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Enabling local action: issues of inclusion and empowerment

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Any new technology and any form of contact between cultures will necessarily lead to change. ICTs are in this sense far from unique. However, ICTs have rapidly come to occupy a prominent position our societies, and are shaping the lives of young people in ways that we could not have imagined only a decade ago. These technologies allow almost immediate access to a wealth of knowledge and knowhow, at the same time that contacts can take place between almost any individuals all over the globe. The question today is not whether we shall apply ICTs – they are here in any case, and play important roles in the lives of young people. The question is rather: how can we apply ICTs in education, to ensure that the changes they bring with them are desired and positive?

In this article, two issues of particular interest will be discussed. The first is the question of *ICTs* and inclusion. Do *ICTs* diminish or aggravate existing inequalities? What can we do to ensure that the use of these technologies does not widen the gaps in society?

The second issue is the question of empowerment. How do we make sure that ICTs strengthen the position of the users, rather than weakening them? Which aspects need to be considered to make these technologies into an asset for the local communities?

Keywords: ICTs in education, inclusion, empowerment, community capacity building, intercultural education

ICTs and inclusion

The question of whether the use of ICTs in education aggravates or reduces social differences has been widely studied. Investigated aspects include gender, social class and ethnic background (Goodfellow, Lea, Gonzalez & Mason, 2001; Hewling, 2003; Johnsson, 2009; Lally & Barrett, 1999; Reeder, Macfadyen, Roche & Chase, 2004). There is no simple answer to this question however. Instead, Johnsson shows how, in a particular Swedish context, impact on student participation in virtual group work depends on the interaction between several such background factors, as well as on the composition of each group. Furthermore, it is unlikely that conclusions that are valid in a particular context will apply in another, if contexts differ substantially, socially or culturally.

ICTs have the potential of allowing the individual student to adjust pace and intensity of learning to his or her needs. Interaction with certain ICT mediated materials can make the student less dependent on the availability of a teacher at all moments, than if similar content was mediated through peers in direct interaction, or contained in some other media, such as books. Potentially, such aspects could favour inclusion. In one case or the other, however, effective learning during self studies will depend on the student's skills in self directed learning (Candy, 1989). The more choices and responsibility is placed on the student, the

more care must be taken to train and guide the student to develop the capacity to direct his or her learning. And when almost unlimited information is readily available, much greater demands are placed on the learner to prioritise, and assess the quality or relevance of the information that is accessed.

In a similar sense, regardless of whether group work takes place virtually or in face-to-face interaction, effective group learning will depend on attitudes and skills needed to manage this particular learning situation in constructive ways. But although self assessment skills can be trained and developed, the learner will never be in the same position to evaluate relevance and quality of learning as the teacher. The more studies that take place without direct contact with teachers, the higher demands are placed on the quality of human feedback that the students do receive, since constant readjustments and guidance are no longer automatically part of the learning process (Nordén & Anderberg, 2010). If evaluation and feedback only occur in the form of exams, this will necessarily have a negative impact on learning quality.

There is no doubt that ICTs have the potential of providing powerful support in learning. But whether or not this potential is realised, will largely depend on the precise manner in which they are implemented. Research suggests that to support learning, teacher preparation and follow-up of ICT mediated learning activities is crucial (Nilsson & Jakobsson, submitted; Nilsson & Svingby, 2009; Nordén & Anderberg, 2010; Svingby & Nilsson, submitted). The institutional framing within the schools and the curriculum is also an important factor (Nordén & Anderberg, 2010). Another important question is whether the materials have been developed primarily for educational or commercial purposes. When teacher support is inadequate, and particularly if materials are commercial, gaming will tend to cause distraction rather than support learning (Svingby & Nilsson, submitted). These issues are important with respect to inclusion, since students from more educated families are likely to get support from parents that compensates for the lack of teacher guidance.

An advantage for working professionals, or other groups who have problems adjusting their working schedule to the set demands of a physical course, is that ICTs can offer the opportunity to study when the individual student has time. However, scheduling learning outside of school hours will tend to favour wealthier students who have more free time and more support from parents. If the intention is to make studies more available to working people, it is therefore important that other aspects of such courses are also adapted to the particular needs and circumstances of the groups they address.

At compulsory school level, course designs that involve considerable amounts of activity outside school hours tend to have an adverse effect on less affluent students. More affluent students get support from parents. They can afford private lessons or remedial courses, or engage in leisure activities that contribute to learning the type of skills and knowledge that are valued at school.

Other factors reinforce such effects. Students from affluent backgrounds are more likely to have a quiet space of their own at home, where they can study undisturbed by younger siblings, and are less likely to do chores at home or other work. This means such students have more time for homework and assignments. To the extent that wealth is often coupled with a more individualistic mindset, it is also less likely that students from wealthy backgrounds are required to engage extensively in social activities in the community or their extended families.

