

## Chapter 14

# Challenges in Aligning Pedagogical Practices and Pupils' Competencies with the Information Society's Demands: The Case of Norway

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### ABSTRACT

*The authors discuss why it seems to be difficult to change educational practices in ways that put them in alignment with the competencies needed in a networked society and global economy. During the past decade most developed countries have invested heavily in improving education with ICT. However, these efforts' effects have not met people's high expectations. The authors provide insights into the complexities involved in changing institutional practices and argue that using new technologies to make learning and teaching active, innovative and productive must be cultivated over time. Furthermore, change requires a systemic perspective because multiple factors interact to determine what actually happens in classrooms. Teachers' competencies are particularly crucial. Furthermore, ambitious plans setting out new goals for students' learning need to be matched with assessment practices that assess the skills we want to develop in students.*

### INTRODUCTION

During the past couple of decades, the emergence of ICT and the Internet have contributed to trans-

forming how we organise and carry out our work, our shopping, our play and leisure activities, and our communication with friends and family. Even more important than these changes, at least for our argument, are the transformations of how

DOI: 10.4018/978-1-61520-909-5.ch014

we organise, access and share information and knowledge. Obviously, these changes pose some very important challenges as to how we organise teaching and learning in schools. In this chapter, we discuss how national educational policy addresses these challenges and examine how schools as historical institutions in society have taken up and responded to these policies that deal with ICT's implementation in teaching and learning.

The Norwegian Ministry of Education and Research (NMER) has invested quite extensively in implementing ICT in schools, particularly during the past decade. The government has devised several national plans and put a significant amount of money into developing pedagogical practices and pupils' ICT skills. Furthermore, the average pupil per computer ratio in Norwegian schools is very low. In most upper secondary schools, students even have access to their own laptop. Having said that, the uptake of ICT in schools and its effect on pupils' learning have not met society's high expectations (Arnseth, et al., 2007). Our aim is to discuss and provide some explanations for why this might be the case. Our main argument is that ICT's introduction poses some challenges to institutionalised traditions of teaching, learning and managing knowledge, traditions that it is important to be aware of in order to integrate ICT into teaching and learning. These historically developed traditions for organising teaching and learning impact how we make sense of ICT and incorporate it into pedagogical practices.

There are several explanations for teachers' reluctance to take up ICT and use it as part of their pedagogies. A particularly popular one seems to be that teachers and schools as institutions are conservative and resist change. In our view, more interesting explanations than this one emerge if we zoom in on the interface between the abilities the technology makes available and the characteristics of teachers' and learners' actual practices (Arnseth & Ludvigsen, 2006). If we do this, we can come up with highly interesting and

useful explanations of how teachers make sense of ICTs as learning tools.

However, how teachers can incorporate ICTs into their pedagogy to make learning better or more effective than it currently is is only half the story when it comes to national educational policy on ICT and education. Just as important as this issue are issues of how ICTs require and demand the development of new competencies and literacies, from technical skills to complex cognitive skills regarding, for instance, learners' abilities to find, compare and evaluate information on the Internet.

During the past five years, the issue of digital literacy or digital competencies, which is the term policy documents use, has become central to our national policy agenda. The remaining part of this chapter uses these two terms interchangeably. This refocusing of attention regarding ICT and education means that ICT is not just a means for making education effective or productive, even though the national agenda by no means excludes these issues. Instead, using, knowing about and making critical judgements about ICT applications and sites have become ends in their own right.

In Norway, digital literacy has become one of five generic skills and competencies that are to be implemented across the different subjects in the national curriculum. Despite this, the curriculum does not clearly define what digital literacy is, or how it should be elaborated, described and assessed. There is also considerable room for teachers to interpret how to elaborate and incorporate digital literacy into their pedagogical practice. In this chapter we discuss both how ICT is conceived with regard to pedagogies, that is, how teachers can use ICT as part of their strategies for teaching the curriculum to their students, and the issue of digital literacy as a generic skill that pupils need to learn.

The policy developments mentioned above also have been mirrored by a substantial research agenda. Several national and international surveys

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