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Agenda?

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#### ABSTRACT

Adult and continuing education are undergoing simultaneous processes of institutionalization (adding schools for adults) and deinstitutionalization (broadening the scope of interventions and focusing on learning processes inside and outside schools). Lifelong learning assumes that learning takes place in all spheres of life, including the workplace, everyday life, and cultural activities. The new political awareness of the need for learning and education has necessitated that learning be studied in all its contexts, including in various life spheres (work, family, leisure and cultural activities, citizenship) and knowledge and competence domains (professions, skills, arts) defined by societal division of labor. Researching the subjectivity of learning and social structural and historical dynamics requires an interdisciplinary research strategy. Themes for research include the following: gender and wage labor; the role of self-regulation and sustainability in work life; and the relationship of knowledge and democracy to professional learning and professional identity. Like literacy and numeracy, learning for active citizenship must be given the status of an indispensable cultural technique. The following competencies should be considered competencies for a general social literacy: competence to create cohesion; ecological competence; competence for balancing a threatened or broken identity; historical competence; sensibility to experience expropriation; and technological competence. (Contains 20 references) (MN)



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Keynote at the 8 th conference on Adults Learning Mathematics, Roskilde, June 2001

A personal note: I was invited to the conference in my capacity of being researcher of adult education and learning - in order to present a broader framework for the discussion within that field. However, I do have an affiliation with math: It was my first study - not carried very far - and I had the opportunity to teach mathematics on advanced high school level before I let it go in order to do something else - frankly because I found the university study boring. I guess it provides a specific engagement, and may be also some blind spots in my perception of the field. I have not carried out any research on math learning myself, but I have read some of it now and then, and find the field very central and also very significant for some of the problems that educational research is facing.

### 'Lifelong Learning' instead of 'Adult Education'

Lifelong Learning - a political agenda!

Also a Research Agenda?

In adult and continuing education there seems to be at the same time two convert processes going on: An institutionalizing process, adding schools for adults to the schools for children and adolescents, which is in continuation of a basic trend in modernization, institution building. And also a de-institutionalizing process, broadening the scope of interventions across the boundaries of school, and focussing on learning processes in and outside schools (Alheit et al, 2000). Lifelong Learning is a set agenda. Paradoxically lifelong learning achieved its position as a key theme partly by the fact that 'human resources' appear more and more essential in terms of economic growth and structural innovation. What was some decades ago idealistic, wishful thinking, that was slowly worn down by the absence of practical implementation, now seems to be a concern of power elites in the capitalist world (Rubenson, 1996).

As a discourse of Education, Lifelong Learning has a radical built-in assumption, which is also fed by the economic concerns: It assumes that learning takes place in all spheres of life, not only in schools and institutions. '....and Life wide..', sometimes added into 'Lifelong learning', completes the topical metaphor. It relativizes the importance of Schools and intended education, on the one hand emphasizing the limits of the modern disembedding of learning from social practices. On the other hand also opening our eyes to an immense potential of self-directed learning outside schools.

It may seem ironic, but is also logical: Only the fact that economy and work need human resources, and the fact that qualification demands include subjective involvement makes lifelong learning a societal programme. The change in the rationales, and the fact that they are still separate, reflect the contradictory role of education in capital driven modernization. On the one hand a vehicle of a humanistic political programme for social autonomy and 'empowerment', and on the other hand a necessary adaptation of human beings to their part as 'commodity labour'. Consequently the conceptual common denominator has become 'learning' rather than 'education'. This emphasis on learning rather than education has lately sometimes been seen as an educational drawback - and sometimes it actually is part of neo-conservative dismantling of welfare policies. But it may also be integrated in a critique of the illusionary expectations that are put on institutional education, in terms of efficiency



and in terms of their emancipation potential.

In my opinion this is altogether not too bad: a new political awareness of the need for learning and education - but also a challenge to reinvent the critical and emancipative agenda of lifelong learning in a new form, and a need for radical changes in educational thought. For a discussion on research it means that we have to move our focus of attention from education to learning, and we have to study learning in all its contexts, not only in institutionalized forms.

