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- **Foundations of activity theory: eight basic concepts and two cases of the development of work 10-11.10.2017**

Texts in the reading package

- Texts from Vygotsky (1920-1930), Leontjev (1940-1960), Engeström (1980) .. Imply the historical development of and reinterpretation of the concepts
- There are texts from Engeström's 2000 book "*Learning, working and imagining*" in which the ideas are emerging and developed later
- To be able to work together, please add page numbers to the reading: 1-46 (the concepts) 47-64.

- The idea is that you discuss in groups and then we all together to make sense of each of the concepts. Also the further development of each of the concepts will be commented.
- Please, read to two accounts of studies on the development of work (economic crime investigation (Engeström & al. 2003) and labour protection inspector's work (Miettinen & Virkkunen 2006)).

The first concept: Mediation

- **What is the difference between sign and tool as mediators of human activity according to Vygotsky?**

The difference of and interconnection between sign and tool

- Vygotsky: “Although practical intelligence and sign use can operate independently in young children, the dialectical unity of these systems in the human adult is the very essence of complex human behaviour.”
- This is particularly true in work.

Levels and functions of artifacts in activity

- What levels of artifact Engeström distinguishes (following Wartofsky)? (Page 4 [173-174])
- What kind of artifacts Engeström distinguishes in his study of general partitioner's consultations (TABLE 8.2 page 5 [188])

Levels of artifact-mediation according to the epistemic work the artifact does (Engeström 2007, 34).

- 1) Where to? (germ cell, models, visions)
- 2) Why (systems models)
- 3) How, in which order ? (timelines, algorithms, heuristic rules)
- 4) In which location? (maps, classifications)
- 5) Who, what, when? (stories, narratives)
- 6) What? (lists, prototypes, images)

instrumentality

- In practice, different types of artifacts are needed and they together constitute an instrumentality, a historically formed toolkit characteristic to a certain activity. They (Engeström 2005, 188) “include multiple cognitive artifacts and semiotic means used for analysis and design, but also straightforward primary tools used in the daily practice and made visible for examination, reshaping and experimentation”.
- In changing an activity, the compatibility of the different instruments within an instrumentality needs to be carefully analyzed. A vision (where-to artifact) is not sufficient unless the rest of the instruments have been designed to support the change.

The instrumentality of a collaborative dental care of gum diseases (based on follow-up of the care of two patients by dentist and oral hygienist students)

- 1) The model of health- and patient-centered teamwork
- 2) Instructions and manuals defining good practice – one for the dental students (PARO Manual) and one for the oral hygienist students (instruction for the care of adult patients)
- 3) Diagnostic means: 1) x-ray imaged, 2) digitized pictures and, 3) an instrument for measuring the depth of the gum pockets
- 4) A care plan: the patient's diagnosis and a plan of care measures.
- 5) The means of evaluation (of students)
- 6) The instruments for caring for the teeth and gums
- 7) The instruments used by the patients in self care

status of a periodontal patient (Paro-manual)

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Esitiedot

Pvm: 1.9.2008 Vastaanottoaika: YLIOP Vastaanottaja: ikä: 45 Maksuluokka: _____

Status

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1 mm
2 mm
3 mm
4 mm
5 mm
6 mm
7 mm
8 mm
9 mm
10 mm
11 mm
12 mm

Ylakaavioon merkitään:

- taskusyvytydet (4 mm ja syvemmät; 6 pinta/hammas)
- ientaskun verenvuoto (BOP 4 pinta/hammas)
- ientaskun märkävuohto
- furkaatioleesiöt

Parostatus

Purenta **Lisätiedot** **Ehk.hoito** **Indeksit** **ICD**

Angle: _____ HYP: _____ VYP: _____ Dysf: _____ BOP: 67% Ruok.tot: _____ Suuhyg: _____ Fluorin k: _____

CPI	d/D	dm/DMF	ICD
3 3 3			
3 3 3	ds/DS	dmfs/DMFS	Rtg

Sivukuva

Alakaavioon merkitään:

- ikenien vetäytymät (riviväli 2 mm)
- diastemat ja avoimet kontaktit
- hampaiden ahtautumat
- paikkaylimäärät
- hampaiden liikkuvuudet
- muut paron dg:n kannalta olennaiset löydökset

Learning as “remediation”

