



# 14<sup>th</sup> International Conference of the TOC Practitioners Alliance – TOCPA

[www.tocpractice.com](http://www.tocpractice.com)



## To unlock schools' potential with TOC



## Dr. Shoshi Reiter

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## Dr. Shoshi Reiter, Israel.

International educational expert. Owner of TOC for Human Development center .



She specializes in SRL and Theory Of constraint (TOC) for service organization: municipally, well-faire institute and employment.

Dr. Reiter is currently involved in many projects of research, consulting and coaching, for innovation and on-going improvement of education within the ministry and private systems.

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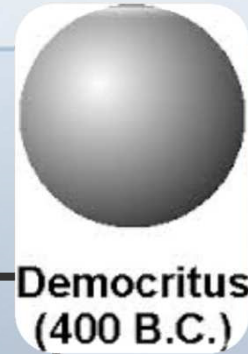
# What do we mean by innovation?

Visionaries view ...

*“Science isn't a matter of believing only what we see. But Seeing by Believing”*



Dr. Eli Goldratt





# TOC FOR SCHOOL INNOVATION

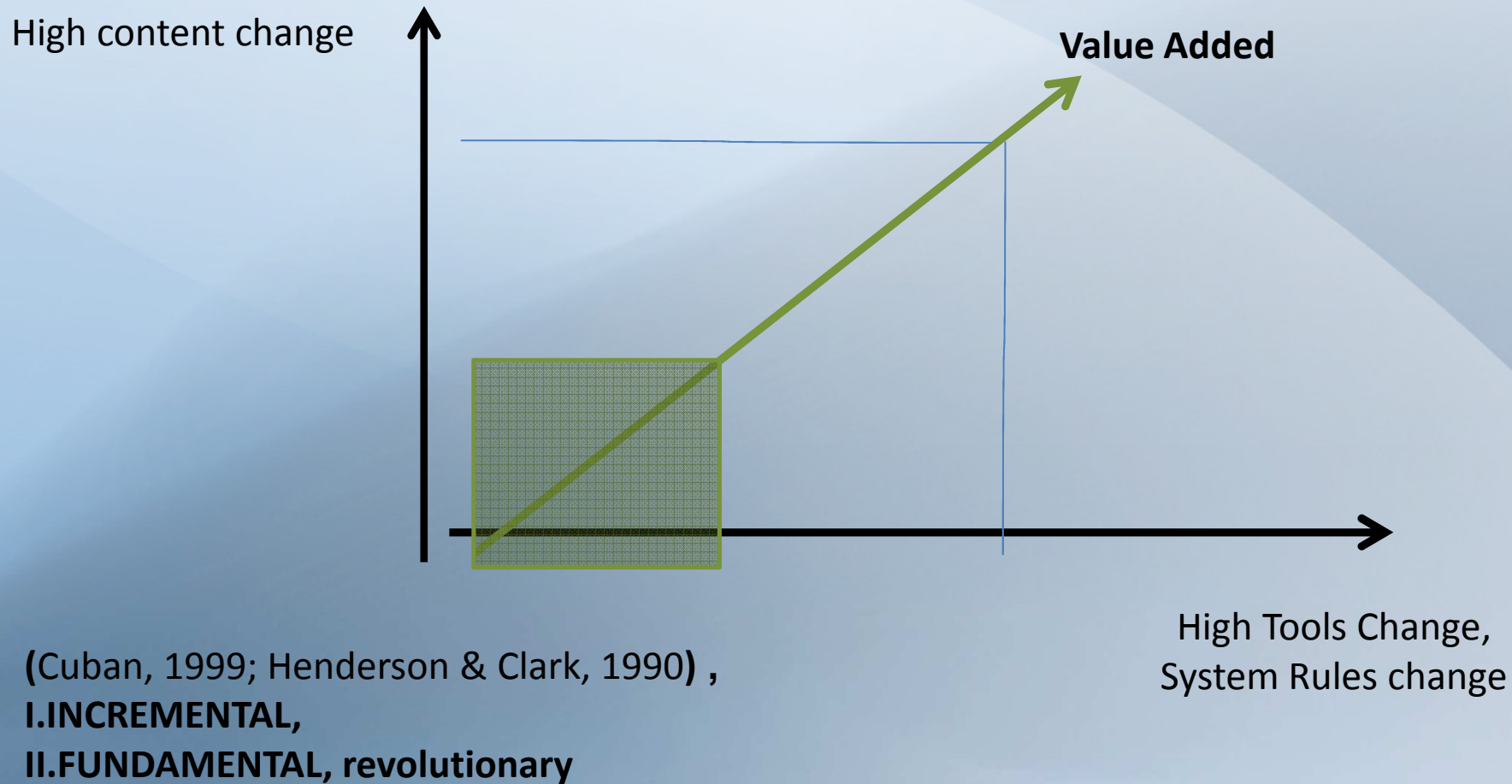
## Goal of Presentation

- The use of TOC in the work with the Ministry of Education - TOC Innovation methodologies model.
- TOC working with teachers and pupils in schools management- A Breakthrough model
- To change or not to change??? – That is the question...

