Miklel Anton Vassalli College
The National College for Further Education
Ministry for Education and Employment
Gozo - Malta

Meta Learning
&
Thinking Skills

Frameworks in classroom practice

Peter Van de Moortel

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Group work: design learning activity using frameworks for thinking: 5 groups


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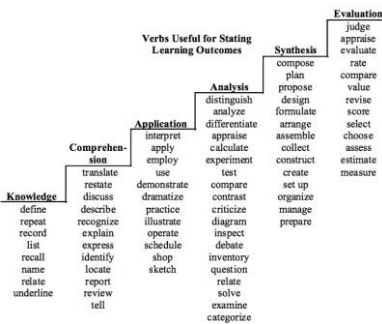Group 1

Frameworks dealing with INSTRUCTIONAL DESIGN

Create a structured learning environment with emphasis on content or process, knowledge acquisition or creativity

Highlighted model dealing with Instructional Design

- **Bloom's taxonomy of educational objectives (cognitive domain) (1956)**
- **Anderson and Krathwohl's revision of Bloom's taxonomy (2001)**
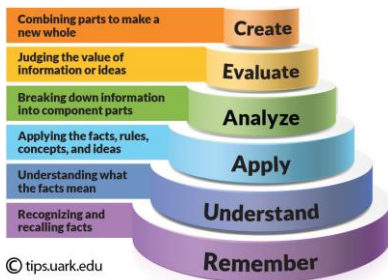
Frameworks dealing with PRODUCTIVE THINKING

Developed for use in understanding critical and 'productive' thinking.
Focus on problem solving

Highlighted models dealing with Productive Thinking

• De Bono's lateral and parallel thinking tools
• Lipman's model of thinking

Group 2

Six thinking hats

What are my powers when wearing each hat?

Asking questions:
- What do we know?
- What do we need to know?
- How do we get this information?

Expressing emotion:
- What are my gut feelings?

Judging:
- What are the difficulties
  & weaknesses?

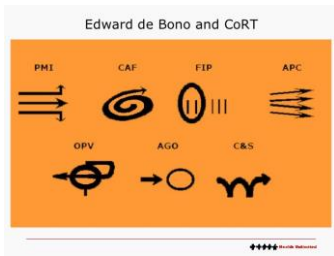Being optimistic:
- What are the strengths
  & opportunties?

Being creative:
- New ideas?
- New opportunities?
- How can it be improved?

Thinking about thinking:
- What's been learned?
- What's next?

Edward de Bono and CoRT

PMI   CAF   FIP   APC

OPV   AGO   C&S

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Matthew Lipman

Group 3

Matthew Lipman

• Lipman, a Philosophy professor at the time, developed P4C in the 1970s. He was concerned with the Deweyan notion of creating an education for a healthy democracy –an education that would develop a critical citizenry with respect and empathy for others in the community.

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Main purpose

• To make learning meaningful
• To encourage active enquiry
• To promote democracy
• To encourage good judgement

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The 4 Cs of P4C

Thinking mode	Thinking focus	Thinking Habit
CRITICAL	ABOUT THINKING	Reflective(ness)
CREATIVE	FOR YOURSELF	Thoughtful(ness)
CARING	OF OTHERS	Considerate(ness)
COLLABORATIVE	WITH OTHERS	Reasonable(ness)

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Socratic Questioning – the MTV steps
to understanding and good judgement

1. Questions of **Meaning**:
Could you explain more clearly (or give an example)?
How does X relate to Y? (or, How is X different from Y)?

2. Questions of **Truth** (and **Validity**)
Is that true? (or, What makes you think – or assume - that?)
Does that follow? (or, What follows from that?)

3. Questions of **Value**
What is interesting, or important, in this?

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Frameworks dealing with COGNITIVE STRUCTURE & DEVELOPMENT

Focus on cognitive structure and/or cognitive development
Focus on analysing the concept of intelligence and component of self-regulation

Models dealing with
COGNITIVE STRUCTURE & DEVELOPMENT

- Gardner's theory of multiple intelligences
- Pintrich's general framework for self-regulated learning

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Gardner,'06 *MI: New Horizons*   Group 4

- Intelligence seemed to be quantifiable.
- Just as you could measure someone's height, you could measure someone's actual or potential intelligence.
- There was one dimension of mental ability along which we could array everyone.
- Gardner presents a radically different view of the mind, recognising different and discrete facets of cognition, acknowledging that people have different cognitive strengths and contrasting cognitive styles (pps.3-5)

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Howard Gardner's Theory of Multiple Intelligences

- The idea that intelligence is fixed, that the brain changes its architecture only in early life, and that all brain damage is permanent, belongs to the past. Evidence abounds that throughout life, the human brain restructures itself according to what it learns …. The concept of plasticity offers hope to educators, who impart the importance of lifelong learning to students. (*Educational Leadership* Nov. 2001)

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Howard Gardner's Theory of Multiple Intelligences

INTELLIGENCE   CORE OPERATIONS

Linguistic	syntax, phonology, semantics
Musical	pitch, rhythm and timbre
Logical-Mathematical	number, categorisation, relations
Spatial	accurate mental visualisation
Bodily-kinesthetic	control of one's own body
Interpersonal	awareness of others' feelings, etc.
Intrapersonal	awareness of one's own feelings
Naturalist	recognition and classification of objects in the environment

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Pintrich: self regulated learning   Group 5

• Definition:
• An active, constructive process whereby learners set goals for their learning and the attempt to monitor, regulate and control their cognition, motivation an behaviour, guided and constrained by their goals and the contextual features in the environment.

Pintrich areas for self regulated learning

Phase	Cognition	Behaviour
Forethought, planning and activation	Target goal setting Prior content knowledge activation Metacognitive knowledge activation	Time and effort planning Planning for self-observations of behaviour
Monitoring	Metacognitive awareness and monitoring of cognition	Awareness and monitoring of effort, time use, need for help Self-observation of behaviour
Control	Selection and adaptation of cognitive strategies for learning, thinking	Increase/decrease effort Persist, give up Help-seeking behaviour
Reaction and reflection	Cognitive judgments Attributions	Choice behaviour

Presenting - questions