Preface

For a country to be developed thoroughly, knowledge economy considers that the most valuable asset is the creation, dissemination and use of knowledge over capital goods and human capital (Sánchez & Ríos, 2011). From this economic perspective, besides human capital, knowledge management, innovation and the development of human skills are emphasized, such as sources of sustainable economic growth (CEPAL, 2008; Portnoi et. al., 2010). From here, education enables the subjects to add value to the economy, as well as to contribute to the cultural heritage, to participate in the society, to improve the health of families and communities, to preserve the environment and to increase their own capacity envisaged to continue their development (UNESCO, 2008).

On its behalf, the economic globalization has generated diverse consequences at an international level, among which we can find a society regulated by the market laws; the birth of knowledge societies, originated by the multiplication of information and communication means; the transformation of the nature of work linked with the need of more flexibility and mobility, teamwork, pro-activity of the subjects, as well as an intensive use of the new technologies.

For the educational sector, Brunner (2001) set five situations generated by the globalization: a) Knowledge stopped being slow, scarce and stable; b) the school did not stay as the only means by which the new generations may stay in touch with knowledge and information; c) the teachers’ wording and the written texts were not considered as the only support for the educational communication; d) the school shall not only act to promote a receptive learning; and e) the technological change and the opening of a global knowledge-based economy. All of them have generated the redefinition of the skills that the societies must teach and learn.

In this regard, there are challenges that knowledge society must face and accomplish, such as: a quality inclusive long-life education; the fulfillment of the basic learning needs, like Reading, writing, values, cultures and moral behaviors, etc.; a preparation for staying in a society in constant change; the acquisition of new skills for living in the information and communications society; an education that promotes values and the basic ethical principles; an education that motivates the interaction and the whole personal development; an education for the active exercise of citizenship and an education that promotes the culture of peace and international solidarity (Cobo, 2005).

The overview described above has established new demands that the professional has to satisfy in a more gradually competitive market, at a national and international level; the increase in the generation of information that requires more complex techniques and methods for the analysis and systematization where the use of the Information and Communication Technologies (ICT) has constituted a main support for the attainment of these processes (Tejada & Navío, 2005).
In this line, knowledge has become a valuable resource for a country that seeks to have a competitive advantage in the world of economic globalization. So forth, the educational institutions need to assume a main role in the generation of knowledge, as well as to prepare the human capital that allows research management and innovation and, therefore, promotes an integral development.

In this regard, not only the generation of human capital, but also the management of new knowledges, the innovation in public and private organization and the development of human skills are essential as sources of sustainable economic growth.

The above has given rise to the transformation of the productive processes related to the avant-garde equipment and technologies for increasing the productivity and efficiency of the scarce resources used by the organizations, and to the new forms of management, organization, employee’s training and development, which open the rational use of the resources and encourage the creative and intellectual potential of the members of the organization, in order to achieve their institutional goals and objectives (Ibarra, 2000).

Standing before this overview of knowledge society, education is the main strategy that offers the individuals a group of skills that let them add value to the economy, contribute to the cultural heritage, participate in the society, improve their health, preserve the environment and widen their own capacity for exercising their development.

Hence, the Economic Commission for Latin America and the Caribbean (CEPAL, 2010) has stated that the functions of the educational institutions must link with the social and productive sectors because they build up the guiding principles for knowledge-based development.

Consequently, it is established that the scientific and technological development of a country is possible when there is convergence between the objectives and actions among the different actors. So forth, it is essential to consider the “Triple Helix” model, which sustains the main guiding principle for development lies in the interaction of three institutional spheres: government, business/industry and education.

In this way, the educational organizations are defined as agents for the preparation of important actors in the networks of regional groups that undertake knowledge-based activities and that have the opportunity to generate innovation systems.

Even more, the UNESCO (2009) has stated that it is vital the educational institutions of the developing countries integrate new core functions, such as:

- To diminish the development gap with the developed countries by a knowledge transference to their regions;
- To search for new ways of increasing research and promoting innovation by associations with public and private sectors;
- To develop scientific and technological innovations oriented towards the solution of regional problems; and
- To generate associations with the social and entrepreneurial sectors that report mutual benefits for both of them.

