



THEORIES OF LEARNING: FROM COGNITIVISM TO EXPANSIVE LEARNING

OPPIMISTEORIAM KOGNITIVISMISTA EKSPANSIIVISEEN OPPIMISEEN

**Oppimistehtävät 1-3
Pertti Huhtanen**

**ATMO-maisteriohjelma
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COGNITIVISM

LEGITIMATE PERIPHERAL PARTICIPATION

WHO ARE LEARNING?

WHY DO THEY LEARN?

WHAT DO THEY LEARN?

HOW DO THEY LEARN?

MAIN LIMITATION OF THE THEORY?

STUDENTS	APPRENTICES
MIND IS A MACHINE, PROCESSING SENSOR DATA, MEMORIZING AND CALCULATING ACTUATOR OUTPUT.	LEARNING AS SIDE EFFECT OF REAL PARTICIPATION - MOTIVATION AND EVALUATION COME NATURALLY.
MENTAL REPRESENTATIONS, MODELS.	SKILLS?
BY ACCRETION, STRUCTURING, TUNING. LEARNING TAKES PLACE INSIDE THE LEARNER AND ONLY INSIDE THE LEARNER.	BY PARTICIPATION IN A PRACTICE. IMITATION, STORY TELLING, CONTINUOUS FEEDBACK, MASTER'S EXAMPLE, JUST DOING IT.
HISTORICAL, CULTURAL, AND BODILY FACTORS ARE NOT ESSENTIAL, NO CONTEXT, ONLY INSIDE THE LEARNER.	COMMUNITIES OF PRACTICE ARE STABLE – WHAT ABOUT CHANGE?



CONSTRUCTIVISM

**KNOWLEDGE BUILDING
APPROACH**

**WHO ARE
LEARNING?**

LEARNER

KNOWLEDGE BUILDING COMMUNITY

**WHY DO
THEY
LEARN?**

TO SOLVE PROBLEMS

TO SOLVE PROBLEMS, PRODUCE NEW
THOUGHTS, ADVANCE COMMUNAL
KNOWLEDGE

**WHAT DO
THEY
LEARN?**

TO THINK LIKE A SCIENTIST,
MATHEMATICALLY, TO CONSIDER
MATTER AS A HISTORIAN DOES

THEY LEARN TO ADVANCE KNOWLEDGE
BY TRANSFORMING AND DEVELOPING
CONCEPTUAL ARTIFACTS

**HOW DO
THEY
LEARN?**

BY SELECTING AND TRANSFORMING INFOR-
MATION, CONSTRUCTING HYPOTHESES AND
MAKING DECISIONS, IN A SPIRAL MANNER,
BASED ON THEIR PAST AND PRESENT
KNOWLEDGE

BY WORKING ON, ELABORATING,
CRITICIZING AND TRANSFORMING
KNOWLEDGE OBJECTS

**MAIN
LIMITATION
OF THE
THEORY?**

INDIVIDUAL LEARNING, DISREGARDS
IMPORTANCE OF NEGOTIATION AND
SHARING. ANY PSYCH. PROCESS MAY
BE SEEN AS CONSTRUCTIVE.

EMPHASIS ON EPISTEMICS AND CON-
CEPTUAL ARTIFACTS, DISREGARDS
MATERIAL ARTIFACTS, LIMITED TOOLS
FOR ANALYSING CLASSR. PRACTICES



ARGYRIS

MARCH

**NONAKA &
TAKEUCHI**

**WHO ARE
LEARNING?**

**WHY DO
THEY
LEARN?**

**WHAT DO
THEY
LEARN?**

**HOW DO
THEY
LEARN?**

**MAIN
LIMITATION
OF THE
THEORY?**

INDIVIDUAL LEARNING AGENTS AND ORGANISATION	INDIVIDUALS AND ORGANISATION[AL CODE]	INDIVIDUALS, GROUPS, ORGANISATIONS, OTHER ORGANISATIONS
INDIVIDUAL SEES A MISMATCH OF OUTCOME TO EXPECTATION	VARIETY, ADAPTATION	INDIVIDUAL'S DEALING W. THE WORLD; SOCIAL INTERACTION LEADS TO SECI CONVERSION SPIRAL
MENTAL MODELS, KNOW-HOW, CRAFTS AND SKILLS. RESOLVE INCOMPATIBLE ORGAN. NORMS	ORGANISATION SEEKS TO SURVIVE BY OPTIMAL EQUILIBRIUM OF EXPLOITATION AND EXPLORATION	SCHEMATA, PARADIGMS, PERSPECTIVES, BELIEFS, VIEWPOINTS. INTERACTING SPIRALS PRODUCE INNOVATION.
INDIVIDUAL'S DISCOVERIES, INVENTIONS AND EVALUATIONS EMBEDDED IN ORGANISAT. MEMORY	1.REFINEMENT AND EXTENSION OF EXIST. COMPETENCES, TECHNOLOGIES, PARADIGMS. 2.EXPERIMENTATION WITH NEW ALTERNATIVES	MANIPULATING ANALOGIES IN THEIR MINDS. SOCIALIZING, EXTERNALIZING, COMBINING AND INTERNALIZING IN EVERY ONTOLOGICAL LEVEL.
COUNTS ON REASONABILITY AND BONA FIDE. HOW DOES IT HANDLE POWER PLAY?	SYSTEMIC APPROACH, CENTERED AROUND PROBABILISTIC SIMULATION, INDIVID. LEARNING GIVEN	EMPHASIS ON SECI CONVERSION SPIRAL, MISSES ANALYSIS AND MODELLING OF INDIVIDUAL