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# Understanding learning together

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## Some issues that relate to knowledge and learning:

- formal and tacit knowledge;
- sharing professional knowledge;
- knowledge acquisition processes;
- the nature of learning;
- levels of activity;
- distributed working and learning;
- coping with complexity.



## Forms of information

**Scientifically validated information which is made available through somewhat restricted though well recognised channels of education, training and professional societies.**

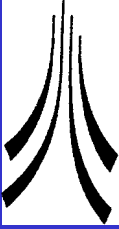
**Information of a less formal nature, which is often tacit, the validity of which is less clear but which is needed and used within communities of practice**



## Content and process

Classically, universities have been centres for the creation and diffusion of knowledge through their prime functions as institutions for research and teaching. ■

However, it is becoming necessary to review that role, and particularly the processes involved, as the way in which 'knowledge' is viewed is changing and new forms of knowledge become tradable commodities.



# Bloom's taxonomy of educational objectives

knowledge ⇒

comprehension ⇒

application ⇒



analysis ⇒

synthesis ⇒

evaluation

but based on behaviourist  
theories of learning



# The nature of knowledge

- data** ⇒ the syntactic codes on which machines operate
- information** ⇒ the addition of semantics which humans apply to data in context
- knowledge** ⇒ the ability of apply Information to solve a problem
- Intelligence** ⇒ the appropriate choice of knowledge which is invoked for a particular task



## Sharing professional knowledge

The purpose of the JITOL project was to experiment with variants of a model to support the professional development of those working in enterprises in various parts of Europe with varying cultural and socio-economic origins.

The unique nature of the open learning environment which was explored by the Project, comes from building up appropriate knowledge bases by constantly integrating learners' explicit needs.

More concretely, representations of the interactions between participants in the system are stored and structured so as to become additional knowledge resources for subsequent use.



## Some outcomes

**An analysis of the JITOL study illustrates that specialised knowledge and experience may be shared using multimedia computer conferencing. ■**

**The diabetics case study illustrated that new knowledge may be created through the interactions comprising what is basically informal/tacit knowledge..**

**There are a number of purposes and outcomes of computer-mediated communication in such communities..**



# Some limitations/cautions



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- **experts may not easily accept to have their own ideas and practices criticised. And it may be difficult for them to talk about situations that are intellectually interesting but that may be seen as failures;**
- **the knowledge, situations or practices that have to be talked about may have a strategic importance for debaters if they are competitors;**
- **the day-to-day practice tends necessarily to be different from what would be socially acceptable or ideal behaviour. In this sense, it may be difficult to have debaters talking sincerely about those subjects.**



## Possible contradictions

- the need for professionals to improve their capability which requires entering into a collective debate and to make profit from collective cognitive support;
- the desire for individual autonomy which may be in conflict with contributing in building a collective framework.”



**back 170 years**

**“I have had pointed out to me in several coffee houses a couple of lords, a baronet, a shoemaker, a tailor, a wine-merchant, all sitting round the same table and discussing familiarly (sic) the news of the court and the town.**

**The government’s affairs are as much concern of the people as of the great. Every man has the right to discuss them freely. The coffee houses and other public places are the seats of English liberty.”**



## Coffee houses for sharing knowledge

For instance, Josiah Wedgwood the potter would talk about problems in pottery, to which Joseph Priestly, the chemist, would offer his solutions.

Or again, James Watt, the inventor of the modern steam engine, would be there, and he would talk about problems with the steam engine and how you were going to distribute and make it.

And Matthew Boulton, the greatest eighteenth century ironmaster, was a member of the society. He'd say, "well, why don't we go into partnership, then?"



## Trust as a key element

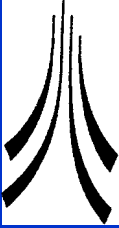
**Trust was clearly present in the coffee shops and is a factor that needs to be considered in all communities, especially virtual ones.**

**"For trust to work, large organizations need fairly constant, smaller groups."**

**"Paradoxically, the more virtual the organization, the more its people need to meet in person."**

**"Membership can replace a sense of belonging to a place with a sense of belonging to a community."**

# Trust in learning



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**"The students did not trust each others' professional knowledge and skills, and further their individual contributions to the project report. . . .**



**Before making any final decision on the professional value of a contribution, they wanted to examine the ideas more deeply in relation to the current literature. . . .**

**On the other hand, this was considered as conflictual due to the time they had at their disposal. This was the beginning of a conflict between students."**



# Knowledge acquisition processes

Revision of existing mental models  $\Rightarrow$  constructivism

The mechanism of cognitive conflict

But such notions are based on the acquisition of abstract concepts ■

"We should distinguish between mental models acquired without explicit instruction, and those derived from teaching. The first will often be tacit and not easily available to reflection; the second will often be conscious and possibly able to be consciously thought about."