Education -> (Lifelong) Learning

Schools -> Learning spaces 
work place, everyday life, cultural activities

May be most difficult to handle, but also potentially productive, is the challenge to our identifications with the educational institution. We have moved beyond the happy formula of the educational optimism:

# Modernization = Educational institutions = Equality and Emancipation.

The criticism of institutions points out that the existing educational institutions are unable or inadequate to fulfill their purpose and promises. Sometimes they might be an obstacle to learning. Post modernists makes the critique one step more radical, as a critique of the basic humanist educational programme. Referring to i.a. Foucault, they point out the inner relation between institutions, knowledge and power. Educational institutions, by means of knowledge, exercise control and restriction on the experience potential of the protagonists, allowing for some organizations of knowledge and excluding others.

However a similar critical attention is no less relevant in the new and more multiple field of learning. The political Agenda of Lifelong Learning calls for a critical research, which distinguishes the learning potentials in a number of life worlds, in a historical and societal context

In many of the political discourses of lifelong learning, that discredit educational settings the alternative has very often taken the shape of inserting a new abstraction filled up with an ideological investment, e.g. organizational learning taking models and rationales of the private firm. Conceptions of learning drawing on managerial ideas about work organisations is probably the strongest influencing discourse of lifelong learning. But also other 'models' are drawn on, e.g. naturalistic work process ideas, in which learning is just related to the concrete process of a specific work process, and political and cultural conceptions reinstalling the original culture and experience of a community. I would not take us any further to just re-install an educational optimism on behalf of e.g. work place based learning. There is a lot of theoretical sanitation work to be done.

## Researching Lifelong Learning



Is Lifelong Learning then the end for the educational ideas of modernization - or is it the framework for a new idea of democratization and learning? The answer depend on the way of theorizing - learning, the learner and the learning spaces.

The implications are quite heavy in general in terms of research objects, relevant theoretical approaches and methodologies. Instead of philosophy defining the goals and objectives, pedagogical research on the inputs - the educational means and arrangements and may be a technically oriented psychology of learning and motivation we need a research which takes a broader perspective on the learner, the learning process and learning environments. Knowledge and learning can not any longer be studied in the neat and nice form of school subjects. A whole range of observation defined by important life spheres (work, family, leisure&cultural activities, citizenship) and knowledge and competence domains (professions, skills, arts) defined by societal division of labour - which are all historically given, must be reconstructed conceptually in the perspective of learning. Lifelong Learning has the advantage of emphasizing somebody who is learning, in an experiental lifelong process, bridging across education, training as well as everyday life. Conceptualizing learning spaces or learning environments depends on a subjective perspective - we have to see them as life worlds, everyday life for specific people. Likewise the learning subject cannot be seen as abstract pupils, not even when attributed age, gender, class or ethnicity or other culturally distinctive features. We need research approaches that study learners in their own dynamic subjective perspective, which is exactly not an abstract individual, but deeply embedded in a historical and cultural situation, with individual and collective orientations, and with a specific life history experience of this context.

Researching subjectivity of learning and social structural and historical dynamics requires an interdisciplinary research strategy - we will need to draw on disciplines form social science as well as humanities - going across the Gulf which is still very deep. On the other side we can build on many developments from inside existing disciplines - theoretical themes, methodological developments, studies that deal with learning without using this term (unfortunately there is also the opposite phenomenon: Using the term learning without really dealing with it). Many contexts cannot be understood properly without quite specific knowledge that is produced in different contexts and for different purposes, so knowledge has to be de- and reconstructed for the actual purpose.

Talking on this general level anything belongs to the field of interest. But I do think it would be possible to point out even on this general level a few exemplary themes, which are important in most practical contexts, and which are integrative in theoretical respect, and hence also generative for focusing the research field. Without entering into a discussion I shall just to mention a few:



# Exemplary Themes:

Gender and Wage Labour

Work life: Self Regulation and Sustainability

Knowledge and Democracy: Professional Learning, Profession

Identity

Instead of discussing these themes or suggesting others I will suggest some implications of the context outlined for the research field and the researchers gathering under the heading of 'Adults Learning Math' - being well aware that I am not familiar with more than fringes of ongoing research and debates. I will reflect on an understanding of the field which seems quite usual, and also very plausible, namely as a necessary *cultural technique*, a tool to access knowledge and to participate in social life and political processes.

