

## Systemic Education in the Global Age

### Abstract

*These days we live in a society which is ever becoming essentially globalized and fundamentally affected by both decisions made irrespective of our will and events that take place far from us. Consequently, we are constantly under the pressure of global, cultural, social, economic, technological, and environmental tendencies and changes which come about very rapidly. Therefore, it is our duty and that of the entire society to increase students' ability to think systemically in order that they could be able to face this ever globalizing world, think constructively of their future and the role they will play to shape it, and learn from the past systemic education has found application in all fields of science. It is related to the names of two professors, Fahmy dhe Lagowski, who gave a global vision to the science of education, which constitutes one of the most significant characteristics of globalism. The general strategy of systemic education has been based on the collection, systematization and presentation of the map of concepts through the interactive system which all who study resort to in order that they could clarify their concepts and issues. This way of thinking constitutes one of the most important characteristics of globalism because it increases student ability to find the main solution to the problem. In this way students' capacity to think systemically is improved and their creativity is increased.*

**Keywords:** *Systemic Education, Systemic Approach, Linear Approach*

## **1- Instead of Introduction: Systemic Education in the Global Age**

We live in a globalized era and we are able to see the global politics, the global economy, cultural and architecture. At this time, the students interface a society that attends to be every day even more essentially globalized and it is affected deeply from the decisions and the events that happen not in their presence. They are continuously under pressure of changes of cultural, social, political, economical, technological and environmental inclinations that happen very rapidly.

The period that we live in indicates us to come up with a reform for the education of this generation. For this reason we have to create a generation that is capable to understand what is happening in the world around them and at the same time not to lose their identity and to be able to positively interact with the new nationwide system ( Eilks &Byers, 2009). This positive interaction can be successfully reached using the new methods that are able to increase the capability of systemic thinking. A successful method is the systemic approach in teaching and learning ( SALT) .

The vision of this method it is dictated by:

- a- Globalism
- b- Environmental problems
- c- The wrong interact behavior with the organism
- d-Terrorism

The systematic education will prepare students that will be capable to live and interface this globalized world that is growing every day, these students will be able to be active members of the community and contribute for a better future. This education includes the learning of the problems and issues that are passing up the borders of the nation. It includes the opening of new perspectives, and this means to take a look at the things with the eyes and the mind of the others. Even though the individuals and the groups might have a different vision of the life but they might have the same needs and desires.

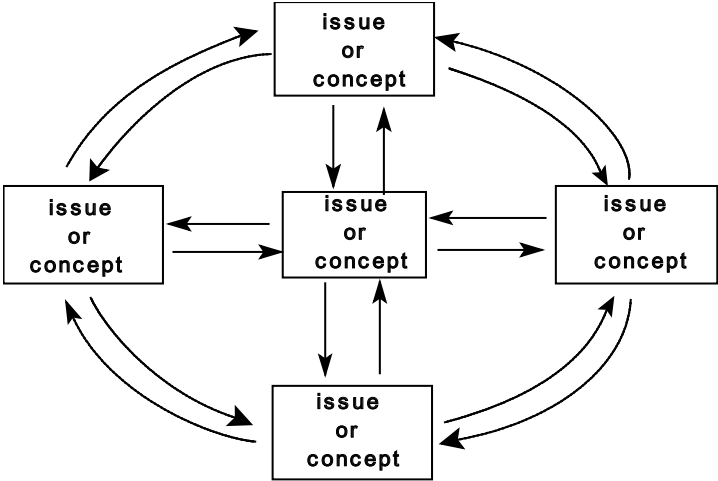
## **2- Methodology**

The strategy of the systemic education includes the elements that actually are missing in the traditional teaching. The difference starts with the teaching methods because these methods constitute in the essential cycle of the systematic education. No matter how good the content might be, without using the successful methods the curricula will fail. The teaching methods have to do with questions like: what kind of activity and materials can make studying easier? What resources should we use for studying? How to organize the students in the studying activity? In this article, I used the literature, my personal experiences and foreign professors' experiences, Fahmy & Lagowski in nationwide conferences as well.

## **3- What is the systematic method in teaching and learning?**

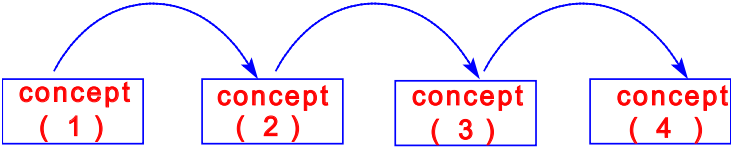
With the systemic method we understand the regulation of the concepts or event through the interactive system in which the whole interactions between the concepts and issues get clarified. In contrary with the strategy of the usual concepts map, that includes the creation of

a concepts hierarchy, this method creates a concept system that are closed, a cluster concept that emphasizes the interconnections (Fahmy & Lagowski, 2003). That makes the student able to coordinate what he/she has learned previously and what they will study in every learning field through the specific and clarified plans, to prepare for a specific subject or a specific branch. (see figure 1 )