**UNDERSTAND, APPLY, ENJOY**



# Innovation (??)



## 1. Why Change?

What is the dream?  
What is added value?  
What is the new reality we want to create?

## 2. What to Change?

Identifie the System Constraint

## 3. What to Change to?

Get the most out of the constraint  
whithout expensive changes or  
upgrades

## 5. HOW to create POOGI?

Go Back to Step One, Beware  
of Inertia

## 4. HOW to cause the change?

Adjust the system in order to get the  
most of the constraint

## Target Zone

### Why change?

**A change in  
Education Ministry  
Demands**

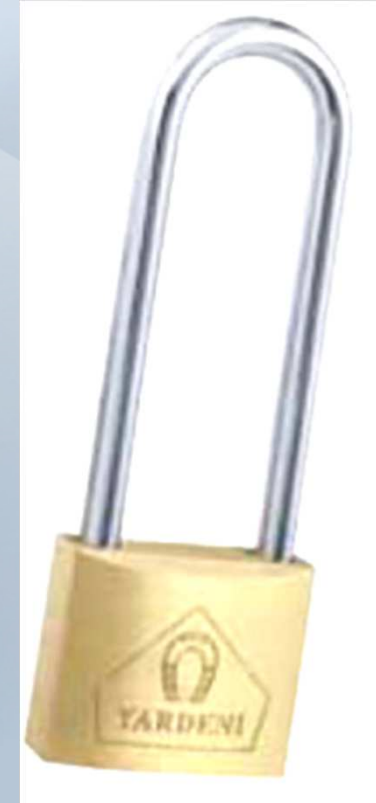
**Implications of the  
change on “Reut”**





Before:

Education Ministry  
Threatens to close  
"Reut" High School  
(!!!)

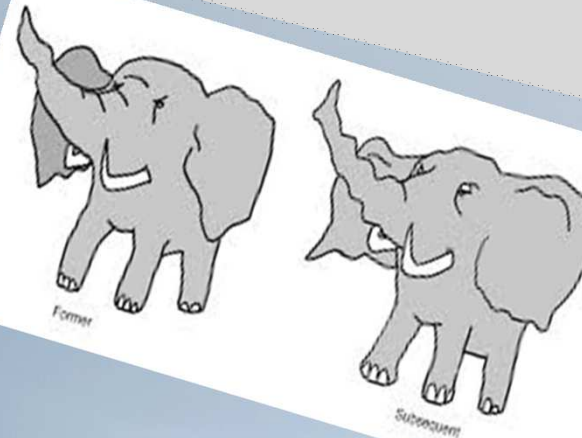




## Target Zone



Agility?  
Adaptive?





# Case study of “Reut” High School





# „Reut” High School students’ population (300 students)

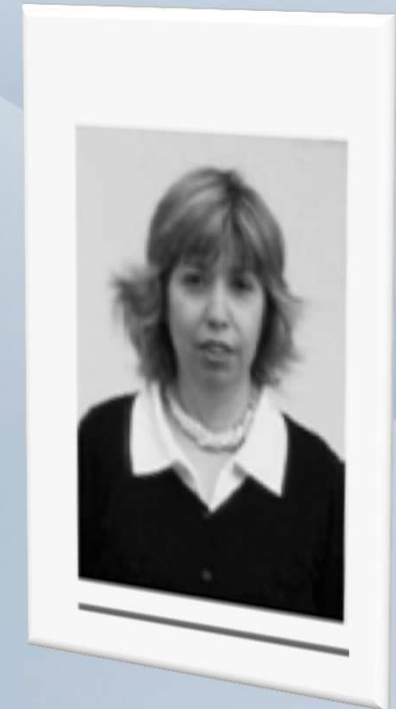




# Significant enhancement of academic achievement through application of the Theory of Constraints (TOC)



Rami Goldratt & Nava Weiss  
Tel-Aviv University, Israel  
“Reut” High School, Israel





# System management

## Theory of Constraints

Holistic analysis and implementation of TOC for educational systems, Since 1999.



The Goal: Increase number of students eligible for the matriculation diploma.

# Elements for success





## *WHAT to change?*

Undesirable Effects

Root Causes - constraint,

Core problem (conflict)

