

# Researching mobile learning – A socio-cultural ecology as framework for qualitative research standards

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# Structure

0. Some preliminaries
1. Theoretical framework of a socio-cultural ecology
2. Methodology for case description and analysis
3. Examples of mobile learning
4. Discussion and conclusion

# Our focus

Learning with mobile media at the interface of learning in formal and informal settings

# Our interests

- We are interested in how learners make technology their own (appropriate technology) for and through
  - meaning-making / learning
  - identity formation
  - social interaction
  - entertainment
- What boundaries exist between users' everyday lives, their life-worlds and the world of learning and how can the structures, agency and cultural practices of users' personal life-worlds be made fruitful for learning?
- understanding the 'mobile complex': the world in social, cultural, economic and technological transformation

# Our approach

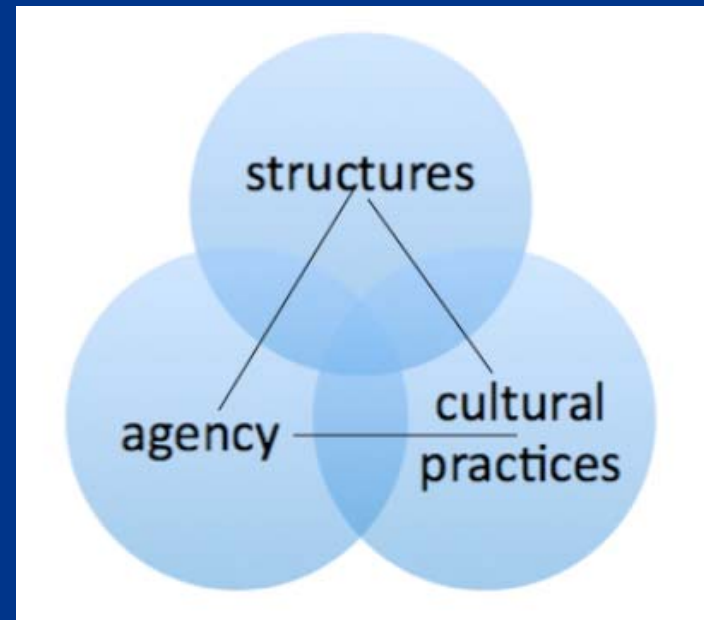
- new habitus of learning
  - close connection between meaning-making and learning, in semiotic terms between the making of signs and the making of concepts
  - learning as purposive work with cultural resources
- individualisation v. institutionalisation
  - learner's expertise is individually appropriated in relation to personal definitions of relevance
- challenges
  - life-worlds framed both as a challenge and as an environment and a potential resource for learning
  - the world has become the curriculum populated by mobile device users in a constant state of expectancy and contingency

# Definitional bases

- what is new is:
  - the capability and the functionality of the technology, in particular the convergence of services and functions into a single device, its ubiquity and abundance, portability and multi-functionality
  - the boundary and context crossing mobile technologies enable in the context of learning
- mobile learning as 'anytime, anywhere', 'just-in-time', 'just-enough', 'just-for-me' rather than 'just-in-case'
- mobile learning – as we understand it – is not about delivering content to mobile devices but, instead, about the processes of 'coming to know' and 'being able to operate successfully in and across' new and ever changing contexts and learning spaces
- mobile learning is about understanding and knowing how to utilise our everyday life-worlds as learning spaces, not primarily about technology
- we view learning with mobile devices as a process of meaning-making through communication across multiple contexts among people within a triangle of social structures, cultural practices and agency (see also Sharples, Taylor and Vavoula, 2007)

# 1. Theoretical, conceptual and methodological framework of a socio-cultural ecology

- **agency:**  
appropriation as internalisation and externalisation in relation to media use and learning habitus; user-generated content and contexts; naïve native expertise; personally defined relevance
- **structures** (social, cultural, technological):  
media complex characterised by individualised risk and media convergence, affordances of devices
- **cultural practices:**  
learning as culturally situated inside and outside of educational institutions; linking learning in informal and formal settings