**Figure 1.** *The systemic approach of teaching and learning(SATL).*

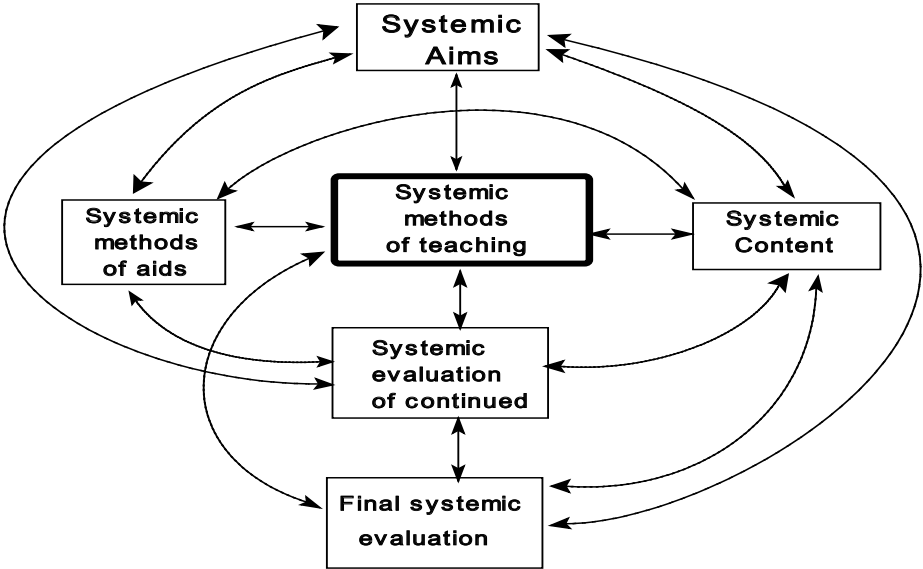
This complex scheme according to the systemic model introduces some innovations in relation with the teaching and learning and it demonstrates one of the opportunities of skipping the traditional linear model in the transmission of the acquisitive knowledge (Fahmy & Lagowski, 1999)



**Figure 2.** The linear approach in teaching and learning (LATL).

The innovation in teaching and learning in systemic education it is the partnership between the professor and the student, this makes up the base for the teaching model in modern education theory and practice. Due to the linearity of each component in the system it is noticed a low performance in the actual educational system. (Figure 2). In order to benefit amaximal performance of the system it is necessary that each component to act as a subsystem (figure 3).

**SYSTEMIC EDUCATION IN THE GLOBAL AGE**



**Figure 3.** Systematic cycle of the education

#### 4- The systemic interaction in the studying fields

Thinking process occurs in the human brain. The study of the brain led to the hemispheres theory as a discipline for its function. This theory studies the left and the right hemisphere of the brain and concludes the characteristics for each of the sides (Anderson & Drathwohl 2001).

The research shows that in the process of visual, nonverbal, abstract, divergent and intuitive thinking occurs in the right hemisphere. So the right hemisphere works and creates more than the left hemisphere which it works with the specifications and analysis. This shows that there are differences in the function of each hemisphere. That is why this should be understood as help for the engagement of the two hemispheres. So this research tells us that the traditional learning it is focused in the left hemisphere in the cognitive, analytic and convergent functions of the brain. So we can see that the creative function that develops in the right hemisphere of the brain gets ignored. Not willingly the students don't get a fully education. Due to this, the professors should use the methods that engage the creative functions that are a characteristic of the right hemisphere of the brain. The results show that we can get a better achievement in the thinking development when the connection between the two hemispheres is possible, as more as you keep ignoring the right hemisphere functions, the affectivity of studying gets weaker, because this part of the brain it is directly connected only with the left side functions. (Anderson & Drathwohl, 2001).

Relating to this, in the late decades of the last century, special emphasis has been put on the cognitive field, aiming at improving students' critical thinking skills (Novak, 1998). There are three fields of studying: the cognitive, emotional and psychomotor field. The cognitive field: it has to do with the memory and the knowledge, with development of intellectual capabilities. Emotional field includes: the feelings, attitude, beliefs, and the full spectrum of the values and the value system.

Psychomotor field has to do with the accomplishments of the objectives that have a connection with the formation and the development of the adept and movement expressions, this is achieved through their engagement in practical activity (Singh, 2005). This field covers a part of the studying programs that handles the development of abilities in the organization of the movement activities in humans (see figure 4).