To achieve this, the globalized world demands that the educational centers stop being closed systems and become open systems that observe the needs and requirements in the labor sector, so that the educational programs comply with the quality criteria: transcendence, equity, pertinence, efficacy and efficiency, as stated by knowledge management.

On the one hand, a program is transcendental when it produces long-life useful skills, prepares people capable of generating their own learning and enables knowledge transfer in the labor area. On the other
hand, equity refers to the existence of different opportunities for the several circumstances reflected by the students’ community that allow the conclusion of their studies and the achievement the graduate’s profile.

Furthermore, the pertinence of a program focuses on the conciliation of the internal and external requirements, in order to determine the impact that it generates from the preparation and contributions made for attaining all of the society’s objectives, which comprehend the social, cultural and economic environment.

Efficacy is understood as the degree to which a program achieves its objectives and goals; while efficiency is the way of attaining the purposes based on the available resources and conditions under which the program operates.

Hence, the educational organizations, besides accomplishing the main function of transmitting the universal knowledge, are imposed by the society to apply this knowledge to their environment properly and generating an impact. The quality reached by an educational program is a main factor in the life quality of the actors where the program operates.

As mentioned by Cardoso and Cerecedo (2011): educational quality is synonym of knowledge production and integral development of the students’ community, so that an educational program is of quality only when the preparation processes generate useful capacities, abilities and skills that allow the graduates design and implement intervention strategies sought to address the problem issues of the productive and services sector.

On this behalf, the objective of this book called “Handbook of Research on Systemic Knowledge-Based Assessment of Higher Education Programs” is to offer theoretical research works applied systematically to knowledge management on educational programs, at a national and international level, concerning the formulation of theoretical and methodological frameworks, as well as the dissemination of avant-garde results.

Therefore, the book is organized in three main sections: The first focuses on the studies performed in higher education; the second, in the research works, at middle school education, and the third in elementary education. These two last levels are relevant for this book because they have become the foreground of knowledge management relative to the preparation of human capital based on the development of the basic skills that every citizen that lives in the globalized world needs to use, owing to the fact that the vast amount of generated information is exhibited in different ways: writing, numeric, graphical, as well as in multiple written and technological media means.

From this perspective, the first section of this book covers seven relevant theme lines of knowledge management, which are mentioned below:

The first chapter written by Morán and Cortés focuses on the diagnosis of knowledge management from the view of the academicians. The intellectual capital is considered to be integrated by the human, structural and relational capital as a main source of knowledge in the educational organization. It also deals with the four elements proposed by knowledge economy, and that encompass: the production, distribution and use of knowledge in the institution, so that an evaluation instrument that assesses knowledge management in higher education is suggested.

The second chapter elaborated by Cortés, Morán and Vanegas covers the systemic evaluation of knowledge management, from the view of the postgraduate students in education. This chapter centers in the characteristics of knowledge management based on the cycle of generation – storage – distribution – utilization and generalization of knowledge, as stated by Nonaka and Takeuchi (1995).

The third chapter formulated by Chavarría and Cardoso is in charge of analyzing the influence of the labor sector in knowledge management, aimed at studying the importance of knowledge management
and how it is related to work, in order to determine the contribution for the preparation of competitive specialists, who know the technologies and tools for a sustainable management and the protection of the environment. The end is to possibly design strategies for rising the competitive level of the organizations, through the creation of business units’ value. Specifically, they cover the post-grade due to the fact that it has suffered a series of transformations because of its expansion, diversification and the demands that the knowledge society has established with the aim of improving quality and fulfilling the preparation of high-performance human capital.