**Current  
Reality**



# What to change?

## *Focusing on the Constraint – teaching resources*

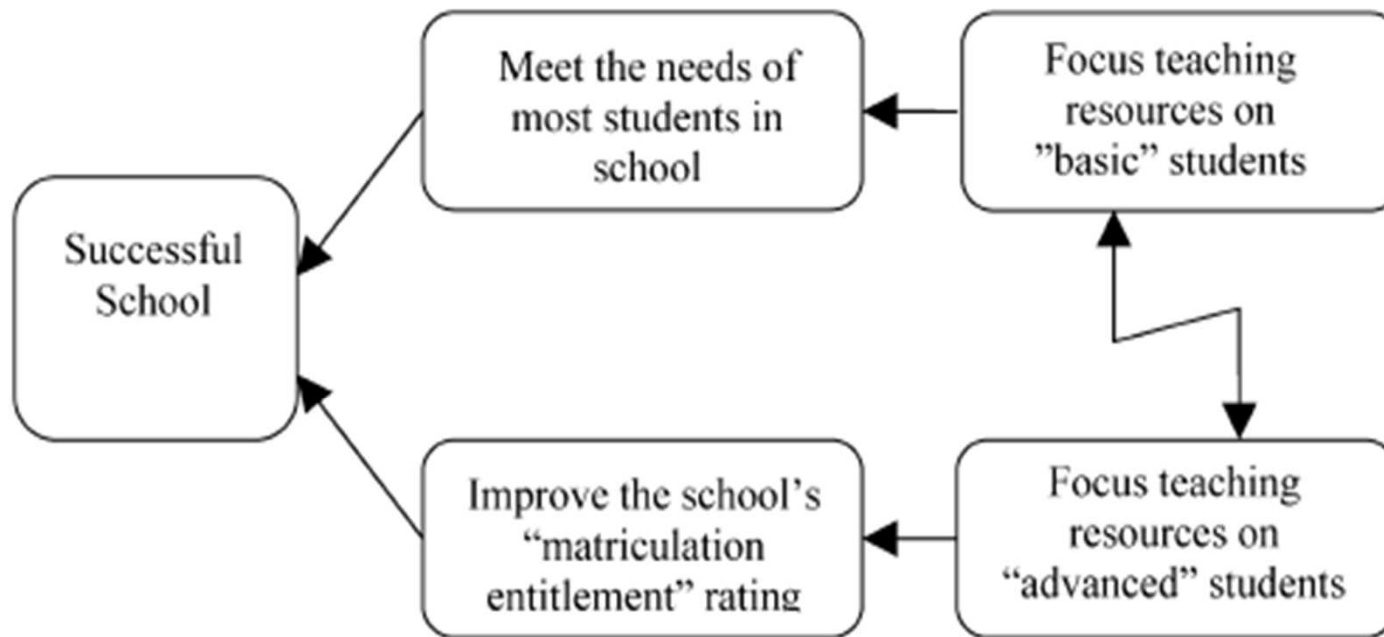


Fig. 1. Core problem – resource allocation.



# What to change to? What is the solution?

~~Increase the pool  
of resources~~



~~Regulate the academic  
level of students  
entering schools~~

# THE CHALLENGE

On Time

Within Budget



Within quality



# Total Quality Management (TQM)

organization-wide efforts to install and make permanent climate for continuously improves its ability to high-quality

**products** and **services**

to customers.

**In schools,**

Total quality means promoting learning for all (DuFour, & Eaker , 2008)



The common goal by TOC,  
**And** the needs must be fulfilled.

# Promoting?

## What do We mean by that?

**All students + All subjects =  
waste of system resources**

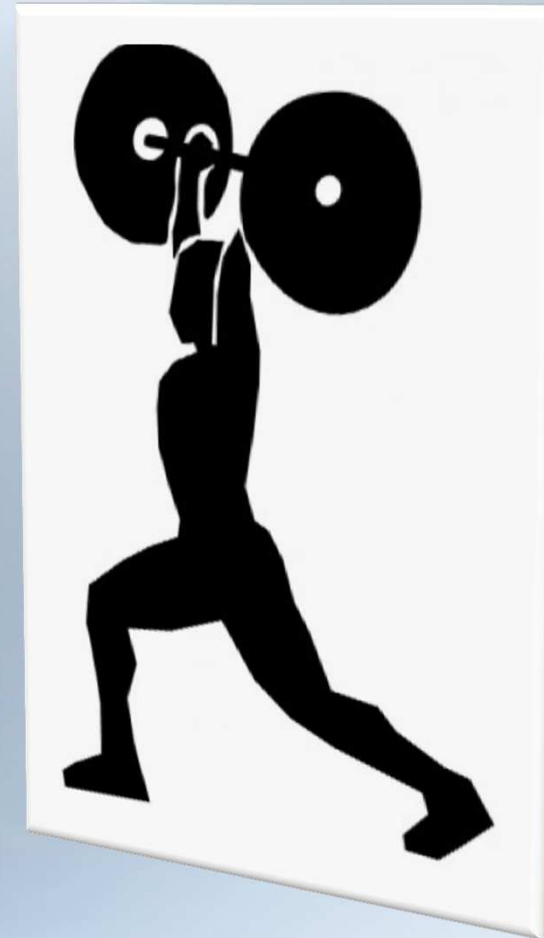
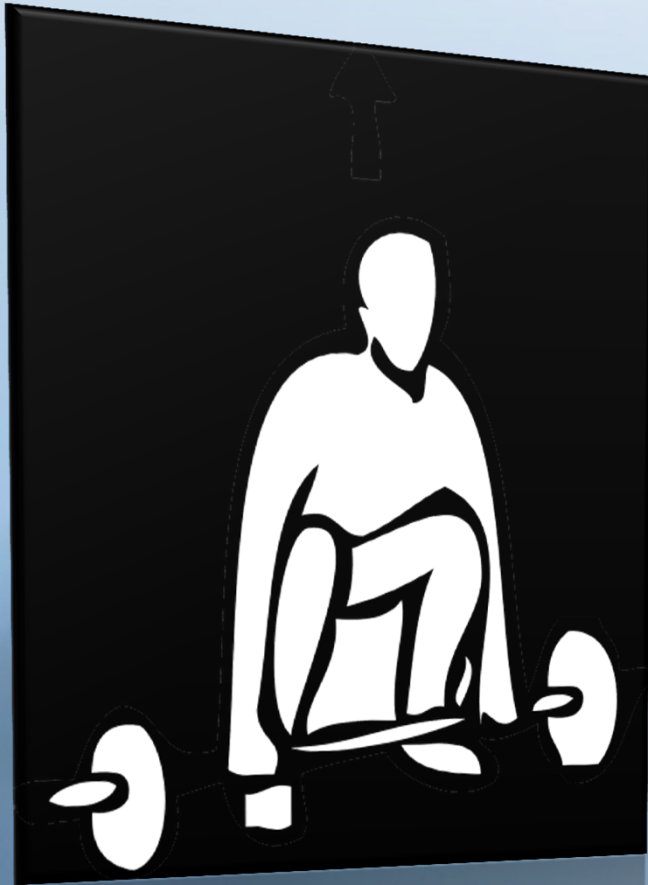