## **2. Methodology for case description and analysis**

# Selection and description of case studies and a framework for comparative analysis

- Qualitative media research
- Methods are seen as appropriate to consider
  - the activities of learners in the context of school /university and their life-worlds,
  - the resources, which learners are using (in terms of agentive and meaningful activities), and
  - to ask for the potential inherent in these resources and activities

- Triangulation of methods, investigators and (interdisciplinary) theories
  - grounded theory
  - individual case studies
  - discourse analysis
  - action theories
  - interpretative ethnography
  - case comparison

- **Analysis: Phenomenology and hermeneutics**
  - **Level 1:**  
the readily apparent, the core of an example of mobile learning
  - **Level 2:**  
the salient but latent structures of the example, which have to be extracted by a theoretically informed analysis

# Categories for description and analysis of mobile learning cases

# Categories for the formal description of projects

1. context/rationale
2. approaches to teaching and learning
3. technologies and requirements
4. project outcomes
5. lessons learnt/issues emerging
6. recommendations and future possibilities
7. general project data

# Categories for the analysis of projects

- A agency, structure, cultural practice
- B approaches to teaching and learning
- C notions of mobility
- D user-generated contents and contexts
- E replicability and transferability

# Four 'parameters' as tool for analyzing and planning teaching and learning with mobile devices

- Parameter (A): **Learning set**  
practice of school – practices of mobile media;
- Parameter (B): **Relationship to the object of learning**  
mimetic reproduction – personal reconstruction;
- Parameter (C): **Institutional emphasis on expertise**  
school curriculum – personal expertise;
- Parameter (D): **Modes of representation**  
linear – convergent.

### 3. Examples of mobile learning

Project „Handy“: The use of mobile phones in German, Maths and French lessons

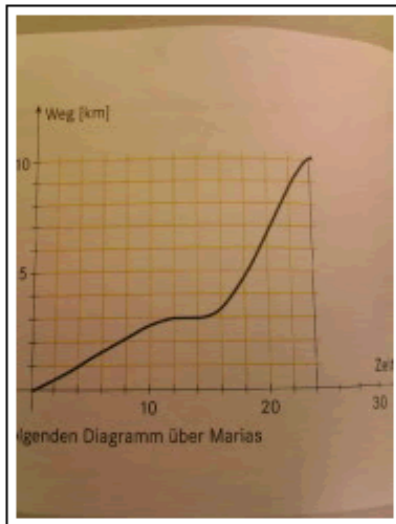
# Description

Project Name	Handy
URL	<a href="http://metaportfolio-phsg.kaywa.ch/">http://metaportfolio-phsg.kaywa.ch/</a>
Country	Switzerland
Year	2007
Contact	Rolf Deubelbeiss, Nationale Elitesportschule Thurgau; Pädagogische Hochschule Zürich
Types of mobile devices	Mobile phone
Further media	Weblog
Number of persons	60 (3 classes)
Duration	3 weeks +
Location	School/classroom
Educational establishment	Secondary school: intermediate school (Realschule) and grammar school (Gymnasium)
Phase of education	Year 7 to 9; 11/12 to 16/17 year old pupils
Subject domain	German, French, Mathematics; interdisciplinary
Teaching/learning focus	Support learning with mobile devices; reflect on usage habits and etiquette
Keywords	Multimodal content creation (transformative; knowledge building); microlearning; m-maturity/technical literacy; archive; sustainability; peer-teaching; languages; Mathematics; everyday life; expert scheme; genres

# Path-Time Diagram

Weg-Zeit-Diagramm

3. Sek.



Was kannst du aus dem Diagramm über Marias Schulweg alles herauslesen?  
«Lösung» Der Schulweg ist 10 km lang und Maria benötigt dafür 24 min Für die ersten 3 km braucht Maria 12 min, es geht wahrscheinlich bergauf, dann macht sie 2 min Pause, die restlichen 7 km legt sie in 10 min zurück. Steile Kurve bedeutet schnelle Fahrt. Flache Kurve bedeutet langsame Fahrt.

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“What can you read into the diagram about Maria’s way to school?