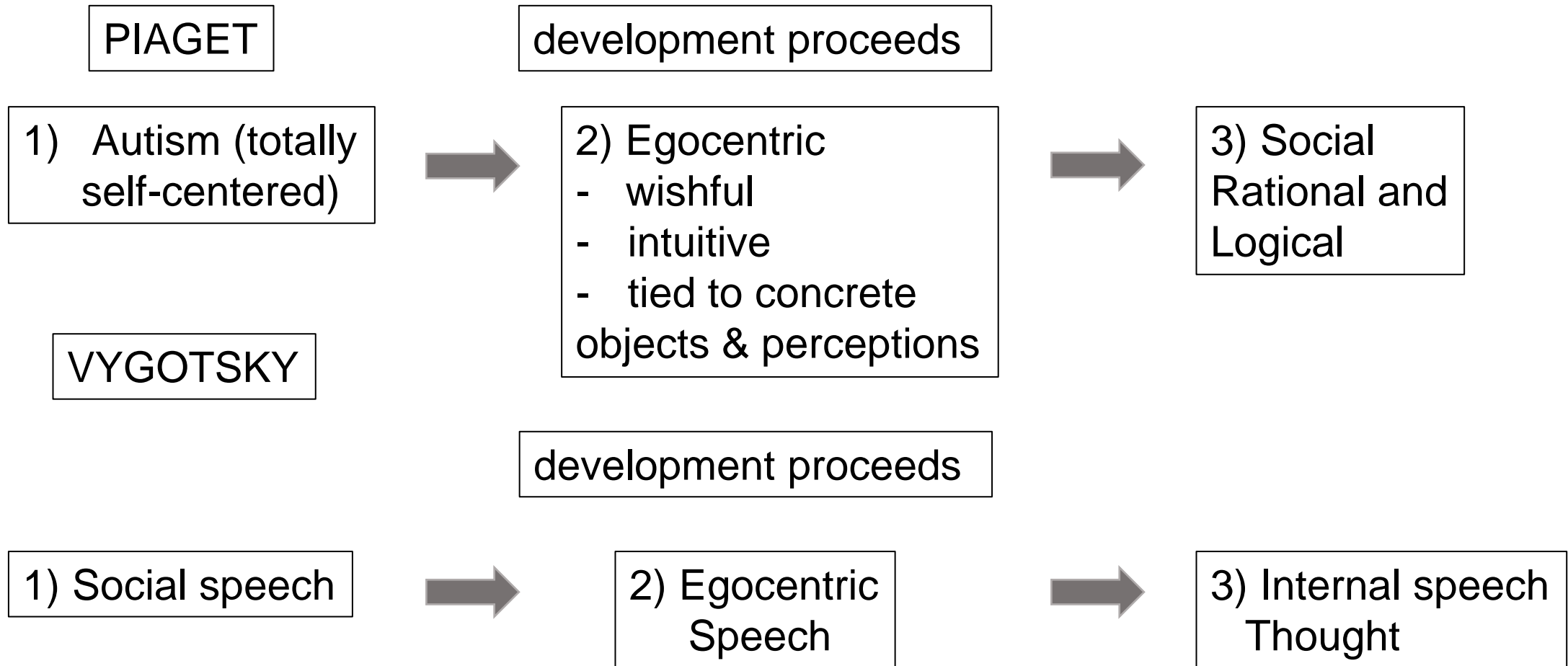
- Learning in work always involves adaptation, further development and creation of new mediational means
- It also involves analysis of limitations of the means in use (that have emerged in a certain historical situation) and the way in which they are used
- As the case of gum diseases show, it is also important to analyze in which way different levels of means co-exist and orient the activity and eliminate discrepancies in the tool-system or instrumentality

2nd Concept: internalization, language and human behaviour

Origins of human thought and the mystery of egocentric speech

- Why do children under school age speak aloud without addressing the talk to anybody?
- "The child talks to himself as though he were thinking aloud, He does not address anyone" (Piaget 1959)
- 44-47% of the talk of a preschool child's talk is egocentric

The Problem of Egocentric Speech: Piaget and Vygotsky



- **In which way Vygotsky tried “prove” that his account is more credible than that of Piaget’s (page 9 in readings [29-30])**

Dialogue, Internalization and the reverse process, externalization

- Because thought is based on the internalization of communicative use of language, inner speech and thought retain their dialogic nature: in thought we formulate arguments (for others)
- Thought is finalized when it become external or objectified into speech addressed to others, written (drawn, worked) into a form of a cultural artifact (a paper, powerpoint-presentation, drawing, piece of art, software or a model). It might become a part of a shared objective) culture.
- Speaking and writing (transforming internal ideas into external forms) into are parts of the thought process and simultaneously a part of the interaction (co-evolution) between individual, community and culture.

