

## Questions and Discussion

*J. Wibe*

*The Norwegian University of Science and Technology,  
Trondheim Norway*

The general discussion was very animated and many important issues were raised and discussed. Ten minutes were allowed for discussion after each presentation and about half an hour at the end. There was a lively exchange of comments. Many questions were asked and few answers were given. This may be because most of the contributions were about «learning» and as said by one participant: We know very little about how learning takes place. How does learning take place and how is the technology used in the learning process?

- *Staff Development:*

A question was raised concerning the need for staff development in the use of CIT in order for it to be properly implemented in an institution. An approach of encouragement rather than obligation was suggested. A basic knowledge of using CIT was seen as necessary not just for supporting student learning but also to be more effective in collaboration and in research.

- *Instructional Design and cultural differences:*

Is it possible to find one solution for Instructional Design taking into account cultural differences? For example by setting up a list of cultural differences and a benchmark for a particular environment.

There are microdesign questions like icons and colour. These may not be solvable as the solutions are very small grained and therefore not applicable on a larger scale. It may be possible to develop some generic tools. It was also argued that we need local adaptation.

There are also macro design questions like frameworks and strategies. Openness is important. Currently we have the culture of the designer and the cultural attitudes of the teacher, not the learners.

- *Learning:*

Most of the discussion was about learning.

It was argued that our aim is to enrich the learning experience, we need to evaluate how that occurs using different media, producing not a direct comparison of media but an exploration of the unique nature of each medium.

Evaluation methodology: "How do we know certain levels of learning takes place?"

Is it better to have one code (culture) shared by everyone or enable people to master different codes and exist and learn in different contexts? A comment to this question was: Don't think we can force one code!

We must aim to support insecure learners who are facing open/natural contexts where the truth is not known.

The learning process and the research process are the same. For example using skills of browsing, collaboration and constructing ideas. "Research" may be said to be the development of knowledge for "humanity" and "learning" as the development of knowledge for the "individual".

The promotion of learning as constructivist and the emphasis on discovery learning and learning by doing brings the process of learning quite close to that of research. In an exchange between Lewis and Paquette, it was agreed that the cognitive processes of learning and research are more or less the same, the only difference being that in learning it is usual for someone to 'know the solution to a problem' and this is not the case in research. However, the fact that someone may know the 'answer' does not affect the individual engaged in a problem solving activity.

The Rapporteurs general impression of the session is that it contained excellent papers, very good presentations and the discussion was lively, with contributions and argument from many people from different countries and different backgrounds.

## BIOGRAPHY

**Jan Wibe** is Chairman of IFIP Working Group 3.6. He is involved in several projects related to Distance Learning through Telematics in the *Centre for Continuing Education of the Norwegian University of Science and Technology*. He is engaged in the organization of a number of international conferences on the use of ICT for Distance Learning.