

# Focus Group 2 - Changing roles of the teachers and pupils with ICT

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Keywords: Teacher competencies, teacher training, learning, educational innovation

## 1. INTRODUCTION

Whether the school of the future remains a largely physical entity or becomes a virtual presence in our future society, teachers in such schools will have very different roles from those they have traditionally exercised or play today. Their role will change as well as their relationships with pupils, with other teachers, with teacher educators and the various individuals and groups in society who are stakeholders in the education process.

## 2. THE CHANGING ROLE OF THE TEACHER

A number of “push” factors are triggering educational change and are helping to shape the way to, and the design of, the school of the future. One incontrovertible result of these synergistic processes is that the school of the future will incorporate a significant ICT component.

In many countries Governments are intent on creating an “Information Society” and are investing heavily to ensure both the technical resource base and the appropriate infrastructure is being put in place to allow complete

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The original version of this chapter was revised: The copyright line was incorrect. This has been corrected. The Erratum to this chapter is available at DOI: [10.1007/978-0-387-35403-3\\_29](https://doi.org/10.1007/978-0-387-35403-3_29)

H. Taylor et al. (eds.), *Information and Communication Technologies in Education*

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interconnection of their societies – societies where all their citizens are conversant with, interested in, and able to use ICT in their employment activities and during their leisure time.

Already, many children, right across the globe, have grown up in our increasingly technological age. They have always used computers, electronic games, multimedia resources and the many, different elements of advanced communications technologies. They expect their educational experience to offer them learning environments which are fully supported by ICT. In these environments they can use ICT tools as and when desired – the computer, the Web, the mobile phone, videoconferencing and integrated media production tools.

All teachers adopt a professional approach to education. They are keen to enhance their teaching skills and to improve the learning environments and experiences they create for their learners. Many are convinced of the powerful educational advantages ICT offers and enthusiastically integrate ICT-based activity into a wide range of classroom activities. These teachers have often been a persuasive force in bringing ICT to the attention of their colleagues who, convinced by demonstrations of good practice, are then prepared to adopt ICT in their classroom work.

These pressures to incorporate a growing element of ICT into the teaching and learning process are being exerted at a time when education is experiencing major pressures to change. A number of paradigm shifts including: From a transmissive to a constructivist approach, From teaching based environments to learning based environments, From a hierarchical to a networked structure, New roles and relationships of teachers and teacher trainers, and From control to monitoring are combining to create an educational landscape markedly different from that of a decade ago - a landscape which will inevitably be much altered in the near future.

All of the above multi-sectoral factors will contribute to the shape and structure of the school of the future. They will foster new sets of relationships between learners, between learners and teachers, and between teachers and their teacher educators.

The traditional delivery and establishment of content is becoming less important. Rather it is the acquisition and development of concepts and skills which will characterise the school of the future. This new approach should create flexible, thoughtful and creative learners, skilled in the use of educational resources (particularly ICT tools), as and when desired or required, to access information, mould this information into knowledge and then apply this knowledge to the solution of problems, the assessment and resolution of issues and the appropriate transfer of conclusions to a variety of audiences. In the future learners will be empowered to learn how to learn.

If this learning shift is to be achieved teachers as well as teaching will have to change. The changes to the education system will set new expectations of teachers and modify the portfolio of desirable competencies and skills they will be expected to demonstrate. With an enhanced ICT component figuring prominently in the school of the future teachers will have to be ICT literate – not necessarily technical experts but confident and competent users and deployers of ICT. They will integrate ICT as and when necessary in their curricular activities and should be flexible, thoughtful and creative enough to take on new or emergent applications of ICT, decide how best they can support the learning process, and incorporate them into their teaching and learning environments – in a “just-in-time” way.

Teachers will need to be ever aware of new pedagogical developments and competencies related to improving the learning process. They should be prepared to explore, accept, reject and , where appropriate, integrate these. Like their learners they will need to embrace co-operative and collaborative philosophies and become team players in the education process – able to work across a range of subjects or curricular areas and support an investigative/problem solving constructivist approach to learning. Teachers of the future will have to respond flexibly, thoughtfully and sensitively to the many needs and different learning styles of their learners. They will also need to be able to design and manage new learning environments where the development of concepts and skills can be best promoted.

These new facets of the teacher in the school of the future have important consequences for teacher educators. While many teacher educators have investigated and embraced new educational paradigms and techniques they have often appeared less than enthusiastic in their adoption of ICT. Teacher educators should respond to the challenge of ICT and be leaders in its exploration. They should actively promote ICT as a cross-curricular resource and demonstrate to trainee teachers good practice in the use of ICT. Teacher educators should model best practice and encourage their students to view ICT as a set of powerful tools which assist their personal productivity as well as promoting their professional and pedagogical expertise. Students should leave teacher education institutions aware of new pedagogical approaches, comfortable in the many uses of ICT and prepared to increasingly experiment with its use to support all aspects of learning.

While many powerful push factors bear on education there are other powerful traditional forces in operation which are resistant to “change in the order of things.” A new pattern of education is unlikely to appear quickly and the transformation to the school of the future will be slow, unless the energies of these push factors (social, political, economic, environmental, technical and cultural) are focused on breaking the circle of tradition which is prevalent in education.

This circle can be broken in many ways. Any initiative should start from the needs of the teachers and should be designed to build teacher confidence. Initiatives should encourage active participation of parents and social agencies, all of the stakeholders in the educational system and the school of the future. These initiatives are likely to be most effective if they are focused on creating communities at local, regional, national and global levels.

The world is full of such initiatives. Some of the most successful have targeted the connection of schools to allow collaborative and co-operative projects to develop between schools, teachers and pupils (notably the Enlaces project in Chile) or to provide central resource gathering centres (such as the National Grid for Learning in the UK, the European Schoolnet project and a similar initiative in Canada). In Denmark attempts to develop teacher competence in ICT have been based on teacher acquisition of an Educational Drivers Licence – a development which already has included 25% of the teacher work force and has been extremely successful when a whole school approach is used. Co-operative learning initiatives have been established in France and ICT development as a communication tool has been a feature of considerable educational activity in Israel and Iceland.

It would be valuable if these initiatives were brought together and then promoted throughout the educational community. It is also vital that they are implemented with sensitivity for the socio-cultural conditions pertaining in their respective countries.

### **3. RECOMMENDATIONS**

Cognisant of the many interacting factors which influence the development of the school of the future we would make the following recommendations which we consider would assist its creation:

- Define measures to encourage the creation of teacher communities.
- Encourage teacher communities to share ideas, models, methodologies, experiences, and materials.
- Encourage co-operation among the teacher community members.
- Provoke paradigm shifts in Teacher education institutions.
- Disseminate project based teacher training processes based on ICT.
- Develop ICT competencies of teachers in the context of projects in which these skills are required.
- Provide local frameworks in which teachers can find both technical and pedagogical support.