**All students +All subjects**

**=**

**Creating Frustration**



- TOC in ONE Word...



- **Target-Value , Clarity**

# What to change to? What is the solution?



“Basic” students - limited number of subjects.

“Advanced” students - required extra resources.

Raise school Academic Level.



## *What to change TO?*

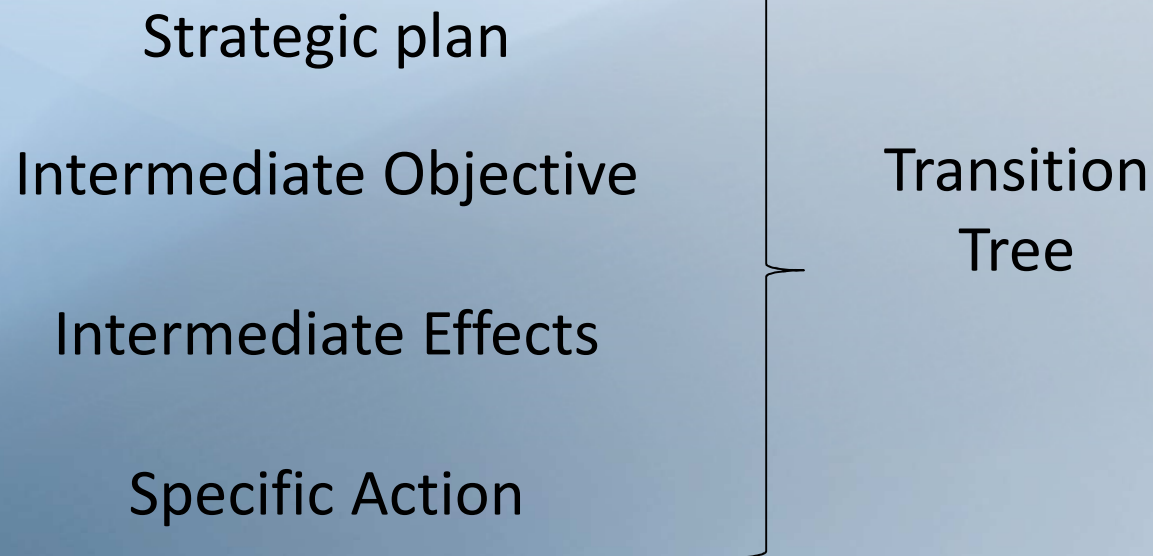


**Future  
Reality**



# TOC Methodology

*How to CAUSE  
the change?*





## *How to CAUSE the change?*

Adjust the system in order to get the most out of the constraint

Subordinates all educational school resources to a comprehensive plan



# Basic Assumptions

- ✓ The Vision must be internalized by all members of the school organization.
- ✓ School board and superintendent must have a clear plan of action (Deming, 1988).

Comprehensive plan built by the entire  
school staff (40 people)



# Raise school Academic Level.



Matriculation  
full diploma

A multi-year  
study plan

Allocation of  
“Advanced”  
group of  
students



Matriculation  
partial diploma

Definition of  
limited and  
specific subjects  
for matriculation

“Basic” group  
of students



# How to manage the change?

- A.** Provide extra learning hours to the entire “advanced” group
  
- B.** Provide a personal assistance, based on the difficulties of each student of that group.