# Human societies and intentions

Learning organisations ⇒  
explicit intentions directed by competitive need



Learning societies ⇒  
implicit intentions have to be negotiated





# A socio-historical perspective of community development

Interpretations of two elements:



The zone of proximal development

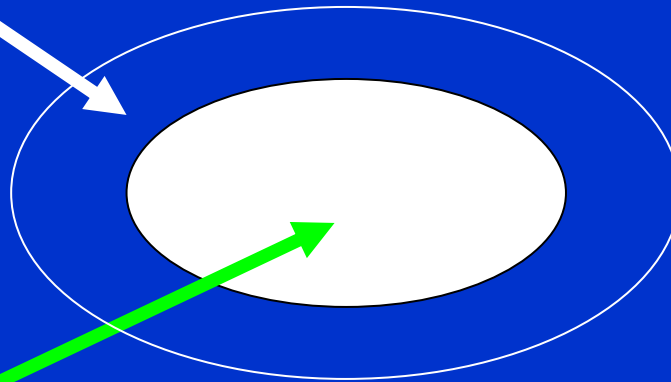
Activity Theory



# Learning processes

zone of proximal development

action requires help from colleagues or tutors



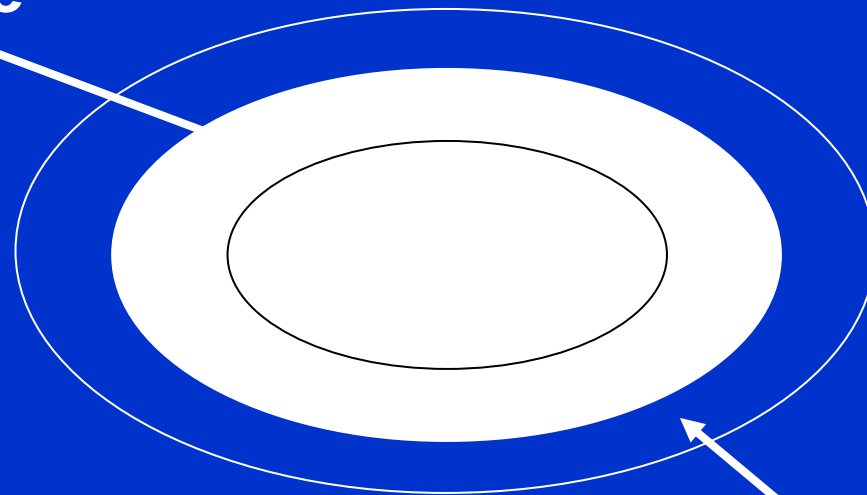
core knowledge

gives ability to perform autonomous actions



**an enlarged core**

**learning has  
taken place**

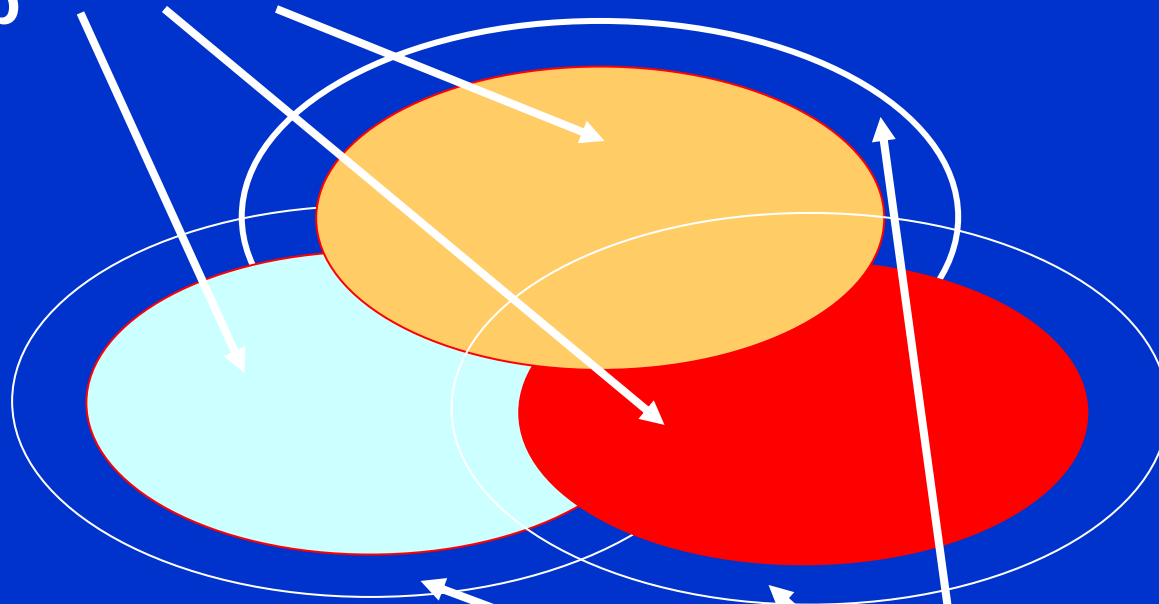


**but there is always a new  
zone of proximal  
development**



# Group learning

Overlapping core knowledge  