#### Cultural techniques: Literacy, Numeracy, Citizenship.....

Literacy has the status of indispensable *cultural technique*, a tool to access knowledge and other cultural treasures, a tool that you may have or not have, and the possession of which has strong functional and distributive effects. Literacy - command of written language in reading and to some extend also writing - is centrally related to modernization. Modernization - functional differentiation, market mediated relations, gradual dissolution of space dimensions, bureaucracy - would not be possible without written language. Paolo Freire - seeing language as a necessary tool for emancipation at risk of giving up cultural experience and identity - launched a strategy of alphabetization related to 'the oppressed', i.e. poor people's of 3<sup>rd</sup> world, which takes alphabetization as a way of knowing (Freire, 1972, orig 1970). So in order for alphabetization to be the development of a language and categories of thinking to express yourself, your identity and interests language learning must be closely integrated with social change and political self consciousness building. This view has gained a broad influence in Brazil and many other countries in the 3<sup>rd</sup> world, exactly because it articulates the contradictions in modernization on the level of language.

Some seem to assume that literacy in its traditional sense - access to reading and writing - is a residual issue which will disappear as soon as modernisation processes have been completed. However - it is still highly relevant. Not all need to read and write from the beginning, but this is becoming necessary - and this is where adult education comes in. The relevance and location of this problem - and indeed of the attempts to solve it - has been an issue defined by the frontiers of modernisation, a matter of integration of populations in the modernizing societies and, seen from the other side, of access to literary knowledge - from the bible onwards. This literacy problem has proved extremely resistant, as one among other indicators that global capitalism does not necessarily imply cultural homogenisation of the world over night. Today literacy is becoming a political agenda (again) in the highly developed countries - the reservoir of reserve labour must be literate, and social cohesion is threatened by the existence of culturally marginalised segments of the population (or rather: the social integration of individuals is not any longer secured by marginalised communities). And still literacy is an important indicator of the asynchronous nature of the modernisation



process on a world scale.

Numbers and mathematic cognition seem to follow a similar pattern. Modernization would also not have been possible without the languages of mathematics, including numbers. Some elementary aspects of mathematics have been widely spread and integrated in social practices (market exchange based on simple calculation, construction work embodying geometric models). But mostly the division of labour has been very sharp, and the specialisation of mathematic competences high. Apart from the school system active application of mathematic competences are embedded in specialist professions of science, technology and increasingly social technology.

This is shifting: A new agenda is taking shape with the key term Numeracy which was constructed back in the 50ies in Britain, clearly connotating to Literacy, and which has now gained substantial practical interest in adult learning and education as well as in work life. Discourses include a skills need problem, a schooling and education access question, as well as a democracy perspective.

Numeracy is defined as the ability to handle numbers and to understand information in other mathematical terms like percentages, graphs, models etc. (Wedege, 2000, Coben et al 2000). Narrow institutional interests are of course picking up the agenda of numeracy in developed countries: Mathematics seeking legitimacy and new business domains. The overall changes in the entire societal knowledge formation and division of labour is defined as the need for a wider distribution of a new cultural technique, which is more or less the same as mathematics (among other as a part of 'back-to-basics' and the continuous use of mathematics as a selective discipline in higher education). However, this is not just a question about learning Mathematics as a 'cultural technique', thereby gaining access to certain cultural domains, improving work qualification, and strengthening your democratic competence.

Schools produce very differentiated math skills, often correlating with class and gender. Very often schooling at the same time seems to produce emotional relations to math which are strongly correlated with success and failure. The mainstream interpretation is still concentrated on math as a specific technical mode of thought, and individualizing the successes and failures. We did use to crack jokes about the assignments in arithmetic that were class biased in a way not corresponding with the children (stock trading, financial calculation). Feminists have attacked the myths and misunderstanding on the gendered records of math (Walkerdine et al 1989).