The fourth chapter elaborated by Van Den Hoven and Litz work out on the evaluation of programs and their improvement in the guiding practices. This chapter centers in the use of a conceptual framework based on Morgan’s (1998) organizational metaphors, relying on a qualitative study performed to the teachers for evaluating their experience in a new program for the evaluation of the processes of change that influence and institution of higher education of teachers’ preparation in the United Arab Emirates. The chapter provides based on generated metaphor the general perceptions of the organizational dynamics, the management practices and the processes of change. As a consequence, the tensions surrounding the access to the communication channels and the decision in the local decision-making context are demonstrated. Besides, many metaphors are consistent with Morgan’s original constructions, while a number are unique to the located context. Therefore, the organizational metaphors can be used as feedback mechanism for guiding the decision-making process related to the initiatives of systemic change in the institutions, and to encourage management research in this region and in other higher educational surroundings. The fifth chapter formulated by Skewes and Alfaro relies in the challenges posed by the public policies for an inclusive higher education. The author’s center in the relevance of these policies that guarantee a quality education for all, with the aim of reaching a socially inclusive future based on knowledge management. In this line, the importance of the educational inclusion is directly associated with the task of generating different success possibilities, which require an integral educational policy that eliminate exclusion factors in such aspects as: infrastructure, gender, accessibility and access opportunities.

Furthermore, the sixth chapter elaborated by Casas, De Luna and Álvarez who directed their interest towards the alternative concepts of economic development and its implications in education. Particularly, it presents six theoretical concepts on economic human development that enable the leaders and the teachers’ staff of the institutions of higher education understand that the growth and integral development of a country does not only reside in the fruits of a specific ideology or economic system, in a precise period of time, but in the integral human development of the peoples, of their culture, their customs, their idiosyncrasy, their means of production, research with other nations, among other ways of expressing their identity and their ways of life. These concepts are: 1) economic and social growth, 2) self-sufficiency, 3) interdependence, 4) self-determination, 5) knowledge as a transformation strategy, and 6) integral human development. Thus, the analysis of these concepts with the purpose of exploring alternatives of use for the development of future research works is suggested.

The seventh chapter by Rivas and Cardoso focuses on the evaluation of professional skills of the graduates in the area of tourism. This chapter deals with the identification of the professional competences in tourism teaching and its relationship with knowledge management, in order to derive in the quality of human capital as well as their work performance at optimal levels. Thus, the authors emphasize that the competences required for this sector are not only individual but also social and participatory, beyond the procedural or methodological techniques.
Meanwhile, the second section of the book deals with four interesting themes and which are set out below:

The eighth chapter prepared by Briseño, Cardoso, García and Mejía, addresses the educational opportunities for the graduates of the higher education level. This chapter focuses on education as it enables individuals to add value to the economy, by contributing to the cultural heritage, to participate in the society, to improve their health, to protect the environment and to increase their ability to continue developing. Therefore, it is essential that the educational system promotes educational opportunities for distributing them proportionally among all the social sectors, and to foster that the graduates may enjoy performance occupations where they can take advantage of the education acquired.

The ninth chapter by Alfaro and Skewes relies on the assessment of leadership competences held by the directors of middle school education. This chapter focuses on the importance of the educational leader of the guided institution and the intrinsic link that it has with knowledge management. This link is generated from the need to obtain and share the intellectual property to achieve optimal results through the use, above all, of the intellectual resource to promote a more global competitive education. In this sense, we must highlight the skills that the leader must possess, develop and optimize, so that the education center, where he performs his management, fulfills the quality demands of today’s society.

The tenth chapter formulated by Zepeda focuses on the evaluation of the teaching skills of middle school education. The chapter addresses from the model based on competences established by the IPN, the existence of eight teaching competences evaluated from the attributes constituted by knowledge, skills and attitudes that are applied in the classroom, in order to generate learning environments for students to develop their own competences and, thus, achieve the graduate’s profile. The overall objective of the chapter was the design of an instrument of evaluation of high school, so that the students may determine the development of teaching skills.

