



Issues of group leadership during the design of a web-based learning environment

V. Kollias, A. Matos, A. Davaris, A.
Daropoulos

University of Thessaly



Building robust curricula for science education

A diverse group of specialists

- university researchers, classroom practitioners, scientists and curriculum designers

a political body that needs to deliberate its way to specific design choices



Challenges for the work group

- Creating common ground with respect to the goals
- Empowering an attitude of personal responsibility among the participants
- Solution seeking strategies among the participants that are difficult to coordinate
- Working of the group dynamics



Our goals

Through the work of a team engaged in the participatory design of a web-based learning environment to see in a more precise way

- the form that the above challenges take in a specific implementation
- to provide suggestions about leadership in such teams.



The specifics of the working group

Working group: 2 researchers,
2 primary school teacher guides, 2
primary school teachers

Goal: Design a learning environment
for inquiry in science for 5th graders
based on the software
STOCHASMOS

Meetings: 8 three hour meetings
throughout the year



Data

- 6 of the meetings were audiotaped
- Interviews with the participants in the middle of the project (4 months before the implementation) and at the end (2 months after the implementation)



Creating common ground with respect to the goals (1/2)

Researcher agenda

- Students' construction of mechanistic explanations (Hammer et al 2008)
- Students' regulation and organizing of their own work
- Students' proficiency in collaboration



Creating common ground with respect to the goals (2/2)

- Domain general vs domain specific goals
- Difficulty from the side of teachers to realize the need for complex transformative learning



Empowering an attitude of personal responsibility among the participants

- Hazy agendas (frustrating)
- Contest for roles (a lot of potential for fruitful discussion)
 - Practicality
 - Cognition
 - Motivation
 - Work Organization



Different solution seeking strategies

- Design based on design principles vs. improvisation
- Work with written drafts vs f-2-f meeting



Working of the group dynamics

4 subprojects where intensive work took place in the group:

- The determination of the degree of support and guidance given to the students
- The determination of the preparation stage (how students should be prepared for participating in STOCHASMOS)
- The determination of specific content for the texts and images of the STOCHASMOS pages
- The determination of the templates (close to electronic work sheets) in STOCHASMOS



Towards Leadership Hints

EARLI 2009, Participatory design:
Challenges and Responses



Creating common ground.

Participants may need to improve in proficiencies that take time and effort to develop.

Expectations that thinking on the issues will happen only on f-2-f meetings and that the rest of learning will come just by bathing in the classroom reality makes it difficult to develop common goals.



Empowering an attitude of personal responsibility among the participants.

Participants hazy agenda of professional interests can compromise the degree of leadership responsibilities they may take.

However teachers and researchers claim expertise and knowledge responsibilities in few common domains and there is a potential there for fruitful interaction.



Hint 1

1. Structure subprojects that cover as many as possible from the domains on which both teachers and researchers feel experts (but on different grounds).
2. Include subprojects that are legitimate but both teachers and researchers experience them as “open problems”

Although it seems reasonable to break the whole design problem in such a way that each expert is completely “at his field” it may be politically more savvy to brake issues of concern in such a way that the experts are “out of ease”.



Different solution seeking strategies

Teachers felt more comfortable with elaborating on a proposed sequence and some felt uncomfortable with extended dialogue involving theory.

Teachers do not like work on written drafts



Hint2

1. If possible give draft “solved examples” from other contexts that need lot of reworking
2. Select subprojects that are concrete, are legitimate from the point of view of practicality but also involve important theoretical issues.
3. Moreover use the knowledge density of the designed objects (software, curriculum material) to exalt the value of “drafts”.



Working of the group dynamics

Group division can change form once all are involved in problem solving that is needed but where nobody is an expert.

Coming to know the researchers' lifeworld may help the working of a designing group (as well as helping establish a more democratic culture and making professional learning goals more prominent)



Hint3

1. Include in the LWG people with hybrid identities (teacher guides).
2. Moreover create opportunities for teachers to get used to the professional lifeworld of researchers.