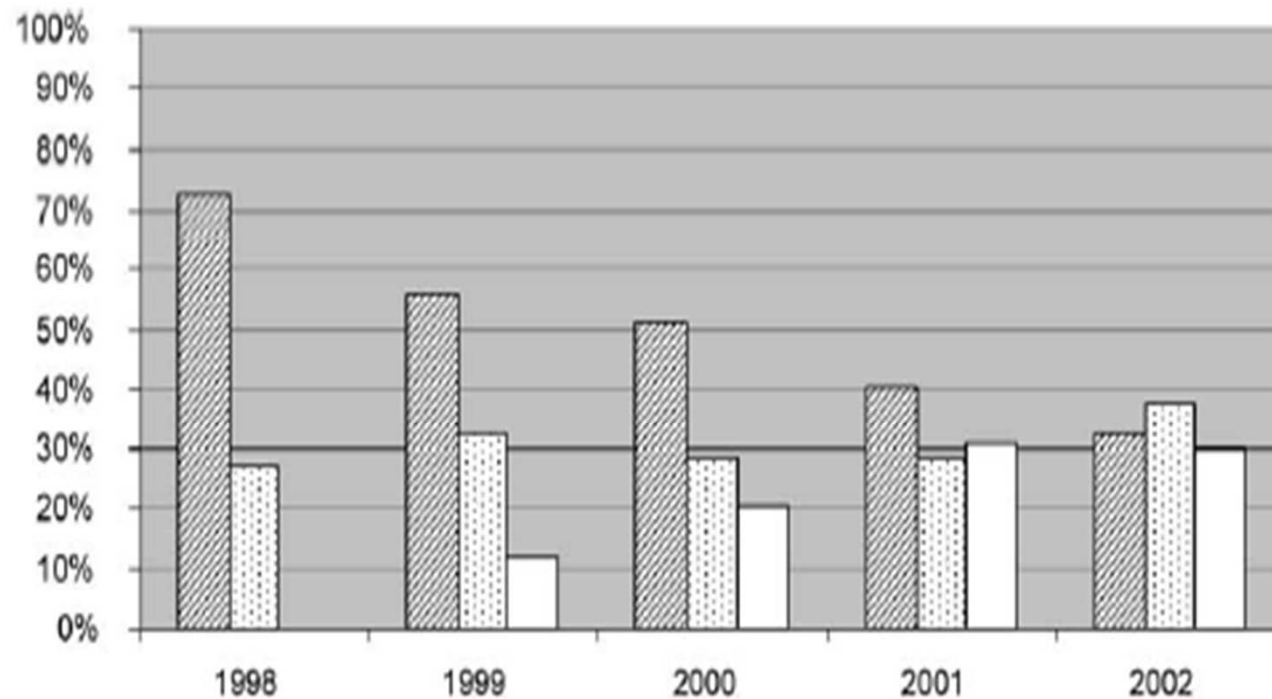
# How to manage the change?

## Continuous monitoring:

- ✓ Moving students from the “basic” group to “advanced” group.
- ✓ Supporting “advanced” students who may have problems.
- ✓ Creation of a plan for social programs that does not conflict with academic needs.



# Results: Student's achievements 1998–2002



 % missing >3 subjects  % missing 1-3 subjects  % entitle a diploma



# How to create POOGI?

Go Back to Step  
One,

Be aware of Inertia



# What's next? What to change?

## What Is the new obstacle?

Difficulties in passing all the exams were discovered relatively late!!!