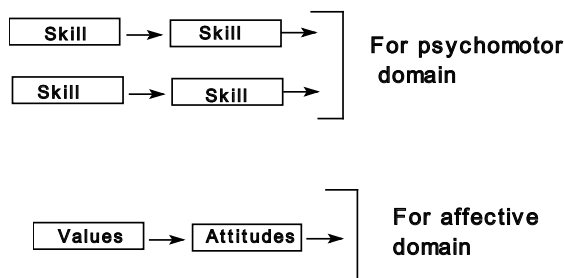
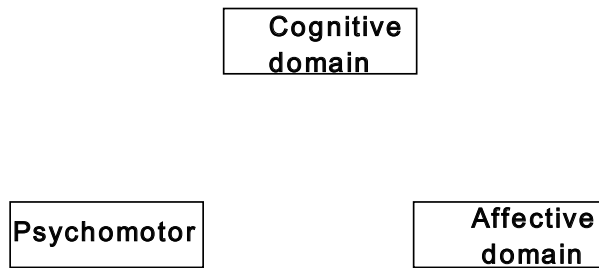


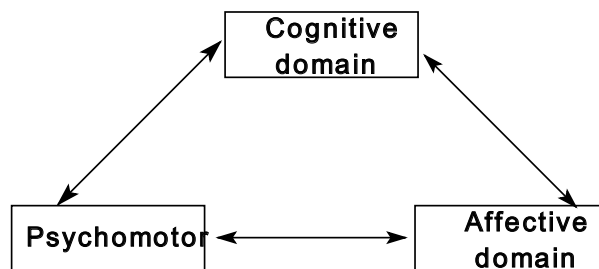
Figure 4. Linearity in each domain.

The professors should connect the different study fields (cognitive, psychomotor, and emotional) and emphasize one and ignore the two others. In this model we notice as low interaction of actual study fields (see figure 5).



**Figure 5.** *Systemic reform f educational domains reinforces the interaction between them.*

These fields are defined as criterion in education. These three fields act simultaneously and in n integrate way. This can be achieved through the interaction of cognitive, psychomotor and emotional field (Orlich, 1993).



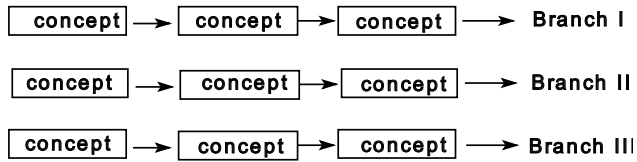
**Systemic form for all domins**

**Figure 6.** *Systemic form for all domains..*

The emphasizing of the systemic connection in these fields happen as a consequence of understanding that we cannot create a technologic modern society without people that understand the changes, that use the information , that analyze the problems, that know how to create and value the solutions (see figure 6).

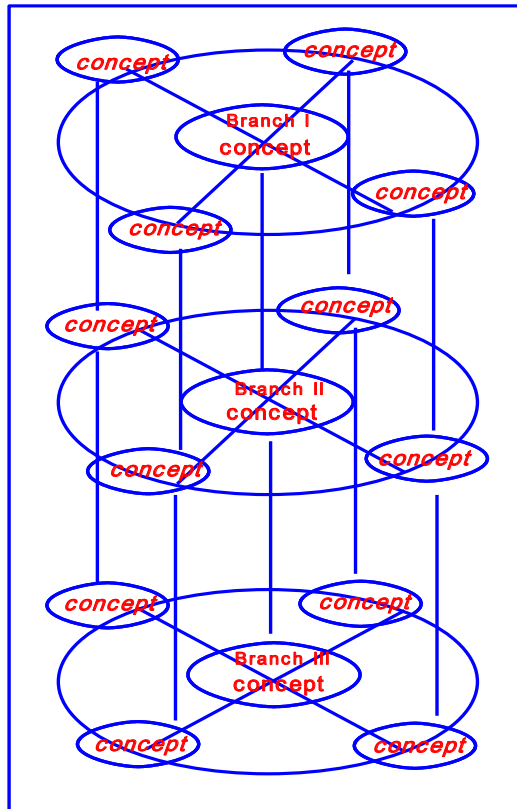
**5-The systemic reform of the linearity fields in studying the concepts in different branches of the science**

There are many concepts that have the same roots in different branches of the science and are able to help the students to interface the difficulties (Uljens, 1999). These concepts should be taught to the students in an understanding way regardless of artificial border.



**Figure 7.** Linear relationship for each branch of science presented in a separate forms.

The linear connection between the concepts in different branches of the science it is displayed in figure 7, whereas the proposed form of concepts of different branches of science in the systemic method in teaching and learning it is displayed in figure 8 (Fahmy & Lagowski, 2003).



**Figure 8.** Form of SALT concepts of different branches of science.

## 6-Results

Systemic education is based in systemic curricula. Systemic curricula it's based on the objectives, content, methods, study material and the evaluation. In systemic curricula the objectives should create a system. The content should be organized based on the systemic

method. Teaching method should be systematic from the beginning until the end. The study material should be systematic and helping to learn a systematic unit.

All the curricula components should interact and should be in harmony with each other so they can create a systematic, then the evaluation comes step by step from the beginning of the systematic learning unit until the end. Also should have a systematic connection between the study fields (cognitive, psychomotor and emotional).

## **7- Discussions and Conclusion**

The systematic education is a new vision and necessary for our modern technological society which requires the civilians to elaborate and use the information and not only accumulate it. Through the systematic education it is predicted the development of understanding activities because:

- a- It creates the right key to open the door for the upper levels
- b- Induces the potentials and the resources of the brain
- c-Allows the use of the information in order to solve the problems and to accept the solution.
- d-Creates the base the later on processes which are more complicated
- e-Increases the ability in systematic thinking
- f-Increases the maximum of the connections between the concepts in different fields of science.



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