

# Chapter 71

## Impact of Mathematics School Performance at Middle School for Academic Institutional Management Based on the Checkland Methodology

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### ABSTRACT

*Currently the development of countries has acquired importance as a result of the process of economic globalization, which has established various challenges to the economic activities worldwide. So numerical, mathematical and digital competences, are very important to participating fully in the knowledge society. Thus, the chapter proposal considers Checkland's Methodology as an oriented alternative to analyze the object of study in situations with a high rate of human intervention such as education. The chapter proposal will be organized into three sections: the first one related to the factors involved in school performance, the quality of education and the impact that have the math skills at middle school; the second focused on the characteristics of the methodology of Checkland applied to mathematics, and the third, a key options proposal for designing to the students motivation for a better mathematics learning that allows assessment of the institutional management in performance in such subject and increase educational standards.*

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## **INTRODUCTION**

Currently, the development of the countries has reached a vital importance as a result of the process of economic globalization, numerical, mathematical, competencies are therefore very important to fully participate in the knowledge society and the competitiveness of modern economies.

Which quality education involves providing children and youth the real and effective access to knowledge through a solid formation. This includes the need to prepare students, through processes of learning real.

Therefore in the chapter proposal considered Checkland as an oriented alternative methodology to analyze the object of study, in order to study it with a vision of transformation.

The proposal of the chapter will be organized into three sections: the first related to the factors involved in performance on math and the impact of the Middle High Education (MHE) and Higher Education (HE); the second channeled to the characteristics of Checkland methodology applied to mathematics; the third a proposal of key points for the motivation of adolescents and raise educational standards of the MHE in Mexico.

## **IMPORTANCE OF DEVELOPING MATHEMATICAL THINKING IN KNOWLEDGE MANAGEMENT**

In today's world new ways to obtain indicators seek in various fields of study and disciplines such as the scientific production within the knowledge management as well as the mechanisms that make possible a more efficient learning in various educational systems.

On the other hand the International Institute for higher education in Latin America (IESALC-UNESCO) said clearly in its policies that "it is necessary to consider new forms of knowledge management to upgrade the teaching methods used in higher education" also mentions that it is of vital importance "fostering the development of institutions of higher education based on strategic programs" generate flexible academic and organizational structures, implement new structures, decision making and driving modes, moving toward a responsible of the University management culture and apply a reengineering of management processes".

In this context the importance of developing mathematical thinking in the knowledge management is vital as a fundamental and basic necessary knowledge for the scientific and technological education. On the other hand through various methods and techniques of research inadequacies in the process of training of students as have been detected to obtain, process, evaluate and communicate mathematical knowledge which does not take advantage the potentialities of mathematical thinking for the integral formation of the students.

Thus also mathematics allows students build their thinking and reach capabilities to understand their environment and take part more appropriately. These must also be seen as skills necessary for understanding and the occupational and cognitive interactions of contemporary societies.

On the other hand it is worth mentioning that the development of mathematical thinking is an essential part in management of knowledge for competent social action of the people, in a context marked by a society of knowledge in an economic and cultural globalization. Also the mathematical thought contributes to successful performance of people in situations of social and cultural reality using aware

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