RESTRICTURING THE MARITIME FUTURE THROUGH EDUCATION

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Introduction: Education

- Instruction or training by which people learn to develop and use their mental, moral and physical powers (Webster’s Encyclopedic Dictionary).
- The process whereby new skills, knowledge, ability, and attitudes are created through the transformation of experience.
- Shaping the future.
- Creating a ‘Learning culture’.
Learning:

“Learning in most industrial settings results from problem-solving activity that is triggered by gaps between desired and actual levels of performance.” (Newell & Simon, 1972; Iansiti & Clark, 1994; Pisano, 1996)
Through learning, we:

- re-create ourselves,
- gain skills,
- re-perceive the world and our relationship to it,
- extend our capacity to create, to be part of the generative process of life.
Learning Organization

- Place where people are continually discovering how they create their reality.
- Purposefully designs and constructs its structure, culture, and strategy to enhance and maximize the potential for organizational learning to take place.
Current cases and problems are not limited to a sole field of study any more. Studies can be carried out through combining knowledge, skills and experiences of the team members from various specializations.
DEMAND SIDE

The Common Expectations of the Shipping Industry from the Officers revealed at a Forum held in İstanbul on Feb.19,2004

- Self confidence (independent thinking)
- Self schema
- Self determination, willingness
- Adaptation to changes (environs, technology)
DEMAND SIDE (continued)

- Communication skills, empathy
- Teamwork
- Innovativeness
- Theory into practice
- Maritime English
DEMAND SIDE (continued)

- **Complaints from professors:**
  Lack of interest, inadequate attendance, inefficiency in doing assignments, ineffective use of the knowledge given, lack of responsibility, time restrictions...

- **Complaints from students:**
  Boring lectures, monotonous lecturers, difficulties in taking notes, information irrelevant with the real life...
DEMAND SIDE (continued)

- There is an acute necessity to reform educational patterns towards concentrating on the mental process of meaningful learning (Deep Learning Approach) rather than on merely transferring unrelated information. Modern education deserves to be shifted to independent learning strategies (Rotgans and Nyst 2003).
SUPPLY SIDE

What is the method of teaching, in maritime education, that meets effective learning where student is fully involved, and the role of teachers is to facilitate learning, activating the prior knowledge, and motivation?
SUPPLY SIDE (continued)

Strategies used in Teaching (Kalkan2004):

- *Motivational Strategies (Why)*
  through intrinsic motivation (interest, wonder, doubt, needs)
  Learning objectives by students
  self-directed study,
  hypotheses,
  free discussions, feedbacks
SUPPLY SIDE (continued)

- Cognitive Strategies (How)
collaboration through;
listening/reading/writing/speaking
asking/answering/brain storming/
research/discussing/sharing/
summarising/explaining/clarifying
SUPPLY SIDE (continued)

- Metacognitive Strategies
  Learning to learn
  Learning to think
  Choosing the proper strategy
  practicing, monitoring,
  directing, evaluating/feedback,
  correcting, improving
  (GOAL-ACTION-FEEDBACK cycle)
SUPPLY SIDE (continued)

All of the above strategies will lead to

Self-directed study (self-direction, self-regulation, self-instruction).

At the end; to

life-long learning.
The Solution

- Effective and efficient maritime education programs ought to be reformed and adjusted in accordance with cognitive, deep learning patterns.

- Maritime education has got a multidisciplinary feature and hence needs a multidisciplinary approach.
The Solution (continued)

- The answer to this need lies in the **Problem Based Learning (PBL)** method.

- PBL contributes to the quality of education. Besides, encouraging self-regulation, the method contributes to the effective use of motivational, cognitive, and metacognitive strategies.
PBL

- A student centered method comprises small group sessions based on scenarios, presentations, exercises for professional skills, discussions, field studies, practices, self studies, and special study modules.
Structure of a PBL Module

- Independent Learning
- IT Computer Lab
- Maritime English
- Socio-Cultural Activities
- Professional Values & Ethics
- Professional Skills
- Communication Skills
- Field Study
- Practicals
- Counselling
- PBL Session
Integrated Knowledge in Maritime Education

ETHICS

POLITICS - INTERNATIONAL RELATIONS

INDUSTRIAL ENGINEERING-INFORMATICS-PSYCHOLOGY

PRODUCTION-MARKETING-FINANCE-

H.R. MANAGEMENT

ECONOMICS - BUSINESS - LAW

SHIPPING

NAUTICAL SCIENCE-MATHEMATICS-STATISTICS-

PHYSICS-CHEMISTRY-METEOROLOGY-

GEOGRAPHY

LINGUISTICS - HISTORY
Outcomes of PBL in MET

- Developing a deep understanding.
- Providing understanding personal values.
- Developing a shared sense of crisis and urgency.
- Developing a vision of future.
- Securing commitment to a shared vision (teamwork).
Outcomes of PBL in MET (contd)

- Raising curiosity, wonder, questioning, and motivation.
- Contributing to life-long learning.
- Encouraging independent and critical thinking.
- Improving problem-solving and conflict managing.
- Enhancing positive attitudes (self-efficacy, self-confidence, sense of responsibility) 
  (Kalkan, 2003-4).
Outcomes of PBL in MET (contd)

- Availing multicultural crew management improving communication skills.
- Raising transparency thus enhancing democracy.
- Helping adaptation to innovations.
- Enhancing ethic values.
- Securing efficient, safe, and environment friendly shipping.