So much for the actual repressive functions of math teaching. But like the literacy case, people do have numeracy competences. Research into vocational skills and training prove that people with learning difficulties in school may have mathematical skills embedded in practical competences (e.g. Mellin-Olsen 1976, 1987). Likewise research has shown differentiation in abilities to solve mathematical tasks in school and in out-of-school practical settings respectively (e.g. Lave, 1988). The problem seems similar to the one Freire raised in relation to literacy: Mathematics is an abstract language, which does not necessarily encompass or enable the expression of the people's everyday life experiences. Hence learning math is more or less difficult and alienating, and produces negative emotional relations. And the competences actually already available embodied in existing social practices cannot are abolished by a 'mathematisation' of these practices.



Looking into the literature I found a conception in line with and inspired by the Freire'an position: 'Ethno-mathematics' (formulated in Brazil by e.g. D'Ambrosio, quoted from Gelsa Knijnik in Coben et al 2000): Numeracy competences are embedded in basic technologies and modes of social regulation (trade and organisation of production). The technological transfers and coercive changes during capitalist modernisation devaluates old numeracy competences and - primarily: introduces new ones. Abstract calculation and modelling are part of the division of labour which is taking place with modernization.

In the capitalist centres industrialisation and professionalisation of crafts and habitual work processes transfer knowledge to new modalities, and most often in the end into a computer (J. Weissenbaum has talked about 'stolen knowledge' somewhere, quoted from Edgar Weick) - and consequently a demand is returned to people to become 'numerate', i.e. to handle abstract numbers and ways of presenting knowledge in mathematical forms or even worse. This defines the skills needs as well as the need for democratic tools to access and participate in cultural processes.

It is necessary, but not sufficient to understand this - real - challenge in its contradictory quality, it is also necessary to develop a new conception of numeracy and numeracy learning in the context of experience and learning - a new conception of mathematics so to speak.

I wonder if it would not be productive to see learning for (active) citizenship in the same context as literacy and numeracy. Obviously it deals with a number of basic competences which are (becoming) necessary with modernisation process, as a consequence of the building af a political machinery as well as the social dissolution of premodern family and communitarian structures. In the last few years the perception of civil society has been emphatically positive, though perceived in multiple ways. Sometimes (active) citizenship in the context of adult education and learning appears to be a cultural technique for political action and self regulation, but actually as a competence it could be related to the realization of the bourgeois democracy, with all the contradictions embedded in it. This becomes very clear when contextualized across Europe (Bron et al, 1998): the vitalisation of civil society in Eastern and South East Europe, which is a learning process of political as well as entrepeneurial and wage labour rights and responsibilities, and of market relations - whereas in post-Thatcher Britain you could call it a repair work on the liberal welfare state - and in the nordic countries a challenge to the professionalized social democrat welfare state. The cultural techniques of political participation and active citizenship have entirely different subjective meanings, and they also relate to historically different processes, they are all related to modernisation processes, but in different ways.

Literacy				
Numeracy				
Citizenship	tast.			·



One might add *informatics* or *computer literacy* and something like *iconological* or *image-literacy* as basic techniques that you need to master in order to have access to culture, but such that do at the same time shape or mediate your experience in a specific way. Could these - altogether relevant and interesting - enhancements of the literacy notion in different directions anticipate a new concept of competences for a developed modernity, anticipating a knowledge democracy? Could we order different modalities in a hierarchy - may be 'literacy', 'numeracy' and 'citizenship' could hold a privilege as 'the three cultural techniques of modernity'? Apparently there are some similarities among these cultural techniques - though they also reflect modernisation processes in different phases and contexts, and relate to different functions in the social formation. What is more important: they represent different aspects of subjective orientation and social practice. They represent - qualitatively different - aspects of the subject-object-dialectic of cultural development and learning.

Interestingly the recent OECD Literacy survey also includes certain aspects of 'quantitative literacy' as well as mathematical types of 'document literacy' (graphs etc) as a part of the notion of 'functional literacy' (OECD, 1997). The survey basically reflects the new shared agenda of highly developed as well as developing countries, that literacy is important for economy and development. It monitors inequalities and surprising lags in adult literacy even in countries with a well established educational provision - all demonstrating the need to be concerned about this field.