of a group



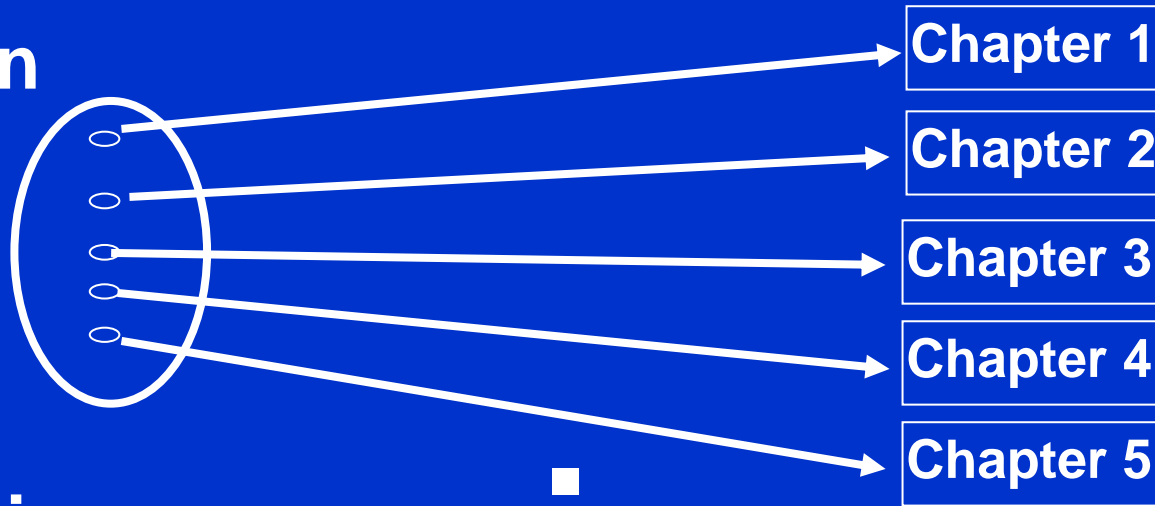
Overlapping zoped  
knowledge of a group

# An important distinction

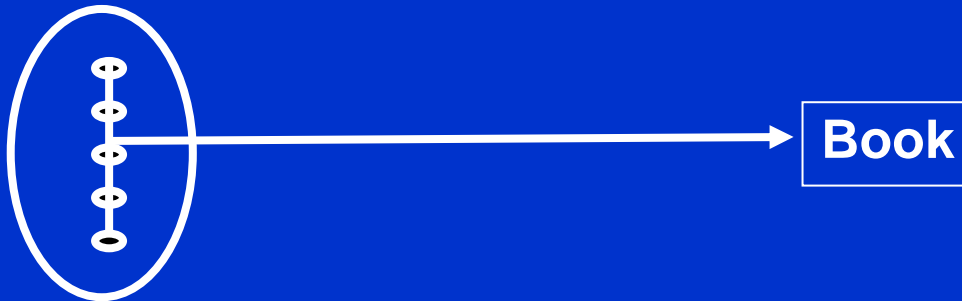


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## Cooperation



## Collaboration



**Intentions:**      **personal**  
                                 **shared**

**Expectations:**      **of self**  
                                 **of others**



***Cooperation*** depends upon a supportive community of actors who agree to help one another in activities aimed at attaining *the goals of each person* involved.



***Collaboration***, on the other hand, depends upon the establishment of a common meaning and language on a task which leads to the community setting a *common goal*.

One moment please . . . .