An implication is that although ICT mediated learning activities may take place outside the physical school setting, to promote inclusion they should be scheduled to take place within school hours.

In socially heterogeneous groups, care must also be taken to manage differences constructively, whenever students' extracurricular activities, identities, leisure interests or social position outside school are involved in assignments in any way. This becomes increasingly important when the physical places and boundaries that traditionally define the respective roles of school and home are replaced by virtual environments that may include both (Lauwaert, 2009). In this case, attention needs to be devoted to the implications of such changes for the social spaces students that students belong to, or are otherwise engaged in.

It is essential to consider which precise ICTs are used, and how they are applied. For instance, ICTs can be used to increase access to education of students with special needs (Note 1). If sufficient attention is not devoted to this aspect, however, changes in technology will instead tend to exclude disabled students.

In general, new technology tends to aggravate exclusion, when:

- it involves risks, because poor people find it harder to recover from a loss;
- it involves making other changes in lifestyle;
- the user is required to adapt to the predefined design of the tool, rather than adapting the tool to the needs of the user;
- use of technology channels scarce resources away from areas serving basic needs or other more productive activities in terms of money, but also in terms of teacher time, as well as student time and attention;
- technology involves frequent change, demanding that the user have the extra time and means to keep updated and learn to use the new technology.

For instance, it is widely acknowledged that significant learning takes place outside actual school settings. For relatively affluent students, investing time and money using ICTs means a new and stimulating way of spending leisure time, while for less affluent students, time outside school may be needed for work.

Being able to manage the latest technology can thereby be a means of signifying status and maintaining the gap towards the less wealthy. Instead of helping to bridge differences, it then becomes a way of defining social stratification.

Finally, when considering the impact of ICTs in education, it is not enough to look at possible effects on inequalities due to income or disabilities. Changes connected to the new technologies also affect the position and opportunities of different generations. Such changes can be radical to the extent of inversing the roles of the generations, and rendering

communication between generations difficult. Young people become the "experts" in the new technology, and thereby also the holders of "knowledge" – although they lack the knowledge and experience of the older generation, which is necessary to evaluate implications realistically (Postman 1982/1994; Stuckelberger & Sr Anne, 2006).

The power to make a choice

The impact the use of ICTs in education will have in countries around the world largely depends on the user's ability to discriminate and select what is useful, rather than passively taking what is offered (Note 2). Otherwise, there is a real risk that values will not be defined in local communities but by international commercial interests. These issues are particularly important, since young people are very vulnerable to manipulation. Adolescents are in a period of their lives, when they are defining their identity and establishing self esteem. They may feel the need to buy certain products or engage in certain activities, to gain social acceptance. At this age, it is decisive whether self worth is defined by the amount of commercial products the teenager is able to buy and consume, or by respect gained through service to one's family and the local community. In other words, the primary issues concerning the use of ICTs in education are not technical, but ethical and moral, social and cultural.

Here we must consider by whom the content, structure and uses of ICT mediated education are decided. Are such questions resolved by the supplier of ICT resources, or by the users (cf. Lauwaert, 2009), and if so, at what level? Are priorities defined by national educational policy, by individual teachers, or by schools? Which decisions are made by the students themselves, their parents or local communities? And if several of these levels are involved, how is coordination and communication articulated between them? If ICTs are to contribute in positive ways to community development (Noya, Clarence, & Craig, 2009), users need to be in a position to make informed choices. This, in turn, implies a number of conditions:

- Making a choice implies that there is a real choice. In other words, the user needs to have the possibility of saying no, or just selecting parts of what is proposed.
- There has to be the possibility of reinterpreting tools or information and giving them new uses, new purposes and a new meaning that is relevant in the local context.
- Informed choices suppose an awareness of own needs and priorities, based in a collective discussion at the community level.
- Awareness is needed concerning the different ways tools will shape the development of society.
- Awareness is above all required concerning the values that motivate the way information is presented and related to practical applications or theoretical frameworks.

Culture specific frames of relevance and values are embedded in the structures of the tools, as well as motivating the type and quality of information that is omitted or included. For example, a virtual environment, like Sims, presents certain norms and culturally invested expectations. These norms concern urban or rural landscapes, urban planning, physical

appearance, as well as lifestyle and social interaction, or ways of earning a living and managing an economy (Nilsson & Jakobsson, submitted).

A number of concepts are also needed to verbalise a reflection on such issues. Necessary concepts include ways that values and culture relate to cultural artefacts - such as ICTs - to allow a discussion among users of implications that the use of this technology may entail. For if these relationships are not both understood and verbalised, a discussion will not be possible.