The eleventh chapter prepared by García, Mejía and Briseño, focuses on the performance of the students in the assignment of mathematics and its influence on academic management from the perspective of soft systems. The chapter starts with the development that the countries have acquired as a result of the process of economic globalization, which has established various challenges to the economic activities in all the world. Numerical, mathematical and digital skills are very important to fully participate in the knowledge society. Also, this chapter considers the Checkland methodology as an alternative manner of analyzing the object of study in those situations where a high rate of human intervention exists, such as education. This chapter is organized into three sections: the first one is related to the factors involved in school performance, the quality of education and the impact that math skills have on high school; the second section is focused on the characteristics of the Checkland methodology applied to mathematics, and the third, is a key proposal of options for the design of the motivation of students for a better learning of mathematics that allows the evaluation of the institutional management observed in a determined subject and the improvement of the educational levels.

While the third section of the book contains two new topics: The evaluation of the academic management as a key success factor in knowledge management done by Bueno, as well as an evaluation of the curriculum program in English and the derived impact on the generation of knowledge carried out by Bicaires, Cardoso, Briseño and Garcia.

The twelfth chapter formulated by Bueno deals with several elements through a network of processes that build a quality academic system in a sequence “of planning diagnosis management.” For collecting the information that would generate these criteria, the author used a Likert-type questionnaire of 30 students and 8 teachers. Also, an interview addressed to one of the managers of the indexes database
standardized by the Ministry of education to obtain the self-evaluation took place. The gathered information has produced the value judgment that, when applied to the evaluation of the academic management, some of the results were highlighted. Finally, this research is aimed at the design of a proper proposal to guarantee that school management accomplishes the quality knowledge-applied management processes, and the improvement of self-evaluation services.

The thirteenth chapter elaborate by Bricaire, Cardoso, Briseño and García relies on the study of the teaching programs of foreign language, especially in the countries of Latin America, to go in line with the policies of quality demanded by agencies in the case of Mexico, where the Second Program of Study Development of Languages (English) represents a new model for the teaching of this language as a second language. The chapter seeks to provide the indicators that assess the academic management of this secondary program-level, based on the general theory of systems and, above all, in the search for considering such criteria as quality education: teachers; the processes of teaching and learning; support materials; infrastructure and training; certification; subject index accreditation; learning products; planning; students and address. The main conclusion of the study is to demonstrate the need to develop the indicators that can serve as a guide for the constant improvement of the program management and to ensure that the students learn English in a significant way.

Therefore, the impact of the book is to provide studies on systemic evaluation of knowledge management at different levels, areas and educational programs in various institutions, so that the public to whom it is directed are academicians, researchers, students in higher education, as well as administrators of universities and research centers. The reason is that this work provides up-to-date and useful information for learning about the importance of knowledge management in the field of education.

Thus, the work provides a set of contributions on knowledge management in education, such as:

- To identify the relevance of human capital for the prosperity and development of the organization.
- To generate integrated processes and teamwork in the institutions.
- To create a culture of continuous learning, both personal and organizational.
- To enable the development of not only basic skills, but also specific and transversal-type skills, which are used in the job area and personally, as well.

That means that the social function of education is recognized in the knowledge society who has established structural transformations in two ways: the first facing a paradigm shift aside from a model based on the transmission of knowledge to another based on the integral education of individuals; while the second is focused on an increase in the flexibility of the educational system where life-long learning is encouraged. Moreover, the programs must be transcendental, so that the needs of the productive and services sectors of a country are covered.

Therefore, this work aims to contribute to the generation of process-oriented educational organizations towards the formulation of a set of strategies that will enable them to promote policies and practices directed towards turning knowledge into a strategic asset that can be capable of generating a competitive advantage and a quality education by the use the technologies of information as tools for knowledge storage and dissemination.

Finally, this work by incorporating the evaluation of knowledge management in education seeks to constitute itself as a methodological tool for assessing the performance degree of the skills included in the curricula, in order to propose the respective adjustments and, thus, meet the quality criteria.
Preface

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REFERENCES


CEPAL. (2010). *Espacios iberoamericanos: Vínculos entre universidades y empresas para el desarrollo tecnológico*. Chile: CEPAL.


