INTEGRATING TOC METHODOLOGY INTO COMPUTER AND INTERNET LITERACY COURSES IN A TEACHERS' COLLEGE

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This paper describes the procedures and results of applying learning activities that integrated computer and communication applications together with the Theory Of Constraints Thinking Tool to achieve "Ambitious Targets" in several computer courses in Levinsky teachers' college from September 1999 to June 2000.

Educators who apply TOC tools in education suggest that these techniques can lead both teachers and children to a clearer understanding of their needs (Dettmer, 1996; Suerken, K., 1999, Glatter, G., 2000, Weissenboim, V & Weiss, N. 2000) and identification of the obstacles that block implementation of the intermediate goals in order to achieve their final targets.

In order to evaluate this claim, 12 teachers' college trainees and 18 professional teachers from 3 computer courses, were introduced to the TOC tool:" Achieving an Ambitious Target".

Before the course, I used the tool itself for Pre-Action Reflection (my definition) to identify and define my goals for the course. My Ambitious target was:

> **The students have a positive attitude towards using the ATT tool together with computer and communication; they are using the ATT in their private and professional lives**

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Obstacles	***Intermediate Objectives***
1. They don't know how to use computers	1. Practice, practice, practice
2. There will be difficulties in understanding the PRT tool	2. Check the goals of the students for this course, discuss the implementations of using the tool, the obstacles and the solutions
3. No interest	3. Choose relevant targets, change the lecture according students' feedback
4. No motivation	4. Emphasize motivation expressions, create an atmosphere of solidarity and support
5. The tool requires a lot of thinking	5. Learning the tool step by step, target oriented
6. Not everyone has a good opinion about new tools	6. Accept it
7. Difficulties in arranging the lecture	7. Build an efficient lecture, prepare well, learn from lecture to lecture (Reflection in Action & Reflection on Action - Schon, 1983)
8. Too many students in the classroom	8. Prepare individual activities

At the end of the courses the students responded anonymously to a computerized open-ended questionnaire, designed to probe their attitudes, behaviors and feelings towards these activities.

Results (in percentages):

The question	Positive/ very positive	Indifferent/ not applicable/ not using	No answer
I think that the tool "Achieving an Ambitious Target " ?(open ended question for students to personalize answers)	90	3	7
I feel that the tool "Achieving an Ambitious Target " ?..	90	7	3
I am using the tool " Achieving an Ambitious Target " ?..:	73	7	20

The results show that most of the students and the teachers have positive attitudes towards making use of the tools of Theory of Constraints in Integrating computer and communication in the classroom. They believe that using a computer for mapping out detailed obstacles and the actions required to overcome them is a very useful way to achieve a change.
In addition, they make use of the tools and are willing to adopt and apply them in their own classes and in their private lives.

The results imply that the activities mentioned above were successful and should be included in the curriculum of teachers' education programs. It is suggested that further research in regards to integrating computer and communication applications together with TOC tools should focus on other TOC tools, such as the "Evaporating Cloud", the "Current reality tree", and also the application of the TOC tools to the "Six Levels of Resistance to Change."

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