«Answer» The way to school is 10 km and Maria needs 24 minutes for it. For the first 3 km Maria needs 12 minutes, the path might be uphill, then she rests for 2 minutes, she covers the remaining 7 km in 10 minutes. A steep curve represents a fast ride. A flat curve represents slow speed.”

(Translated from Deubelbeiss 2007a)

# Limerick

Elfchen

1. Sek.



Ich bin der Prince, man glaubt es kaum, bin auch schön anzuschau. Viele Schläge aufgelber Ball. Ich heisse Prince, man glaubt es kaum.

Limerick Regeln: - Limerick ist ein Gedicht, das aus fünf Zeilen besteht. Die Zeilen 1, 2 und 5 sind gleich lang und reimen sich. Die Zeilen 3 und 4 sind kürzer und reimen sich auch. Kuryformel: a-a-b-b-a - Der Inhalt ist weniger wichtig als die Form; er darf widersinnig und sicher nicht bierernst gemeint sein. Hauptsache, die Form stimmt!

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„I am the prince, it is hard to believe, I'm also nice to look at. Many hits on yellow ball. My name is prince, it is hard to believe. Limerick rules: - A limerick is a poem which consists of five lines. Lines 1, 2 and 5 have the same length and rhyme. Lines 3 and 4 are shorter and rhyme too. Short hand: a-a-b-b-a - The content is less important than the form; it can be absurd and does not have to be very serious. The main thing is that the format is correct!“

(Translated from Deubelbeiss 2007b)

# Syntax

Satzglieder      3. Sek.



Hier mein Bild von Fabian :- ) und hier einen Satz dazu, bei dem du die Satzglieder bestimme musst:

Kannst du die Satzglieder bestimmen?

*1. Fabian 2. isst 3. einen Hamburger 4. am Bahnhof.*

**Lösung:**

- 1. Subjekt**
- 2. Verb**
- 3. Objekt**
- 4. Präpositionalobjekt**

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“Here is my picture of Fabian :- ) and here a sentence to go with it, in which you have to determine the parts of the sentence.

Can you determine the parts of the sentence?

1. Fabian 2. eats 3. a Hamburger 4. at the station

Solution:

1. Subject
2. Verb
3. Object
4. Prepositional object”

(Translated from Deubelbeiss 2007c)

# Analysis

- A agency, structure, cultural practice:  
multimedia and multimodal content production and literacy; miniaturisation of learning units; cross-references between leisure and school; learners' expertise;
- B approaches to teaching and learning:  
information gathering; reflection of learning contents by content production; peer teaching;
- C notions of mobility:  
mobility between contexts: school – everyday life; institutionalisation – individualisation; informal – formal settings;
- D user-generated contents and contexts:  
overlapping of and links between contexts; contents produced according to learner's assumption of affordances; links between text genres from school and everyday life;
- E replicability and transferability  
learners use their own experiences (naive native experts) and personally owned equipment

# Didactic concept

- **Parameter (A): Learning set:**
  - practice of school: getting familiar with content, producing learning material)
  - practice of mobile media: text writing, image capturing, combination of both in an MMS
- **Parameter (B): Relationship to the object of learning**
  - mimetic reproduction: limited
  - personal reconstruction: reconstruction of learning content
- **Parameter (C): Institutional emphasis on expertise**
  - school curriculum: affordances like reading of a path-time diagram
  - personal expertise: reading and writing in school terms as well as in relation to the use of multimodal and discontinuous texts
- **Parameter (D): Modes of representation**
  - linear – convergent: reading and writing by referring to different texts modes and structures

## 4. Discussion and conclusion

- possible ways of harnessing the potential of mobile phones for learning across formal and informal settings
- a view of participative meaning-making and its relationship and potential for learning
- characteristics of learning with mobile devices in the context of multimedia and multimodal use
- students' cultural practices allow them to record their experiences and view of the world and to produce, or to access (multimodal) objects and cultural artefacts within and outside of school
- challenges for schools in terms of the need for a realignment of certain traditional cultural practices of learning in line with changing cultural practices in everyday life

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