements are posed as a guarantee in the training and development of skills.

According to Díaz (2005), “Frequency in the execution is assumed as the number of times the action is executed”. Periodicity refers to the temporary distribution of the executions of the action and flexibility, as the variability of knowledge. Complexity depends on the degree of difficulty of the knowledge.

Álvarez (1996) considers: “The skills, forming part of the content of a discipline, characterized in the didactic field and the actions that the student performs when interacting with the object of study in order to transform it so as to humanize it” (cited in Fuentes and Álvarez, 1998: 91). His opinion, to specify the abilities as part of the content of discipline, offers important elements from didactics for the relationship discipline-content-skills-object of study, that in turn are narrowly related to technical training and what is ruled from the models of the professional for each career.

Ginoris et al. (2006), Díaz (2005) and Álvarez (1996) explained the structure of the skills from a pedagogical analysis that contributes to the formation or improvement of these in the teaching scenario.

On the other hand, Álvarez (1996) and Álvarez de Zayas (1997) coincide when mentioning the process in which the student studies and transforms the object and the interaction with the object leads to turn it into a way of acting.

In addition, Álvarez de Zayas (1997) exposes that the skills respond to the following conditions: the type of matter (science) that is studied; the type of knowledge: factual, abstract or theoretical and practical; the age and personal characteristics of the student; the previous development of the student; the type of teaching materials (sources of knowledge) that are available; the socio-cultural and curricular requirements. These conditioning factors are very important to take into account in the process of forming them which gives him valuable value in professional training and specifically for teachers.

Without entering into contradiction, but offering a different degree of explanation is the definition of Montes de Oca Recio (2001), (cited in Ruiz, 2005). Starting from elements already raised (system, operations, action, systematization and student-object interaction of study), from their point of view, it organizes and explains them; makes mention of its essence, how to recognize the presence of a skill and how it is assumed from the didactic.

Another interesting and reiterated look in several of the sources consulted for the realization of this work is Zilberstein (2003). Skill implies to control the forms of cognitive, practical and evaluative activity, that is, knowledge in action; it is very important to keep it in mind...
because in the work with the subject, the appropriation of knowledge linked to the development of skills must be encouraged (Zilberstein, 2003: 37).

The author, in the work itself, exposes characteristics to be taken into account by the teacher as the responsible for the training of skills in their students. The skills are formed in the activity, so the teacher scientifically directing this process must know (...) the actions and operations that the student must perform, which must be structured taking into account that they are sufficient, that is, that repeat the same type of action, although the theoretical or practical content varies; that they are varied, in a way that implies different ways of acting from the simplest to the most complex (...) and that are differentiated, depending on the development of the students and considering that it is possible to promote a new leap in the domain of the skill (Zilberstein, 2003: 38). There are many references to consult on the subject of skills. The authors cited there are samples of it and they are not the only ones.

Their criteria reaffirm that the relation of the abilities with the activity is indissoluble, since the abilities are structured in actions and operations that are only executable in the activity. Where also its objective and content are evident, guaranteeing its adequate systematization for the successful performance of the skill in question, which at the same time, enrich the activity that is carried out.

This information is important for anyone who needs or is interested in the subject; the diversity of criteria will enrich your search and vision about it.

**The skills: Its classification**

In addition to definitions and characteristics about skills, there are studies on their classification. Here are some points of view in this regard.

Ruiz (2005: 23) in his doctoral thesis exposes: "Several studies have classified skills based on different opinions: general, specific, labor, teachers and professionals (Brito, 1983), intellectuals, practices and abilities to teach (Fiallo, 1996). Another classification offered by Cañedo (2008) is practical or professional skills, teaching skills, intellectual or theoretical skills.

Repeatedly, it is noted that an author who is a reference in the subject is Álvarez de Zayas (1997: 66) who classifies them into: skills of thinking, skills of information processing, communication's skills and professional skills. The author explains the four levels of thinking skills, and the essentials in information processing and communication. When explaining professional skills, he points out that higher education must pay attention to the development of the three first classifications of skills and considers it an error not to do so, pointing out a systemic vision of the skills which they interrelate with each other.