- **What is the distinguishing feature of human psychology according to Vygotsky? (a very well-known formulation at the end of page 10).**
- **What adds to the idea of internalization of language into thought?**

Concept 3: Zone of proximal development

- **What's the basic idea of ZPD in Vygotsky?** (pages 12 and 13)

Vygotsky's ZPD

- The human potential for development cannot be inferred from what a child already can accomplish and from the tests that have been developed (and validated) to define the average intelligence of an age group
- It can be inferred from the accomplishments and from what a child can accomplish "under adult guidance or in collaboration with more competent peers"

ZPD in historically developing interactive/pedagogical spaces

- The mercantilist economists in the 1600s thought that a major part of the population will never be able to learn to read and write
- 1960's a similar discussion in Finland: only a minority of the age group will be able to study in the high school (advanced math etc.)
- PISA study of 2006; the proportion of the students who are weak in reading: Finland 3,8% , OECD average 19%, Greece 21,3% , Bulgaria 41%.
- The borders of learning are constantly changing when the differences and learning problems of the students are understood better and more advanced methods and forms of pedagogical interaction are developed.

- Compare Engeström's reformulation of ZPD (at the end of page 13) to Vygotsky's definition. What are differences and what questions it raises?

Where are more advanced representatives of culture?

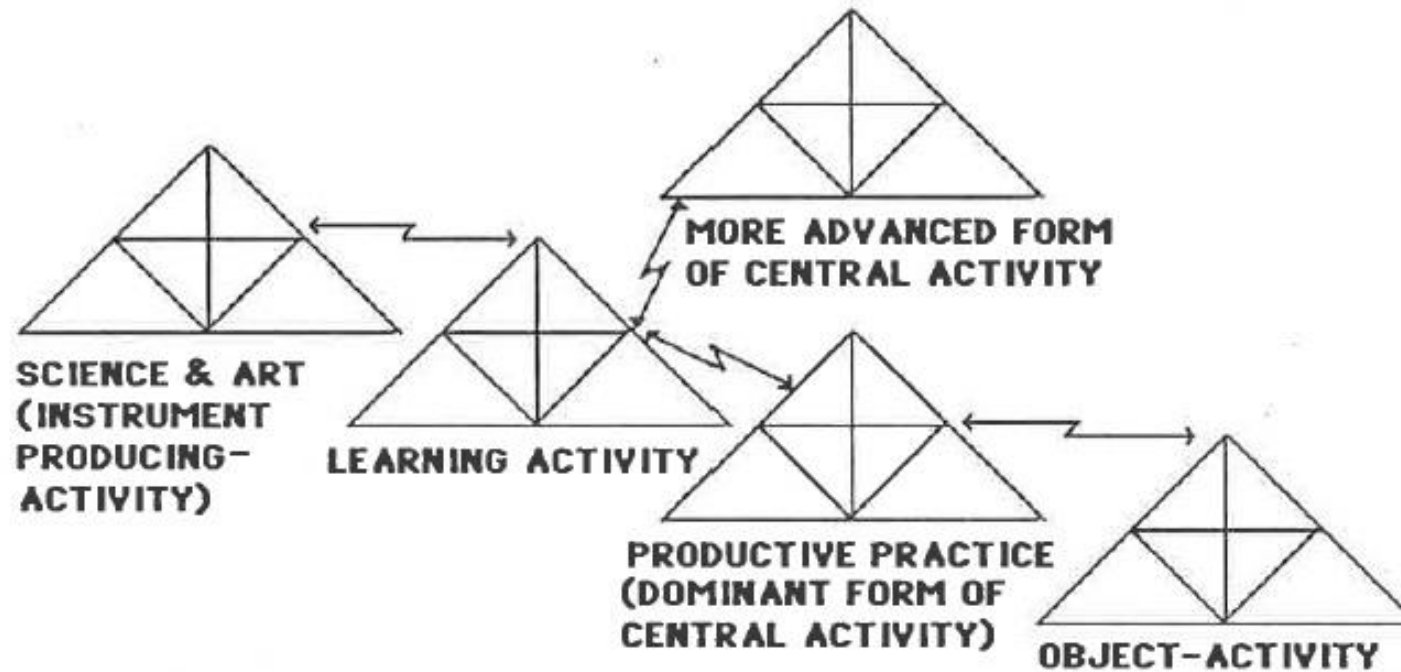


Figure 2.11: The place of learning activity in the network of human activities

Nowadays often presented "four-field map" of ZPD

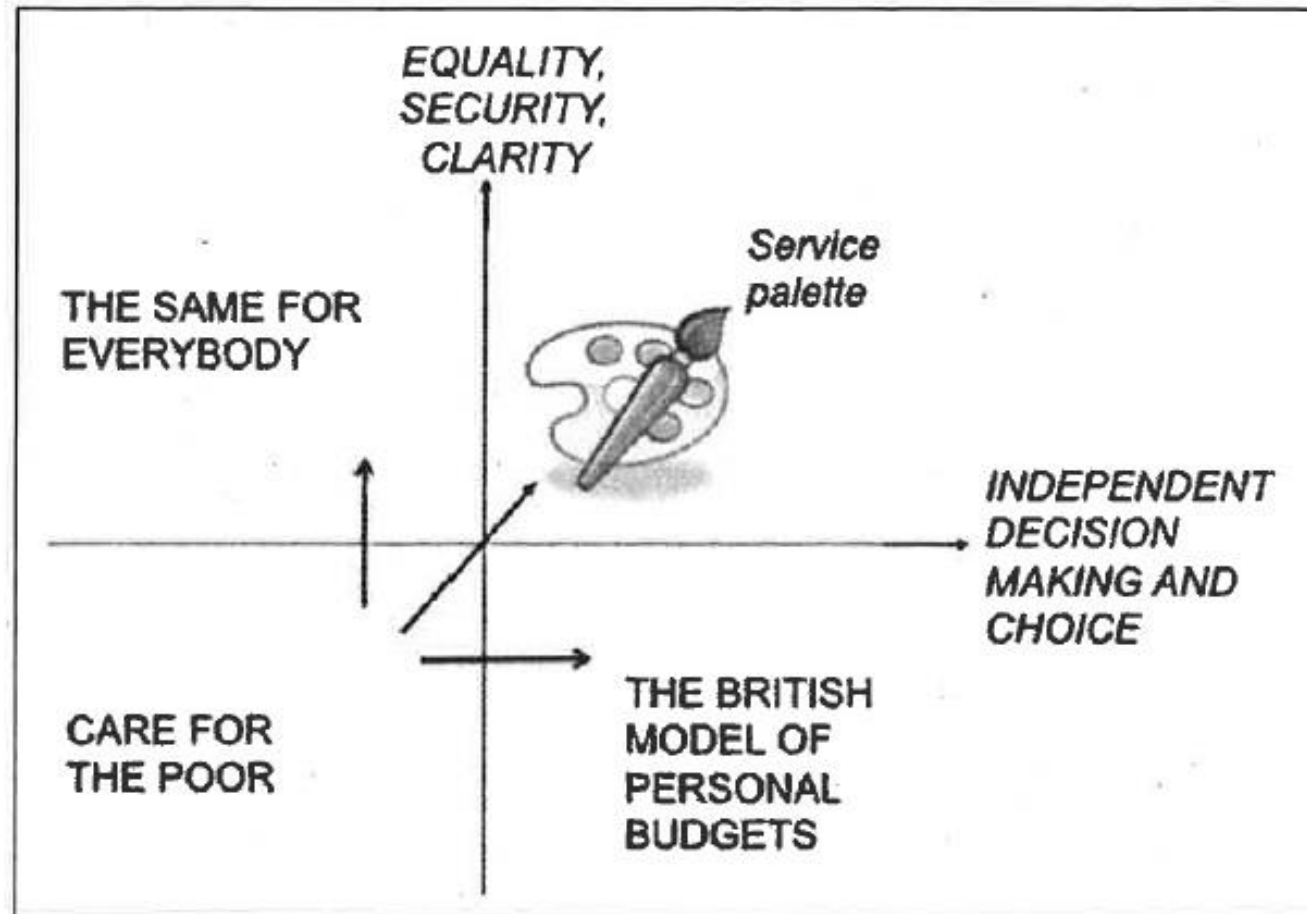


Figure 5. The zone of proximal development in the home care CL.