However, most interesting in this context is a remarkable development in methodology. In stead of simply testing reading abilities with standardized tests a complex instrumentarium is applied to measure competences in context, intending to produce an index of 'functional literacy'. In a comparative study this is delicate balance in defining tasks ('contexts') which are to some extent comparable and yet relative in either (socially and culturally different) context. However, this methodological difficulty is one of real life. In spite of the fact that the OECD survey is still just resulting in comparisons on a one-dimensional scale (or rather a number of combined scales), related to a rather traditional literacy policy, the methodology opens a space for discussion (deconstruction, if so wished) of the literacy concept. The reason is of course the influence of economic thought: Interesting is not how people achieve in an abstracted reading skill, but to which extent they can use their literate competences in everyday life. The critical implications to education seem obvious, however the critical awareness does not go very far in relation to the underlying economic thought: We are learning about 'human resources', not about identities and specific experiences and meanings embodied in language.

So different Freire and OECD may appear, they both point to the question about language in societal context, and 'society in language' - both reflecting the contradictions of modernization processes. The OECD study representing modernization itself - the globalized capitalism - and the necessity to make sure that individuals acquire certain basic cultural techniques, by its methodology situating literacy in a tension between standardized resource and cultural specificity and related resistances. Freire insisting on a not yet broken connection between language, consciousness and social liberation.

#### Experience in a modernized life world in a global capitalism



I think many western - i.e. modernized, professional - pedagogues have appreciated the motivational aspect of Freire's pedagogy as well as it's social justice perspective - an efficient way of bringing people to the same place as 'we' are, giving them access to language and hence to knowledge and/or power - without really grasping the way in which language is political.. But in the context where Freire originated his thinking it was really a matter of 'functional literacy' in the precise critical sense of linguistic competences that encompass the experience and needs of the language user/learner. The Freirean emancipation vision is located in the experiences and actions of those who are invited by or threatened by this modernisation. In a different historical setting, within the capitalist center in Europe, the German sociologist and political philosopher Oskar Negt developed a new conception for the worker's education from a point of departure very similar to Freire's (Negt 1972, Salling Olesen 1989). Negt pointed out a tension between a language which was constrained within an everyday social situation which seems natural and unchangeable, and a 'petrified' language of theoretical concepts and political (socialist) ideas - both useless for political learning. So he developed the idea about 'exemplaric learning', i.e. first of all to work with the experiences of everyday life and their contradictions. Critique of society and authentic ideas of change must develop out of lived experience, they must create their own language, or revive stiffened languages. Books and written language may serve political imagination that might still insist on universal communication and cultural exchange, but only provided that they are rooted in personal experiences of everyday life.

Today the demand for cultural techniques of a universal culture - as they appear at the frontier of capitalist modernisation - is ubiquitous, as it is reflected in the new literacy problem of the capitalist centre. In each case the acquisition of the 'cultural techniques' also represents a potential reification of existing competences that are historically relevant. The micro-studies of everyday life competences in work procedures which have to be given up - sometimes kicked out together with the people who embody them - is just a small example. The concern about motivation in learning mathematics is another one.

The construction of new cultural techniques claim that these other modalities of thinking, communicating and acting are having or will enhance the action and participation range of the learners. I have tried to follow this argument one or two steps, by assuming that 'modernity' in order to integrate social processes impose on it's members new competence needs. The fact of modernity is that we have established a world where the universal reflexivity is mediated by written language, a technology and coordination which is dependant on 'numeracy', and a political machinery which is dependant on the recognition and practical mastering of 'citizenship'.

Central seems to be to pursue the contradictions in the universalisation - appearing as contradictions in the learning of the literacies as they were observed by Freire, echoed in the discussion of numeracy - and 'inconsciously' taken into account by OECD study. These contradictions point back to the process initiated by a capitalism driven modernization of life worlds. The universalisation of cultural media as well as meanings ('content') become compulsory for the orientation in the modern world, for handling the technological artefacts and organisation, for organisation, and for social action. The question is whether it is possible to reconcile these 'modernizing' competences on the one side with the authentic experience



of life world and a self regulated social practice.