It also adds, and this, constitutes an important guideline in the study of professional skills: "(...) There are professional common abilities of obliged formation ( ), establishing [integrating knowledge and to lift them at the same level as professional application; Dominating the techniques to maintain updated information; Carrying out an investigation; Knowing how to establish the links with the social context; Managing- administering human resources and materials (Álvarez de Zayas, 1997: 66)."

In the book "Didáctica de la Educación Superior" (Didactics of Higher Education), about the classification of skills"... a classification based on abilities considered them as part of the content of discipline which characterizes the didactic field of actions that the student performs when interacting with the object of study or work" (Fuentes, 2000: 166). From this, it classifies them into specific, logical and information processing and communication skills. In the text itself, it recognizes"... in the context of didactics of higher education, a specific type of skill that is needed formed in that context which forms the basis of the professional's performance (Fuentes, 2000: 167).

Fuentes (1997) defines: "(...) the content of those actions of the subject aimed at the transformation of the object of the profession" (cited in Fuentes, 2000: 167). A reiteration in the classification is appreciable, determining the existence of professional skills.

In other sources, there are specific definitions in this regard, for example: "... those that guarantee success in the execution of the activity of the profession and the solution of the most diverse problems of that specialty" (Márquez, 1990), (cited in Llanes, 2011: 18). The author herself continues the idea by quoting:

"Skills provided the content of the educational process that correspond to the modes of action of the given professional and show a level of systematization, such that when they are appropriate, it will be possible for the student to face and solve multiple professional problems (Mestre, 1995) (cited in Llanes, 2011: 18).

The common element of these definitions of professional skills is in the object of the profession; the modes of professional performance in a general sense is linked to the preparation and training acquired by the subject (student) to solve specific problems of their profession.

From the pedagogy and specifically from the didactic, special attention is paid to the formation of these skills, where the teacher plays a decisive role. The design of professional skills is derived and explicit in the professional model of each career. The National Career Commissions (CNC) and the collectives of each university-level career must guide and control the process of professional skills training, contemplating from these levels up to the collective disciplines, subject, the combination of each academic year and the teacher.

Professional skills guarantee the successful performance
of the profession. Contributing to its improvement is a teaching and professional duty. A sustained regularity about professional skill is their indissoluble link with the profession, hence, its relationship with the modes of action and the resolution of specific tasks or problems of the profession in question. Therefore, the formation of these skills depends on the successful performance of professionals in each of their fields of action.

The reason that gives importance to the determination of professional skills from professional models includes its work from disciplines, subjects, and teaching in general. The skills, its conception, training and development, starts of the understanding of its essence, its scope, links and relationships with terms associated with its execution.

CONCLUSIONS

The investigation allowed us to confirm that the activity is a starting point, placing the context of execution and training of skills, in the same relationship of the subject with the object and other subjects. Without which, it is not possible to apply the skills, or achieve their development, which depends on systematization of the actions and activity.

Psychology studies its essence and pedagogy assumes responsibility and commitment for its formation and development. The teacher, in charge of forming skills in their students, guiding and controlling their development starting from the repeated execution guarantees the assimilation and possibility of application in different conditions.

The structure of the skills was approached as another axis. As regularity, it was found that they are composed of actions (they have content) and operations, subordinated to a conscious objective and executable in the activity. Knowing these aspects is vital in pedagogy in order to contribute to their formation and development in the teaching context.

About the classifications, they differ, establishing guidelines and definitions from diverse experiences and applicable according to the contexts and objects of investigation. There was a tendency to determine the existence of professional skills, identified with the object of the professional and the successful performance of the profession.

The skills, its study and the contribution to its formation, constitute a responsibility of teachers and professionals that does not expire in time. Its development is vital for the performance of professionals.

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