# How to cause the change?

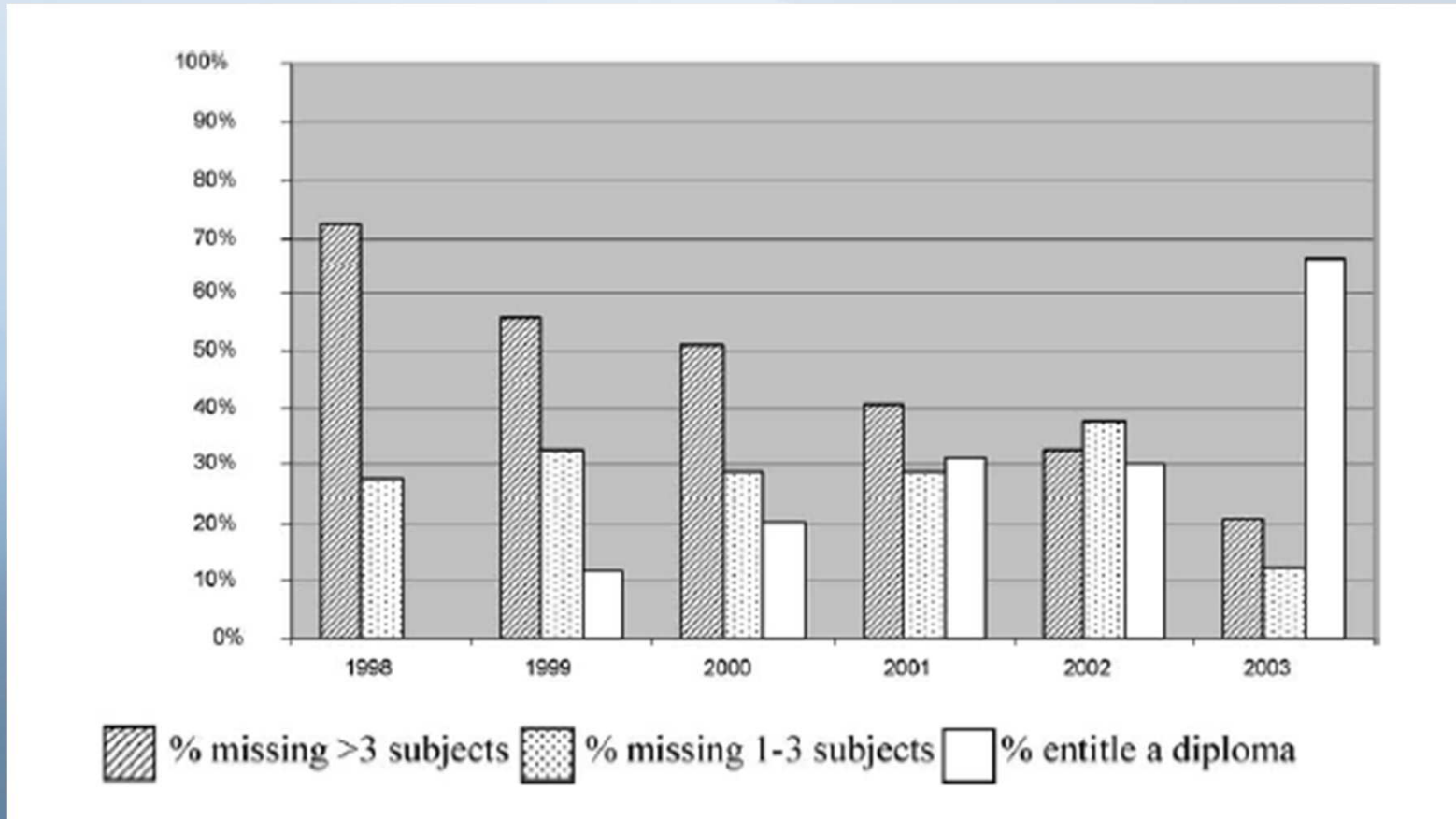
**At the student level** – the curriculum was rearranged

**At the school level** – about 5% of teaching hours were taken out of the tasks in each project to be placed as a protection buffer at the end of the process.

**Avoid “Bad Multi Tasking”**



# Fig. 3. Student's achievements 1998–2003



# Conclusions

- ✓ It is possible to significantly improve student performance, regardless of their academic base line.



- ✓ The improvement was made in a relatively short period of time, without additional resources.

After:



"Reut" High School !!!



To unlock the potential!!!