Global capitalism has dramatically changed the horizon of the individual as well as the conditions for constitution of any individual and collective subjectivity. Also it has established the situation of asynchronous development, where transitions from pre-modern communities to modernized societies take place at the same time as the nation state boundaries as well as other well defined structures of the modern world are dissolved or relativized. The gap between the strong causal interdependence, and multiple and local horizons for cultural orientation and possible action is what postmodernism programmatically responds with the insistence on the latter (Andersson, 1998)

Oskar Negt's point of departure is the already existing modernized reality, included the modern ideas of liberation, i.e. of the socialist labour movement, but also that the potential for emancipation from capitalist exploitation and reification can only grow out of a political learning process at the centre of the contradictions in capitalist development, including the welfare state which is an important local precondition (Negt/Kluge 1981; Salling Olesen 1999). The critical or emancipatory understanding of the individual learning needs imposed by this development are located in the relation between 'living work', the concrete workers in a specific situation, and capital. But unlike traditional socialist views of workers' education and the working class at large, the focus on experience and learning in everyday life gives way to the rethinking of collectivity and the status of (working) class as a monolithic societal agent. At the same time as it identifies the specific dialectic of workers' learning in context in the capitalist centres this framework is open to local and multiple developments under the conditions of global capitalism.

Updating and generalizing this principle, which had only been implied in the conception of exemplaric learning Negt has proposed 'six competences that a worker in the future will need' (Negt 1989, pp256ff). I think it is an interesting bid for a general social literacy. In brief they read as follows (my translation):

- 1. Competence to create cohesion
- 2. Competence for a careful interaction with people and things (ecological competence)
- 3. Competence for balancing a threatened or broken identity
- 4. Memory and utopian imagination (historical competence)
- 5. Sensibility to experience of expropriation
- 6. Technological competence (refined ability for distinguishing)



This is the order of headlines. In this context we could see the  $4^{th}$  and  $5^{th}$  as immediately corresponding to Freire's ideas. The  $6^{th}$  indicate the acceptance of the modernized man - the necessity of embodying technology - whereas the  $1^{st}$ , the  $2^{nd}$  and the  $3^{rd}$  also presuppose the 'effects' of modernization at the same time as they indicate a critical perspective beyond the industrial civilization (the ecological competence) as well as the traditional labour movement collectivism ( $1^{st}$  as well as  $3^{rd}$ ).

### Implications for Lifelong Learning Research

Without going deep in explication of these headlines it is important to state them as dimensions of prospective learning processes, located within modernisation processes but at the same time dissolving or reconfiguring agents and structures of modernity. The dilemma of this learning process seems to go between the universalizing culture, and its tendency to individualize the competence adaptation, and the ideas of a self regulated, collective experience building. The consequence of the modernisation is the development of a new, societal external regulation of peoples lives, Brazilian Indians as well as workers in Europe. The question about self regulation must remain an orientation mark, however historically relative and conceived as a utopian vision. Collective experience is what is dismantled by modernisation, by the de-traditionalization and the market interlinking of communities far beyond existing collective consciousness. The literacy question could be set as the question about access to the media for collective experience building in a world where the gap between the life world and the scope of societal interrelation is evident. If we state that global capitalism or world market is the societal relation that enforces this interrelation, then the political struggle in relation to learning and communication goes about the learning to invade the cultural media (language, etc) with the experiences of life world, and to vitalize these media in creating collective experience.

This is meant to indicate a context - very general indeed - in which the research field 'adults learning math' could be situated, and which would lend some kind of orientation to a reinterpretation and re-configuration of the research field. Whereas the 'exemplary themes' were meant to be strategic ways of opening the interdisciplinary and synthesizing way of taking in knowledge, I would like to end up outlining two axes along which future research could develop. May be some will see them as more fancy names for 'the learner' and 'the subject', but is meant to give space for growth:

Subjectivity and Collective Experience: Emotional and cultural meanings of 'math' for specific people

Emotional and cultural meanings of math for specific people

Sociology of Knowledge:

Societal forms of knowing and learning 'Math'

Final remark



I think most researchers in this field, though coming from quite different backgrounds, are personally situated at the crossroads of the contradictions we have to study. I guess that most of you have critical but ambivalent relations to mathematics - and may be also to formalized education. Take it as an important resource. There is a substantial risk that powerful institutions will remain immune to the criticism implied in the discourse of Lifelong Learning, but you cannot articulate this critique, not to mention develop alternative routes, without a touch of love and belief in the education. And the ambivalence is a productive experience in order to understand the subjective perspective of adults learning math.

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