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ADVICE ON INFORMATION & COMMUNICATION TECHNOLOGY AND EDUCATION

Summary

The Education Council is an independent advisory body, set up by the act of 15 may 1997 (the Education Council act). The council advises, whether requested to or not, on the main features of the policy and legislation in the field of education. The council advises the ministers of Education, Sciences and Cultural Affairs and of Agriculture, Nature Management and Fisheries. The upper and lower chambers of the states general can also request recommendations from the council. Local authorities can, in special cases of local education policy, call on the services of the Education Council. The council consists of nineteen members who are appointed in a private capacity.

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SUMMARY Advice on information & communication technology and education

Recommendations of the Education Council issued to the Minister of Education, Sciences and Cultural Affairs, dated 18 March 1998. Order number 980198/219.

ADVICE ON INFORMATION & COMMUNICATION TECHNOLOGY AND EDUCATION

Summary

In its advice titled 'ICT and Education' the *Onderwijsraad* (Education Council) sets out its medium-term policy for the use of ICT in education. Focal points include social changes in education, current use of ICT, bottlenecks encountered in the implementation of ICT and the recent action plan *Investeren in voorsprong* (Investing in a Headstart) presented by the Minister of Education, Culture and Science.

Towards an information society: consequences for education

The development towards an information society will have a considerable impact on education. The selection and handling of knowledge will become more important in the years ahead. Pupils' self-study processes and 'learning to learn' will also become more important. The teacher's role will shift from someone who passes on knowledge to being a supervisor of learning processes. The educational approach will focus more on the pupil. In the opinion of the Council, ICT is an important tool with which to facilitate and stimulate these fundamental changes in education.

The current use of ICT in education

The use of ICT in education is often classified according to three functions.

1. Learning about ICT (how does it work and what can you do with it?)
2. Learning with the aid of ICT (using ICT as a tool to support teachers)
3. Learning through ICT (ICT as an independent learning tool that can perform teaching tasks that are currently performed by teachers).

In virtually all sectors of Dutch education, current activities are mainly geared to 'learning about ICT' and 'learning with the aid of ICT'. There is hardly any application of 'learning through ICT'. The Council finds that in the coming years the policy must be geared to expanding the implementation of ICT on the basis of the two first functions. At the same time, a great deal of knowledge about 'learning through ICT' must be developed.

Bottlenecks

Currently, learning with the aid of ICT is facing a number of bottlenecks. The infrastructure (hardware and software) is inadequate and teachers do not have the time or expertise to develop lessons in which ICT is used. More hardware and software, training courses for teachers and additional staff can solve these bottlenecks. Including ICT subject matter in attainment targets and examination programmes will significantly boost learning with the aid of ICT.

Learning through ICT is hampered primarily by the lack of relevant didactic knowledge. This function of ICT demands the redesign of the primary process of teacher-focused teaching to pupil-centred teaching. A crucial element in this is that the teacher's role will shift from that of someone who passes on knowledge to being a supervisor of learning processes.

A great deal of knowledge development in this area will have to take place in the coming years. Initiatives based on learning from experiences of innovations / experiments in actual practice (emergent practice projects), such as those in vocational training and adult education (BVE sector) with BVENet, are regarded as highly promising by the Council. In this context the projects must always have a primarily educational basis. It is essential that the design of innovations is carefully controlled, as are the evaluation and dissemination of the results.

According to the Council, the teaching-training courses must play a crucial role in the development of knowledge. After all, it is the teachers who will have to bring about the didactic transition. New generations of teachers must be trained in an ICT-based environment in which they can become familiar with learning through ICT. The Council finds the choice of two experimental teaching-training courses to be too modest. The Council is also convinced of the importance of relating developments within teacher training courses with the developments taking place at the 'vanguard schools' involved in the 'Investing in a Headstart' action plan.

Training and refreshers courses are important, but are not sufficient to help teachers make the transition to learning through ICT. The Council finds that teachers must also be given the time to experiment and learn while working within the current structure.

The development of educational software will be stimulated by the 'educational market' (lifelong learning). The Council finds that teacher training courses and schools must play an active role in the development of educational software.

The 'Investing in a Headstart' action plan

The Council has approved the ambitious action plan 'Investing in a Headstart' and endorses the priority given to the use of ICT in education. However, the Council does raise questions about the didactic motivation, the uncertainty about subsequent steps and the financial framework. In the Council's opinion, the action plan places too much emphasis on the provision of material resources and does not devote enough attention to the educational content of the use of ICT. According to the Council, the use of ICT in education must primarily be based on considerations of content: what must be done with ICT, why must this be done and how must it be done? Furthermore, the plan focuses on a mixture of objectives for all three functions of ICT in education. The Council finds it unrealistic to set objectives geared to 'learning through ICT' for the coming years.

The uncertainty about the follow-up steps may slow down the innovation process. Essential expenditure on the upkeep of the ICT infrastructure, such as maintenance and replacement, is not yet assured. In addition, the financial framework of the action plan does not take account of the new demands made by ICT usage in terms of the physical learning environment (accommodation, furniture, security).

The action plan starts at the vanguard schools, i.e. those schools that are already leading the way in the use of ICT. This implies that the differences between schools will become greater. The Council finds that the differences that have arisen between schools as a result of the policy must be eradicated. As a result, more resources could thus be made available to non-vanguard schools than to vanguard schools.

The Council is also of the opinion that the action plan must not be isolated from other ICT policies, such as the activities to be introduced by PROMMIT, and that fruitful relationships should be sought. This will require effective management on a national scale.

IN CONCLUSION

The Council finds the current developments in society to be so forceful that they must be taken into account when making changes to education. ICT offers exceptional opportunities for educational innovation. The Council is convinced that it is essential for schools to make much more use of ICT. In addition the Council would like to see an ongoing commitment by the national government in this area. Previous experience of ICT in education has shown that developments stagnate when the government withdraws.

Recommendations issued by the Education Council can be viewed and downloaded from the website:

www.onderwijsraad.nl

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