# Key Elements for success





# TOC FOR HOLISTIC SCHOOL INNOVATION

## TOC methodology

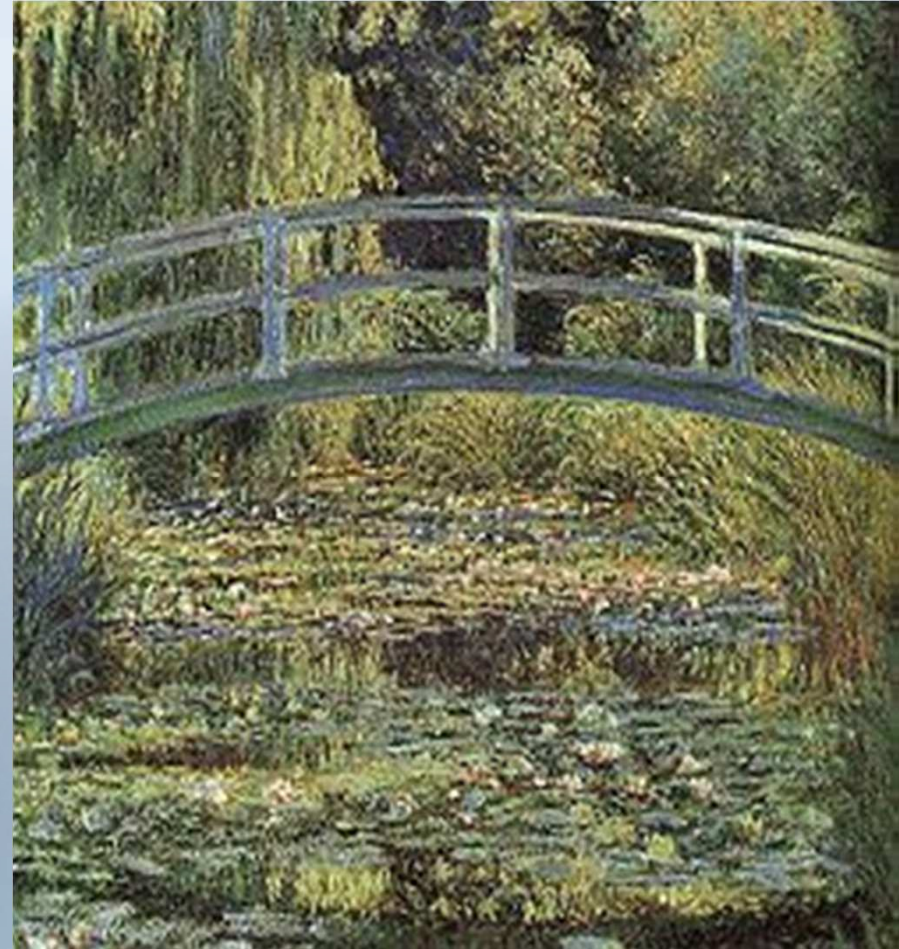




# What is TOC ?

**“Every improvement is a change ....  
but not every change is an improvement.”**

**Dr. Eliyahu Goldratt,  
*Physicist, Author  
and Creator of  
THEORY OF  
CONSTRAINTS (TOC)***



The bridge – harmony in green. Monet



## How is that different? **Holistic, Harmony, System(atic)**

What is your goal – do more of the same or create a new reality?



If you believe there is more to it -  
you can do it with TOC



# Benefit for participant:



From managing dissected silos to...  
maximizing the system's **flow**.

- ✓ Acquire and practice tools
- ✓ conflicts resolution -  
understand & find win/win  
solutions.



