Towards a validation of the "4 didactic parameters for analysis and planning"

Ben Bachmair and the LMLG

The conceptual uncertainties underpinning mobile learning can be seen to have led to the use of mobile devices in a paradigm of replacement of other media, which were already part of the school's learning practices, within well-established theories of learning and attendant approaches to teaching. The augmentation of established approaches to teaching and learning is the main result of the integration of mobile devices in such a paradigm. However, mobile learning in our view should be seen as an educational response to the ongoing socio-cultural transformation with an emphasis on assimilation of cultural practices and practices of media use in everyday life and into schools their cultural practice of teaching and learning.

We posit that from the perspective of flexibilization of content and contexts, learning can be modelled within a space, which is constructed among others by four parameters.

Parameter A: Learning sets
Pole: Practice of the school ---- Pole: Practices of mobile media

Parameter B: Relationship to the object of learning
Pole: Mimetic reproduction ---- Pole: Personal reconstruction

Parameter C: Institutional emphasis on expertise
Pole: School curriculum --- Pole: Personal expertise

Parameter D: Modes of representation
Pole: Discrete (mono media, mono modal) --- Pole: Convergent

In the school project "MyMobile – Handy im Unterricht" these parameters offer the scope for integration of the following three areas (see also below the "matrix"):

- the overall educational and didactic discourse about learning, especially situated learning and user generated context;
- conversational and learning activities of teachers and students inside and outside the school, especially the assimilation of informal learning within teacher-guided instruction with media-based episodes of student activities;
- the features of media and of mobile devices, especially the mobile phone and the white board.

These four parameters span the poles 'static' and 'flexible'. They attempt to link opposing learning and media practices and address differences in learning habitus. If one applies these four parameters within the global space of learners' life-worlds, the scope and variability for analysing and planning learning situations becomes considerable. We take the view that these didactic parameters provide a useful analytical tool for discussing and evaluating mobile learning, even if their focus is not per se on the role of technology but, instead, on general didactic considerations.

The parameters, we argue, provide the opportunity to consider the breadth of teaching and learning in school in relation to individualised, mobile society and mass communication. One of our parameters focuses on modes of representation from mono media to media convergence. The parameters also deal with changing agency, such as the relationship of students to the learning object and the personal expertise of students in relation to the prerequisites of the school curriculum. Because the school's usual practices of teaching and learning are intertwined with a variety of mobile practices, we reflect on learning sets in another of the parameters.

How can these four parameters be validated?

The German mobile learning project "MyMobile – Handy im Unterricht" is used for discursive validation. The frame for the validation is the group of educators who initiated instructional 'project group' units within the normal school curriculum. The parameters "Learning sets" was kept stabile as "teacher guided instruction with media based episodes of students activities".
Two tools supported the operationalization of the parameters:

- a matrix which combines (a.) cultural transformation with didactic targets (pursuit: of education), (b.) structure elements of mobile learning (pursuit: didactic), (c.) application of the features of media and of mobile
- The educational pursuits were operationalized through educational guidelines (see line (a.) of the matrix).

The session will report on the functionality of the matrix with respect to the institutional unit in Math: "Handy zwischen Kugel und Google" **(**Mobile between globe and Googel); "Konstruktion und Vermessen von Kreisen und Kugel im lehrergeleiteten Unterricht mit mediengeleiteten Episoden von Schüleraktivitäten" (Construction and measuring of circles and globes in a teacher guided instruction with media based episodes of students' activities). The attention is on the functions of mobile phones in episodes of situated learning. At first, the functions will be discussed in the light of the matrix for practical planning. At second, there will be a report of results of the evaluation of these episodes of situated learning by the students, the responsible teacher and the representative of the parents. Further on we focus on the interrelation of the concepts of *situated learning* and user generated contexts in the light of the episodes of mobile activities of the students.

Questions:

The leading question is a methodological one: how, in a hermeneutic approach, can the analytic tools for practical instructional innovation be validated in the context of cultural transformation and existing learning practices?

Is it possible to integrate a theoretical matrix and the didactic parameters as an interface for school practices, new cultural structures and innovative cultural theories of education?

What kind of discursive and sustainable strategies are helpful to implement, by means of situated learning, the ongoing developments in mass communication into the curricular practices of schools?

Is it possible to find examples of school practices which represent the flexible poles of Parameter B: Relationship to the object of learning: Personal reconstruction, and of Parameter C: Institutional emphasis on expertise: Pole: Personal expertise. Is the representational form of the web adequate for a conversational input from teachers?

Is it possible to integrate participating learners with their expertise of formal learning and instruction into the evaluation of instructional units? Which function does the official assessment of learning results have for the evaluation of instructional units?