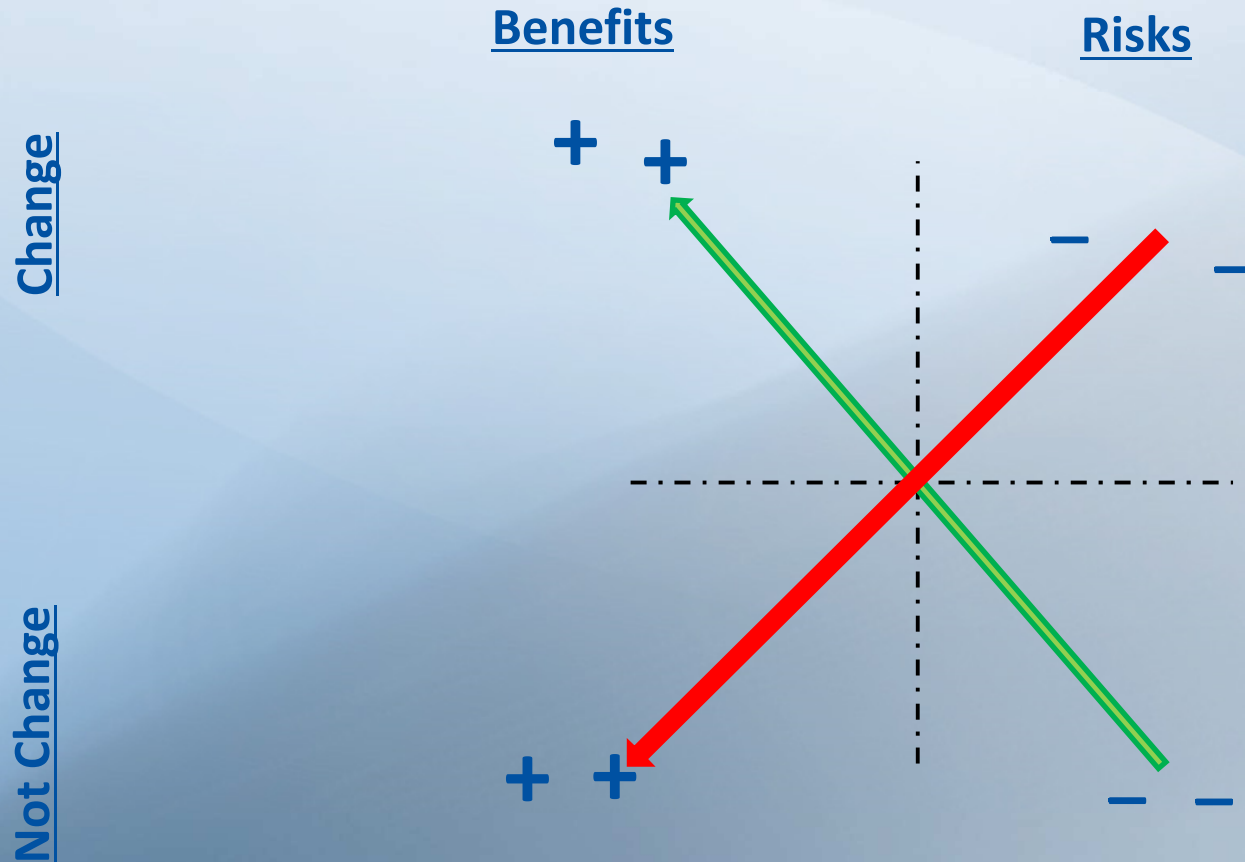
# Training for school innovation

Target audience: Principles, Coordinators, Champions

Step:	Content	Tools
1 <b>Why</b> change	Unlock the Potential: add value,	<ul style="list-style-type: none"> <li>✓ Change matrices</li> <li>✓ Engines of harmony</li> </ul>
2 <b>What</b> to change	Core problem/conflict	<ul style="list-style-type: none"> <li>✓ Logic branch</li> <li>✓ Build Conflict cloud</li> </ul>
3 <b>What</b> to change to?	Critical thinking win/win solutions.	<ul style="list-style-type: none"> <li>✓ Evaporating the cloud</li> </ul>
4 <b>How</b> to cause the change?	Creating a Strategic and tactics time line. What to keep /what to change rules of behavior	<ul style="list-style-type: none"> <li>✓ Ambitious Target</li> </ul>
5 <b>How</b> to keep the momentum ? ( POOGI).	Regulate and monitor the change <b>ACHIEVE ONGOING IMPROVEMENT</b>	<ul style="list-style-type: none"> <li>✓ All the tools.</li> </ul>



# “To Change... or not to Change...?”



**What Force (Vector) Drives you?  
Your organization? Other people in your arena?**



# Summary



- ✓ TOC is a managerial philosophy.
  - Common sense
  - All domains of life
- ✓ TOC is a prescriptive theory.
  - Effective tools - support and apply concepts
- ✓ TOC Thinking processes
  - To all situations
- ✓ TOC applications
  - Proven results
  - Often changes Rules & common practices



# TOC Learning Organization

Communicate  
clearly and focus

**Upgrade the  
value of  
school...  
Agility...**

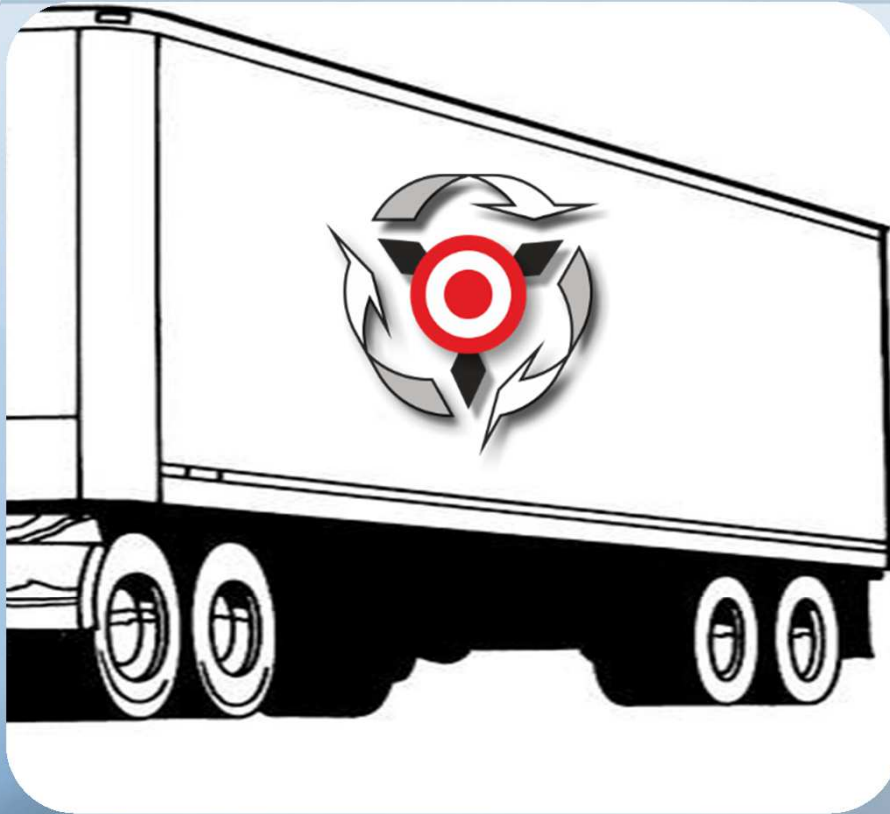
Eliminate  
limiting  
assumptions

View school  
as  
holistic  
System

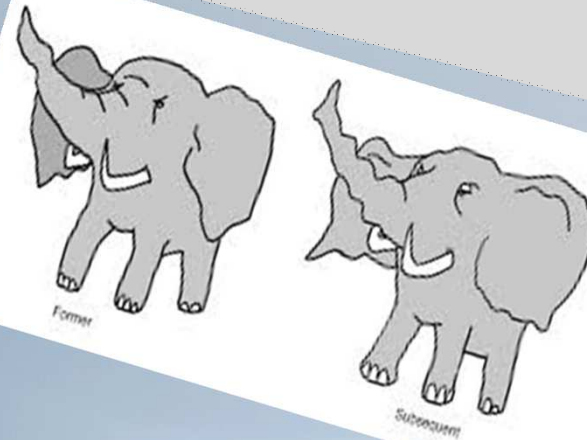
Hold and share  
vision



## Target Zone



Agility?  
Adaptive?





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Contact us: Dr. Reiter.

TOC for human development

- [shoshir9@gmail.com](mailto:shoshir9@gmail.com)



Together, We create the way!!!!