Tools shape practices

Structures imposed by the tool restrict type of use that can be made (Wertsch, 1991, 1998). Thus the tool will shape the content and define possible activities. Tools are not neutral. To some extent they will impose a particular form of use, and thereby mould new practices and ideas, as well as affecting social relationships in radical ways (cf. Hylland Eriksen 2001; Parkins, 2004). In the "information society" the younger generation become the experts, and obtain the role of guiding and teaching their elders. But this shift in roles, that new technology has caused, does not mean that young people today have the knowledge or experience, needed to assess consequences realistically, or assume the responsibilities that the position of "expert" entails (Postman 1982/1994).

But although the designer has considerable power to influence how technology is used, if the frame of relevance of designer differs from the user's, this will also affect use. Important aspects include social positioning and accepted forms of interaction, as well as patterns of production and consumption. For instance, on Greenland, there are no roads, so owning a car has become a pure symbol of status, rather than also serving as a mode of transport. In Saudi Arabia, cellphones are affecting traditional segregation between unmarried girls and boys. Instead of being a mode of communication between individuals who already know each other, the phones have thus become a way to fix "dates" between young people who would otherwise not have met.

Structure has certain advantages, because it defines the focus of attention. This provides the possibility to discern relevant features of the learning content, and thereby reach understanding and awareness. At the same time, there is the risk that the wealth of information also offered by ICTs instead prevents students from focusing on relevant features. Many students today experience problems of attention and concentration. Above all, it is important that ICT users realise that what they are dealing with is not the world as such, but particular perspectives on the world, and that these perspectives are ultimately based in cultural values.

Virtual environments and responsibility

Virtual environments are not governed by real world constraints. In gaming, for instance, anyone can become a billionaire. Every player has multiple lives. Killing does not cause

actual pain. Assuming new social identities does not require much of an effort, and anything that does not please the player can be turned off at the switch of a button. In a worst case scenario, this can foster irresponsible behaviour and unrealistic expectations concerning how the world works or what kind of consequences actions may have. How serious such effects become obviously depends on which other learning opportunities young people have, and whether they are engaged in some kind of discussion concerning these aspects. But one way or another, young people's world view and attitudes will partly be shaped by their experiences of virtual interaction (Hylland Eriksen 2001; Lauwaert, 2009).

Social interaction in virtual contexts is by necessity superficial to some extent. On the one hand, it takes a long time to establish the mutual trust and understanding needed for in-depth communication (Newell & Swan, 2000). On the other hand, virtual interaction is not committing in the same way as actual relationships. Real life consequences are largely missing, and so also ensuing issues of loyalty and responsibility.

It is therefore important that the skills relating to ICTs are not acquired at the detriment of skills needed for real life interaction, but instead serve to complement these. So while it is enriching to learn the skills needed to use ICTs and communicate virtually, attention must be devoted to simultaneously systematically develop skills and knowledge, as well as attitudes, moral values and traits of character, needed to interact with peers and members of the local community, thereby forming a basis for acting responsibly in the real world.

Belonging as a basis for identity and action

Belonging in place, as well as interaction with humans and environment in the surroundings form the basis for ontological security (Rämgård, 2006) developing a sense of coherence, and a coherent identity. This is the basis for the individual's physical existence as an embodied being, and ultimately also the foundation of self esteem and the individual's possibility to have an influence on one's own life. These interactions allow young to develop critical thinking and become part of a community of practice (Engeström, 1999). Understanding the environment, having the knowledge and competence needed to act in this environment, investing events or circumstances with culturally defined meaning, are also the foundation for maintaining good health and coping with the challenges of various disasters (cf. Antonovsky, 1987; Chandler & Lalonde, 1998).

ICTs offer considerable opportunities for collaborative learning. But collaborative learning has different significations and implications, depending on whether groups are put together by the tool, and depend on it for their continuation, or whether these groups have shared interests, a field of action, and purposes that they define themselves (Lauwaert, 2009). It also makes a difference if the students are passive consumers of ready made materials, or if the technical opportunities of Web 2.0 are used to allow students to create materials of their own. It makes a difference if young people grow up as passive consumers of "global" mass culture, or as active producers of locally relevant materials and tools. Otherwise, there is clearly the

risk of culture loss: losing the advantages of an existing system of cultural practices, without gaining the benefits of a new style of life.

On the other hand, ideally, ICTs have a potential for use in rural development, since a community no longer needs to have a minimum size to allow the organisation of libraries or specialised education. Distance education can diminish social problems, if teenagers from rural communities no longer have to travel to larger towns to study at secondary levels, just as distance working has the potential of reducing the exodus from the countryside.

Global communication

One of the very powerful effects of several ICTs is making the knowledge and experience of the global community immediately accessible, and allowing exchanges and communication at a global level. Potentially, these opportunities are immensely enriching and empowering. However, also here care must be taken to handle the opportunities for global communication wisely.

Firstly, the use of English but also Spanish lingua franca for global communication shifts the position of both the user's native language and other foreign languages (Alexander, 2002; Ammon, 2001; Cummins, 2000). Knowledge that is not communicated in the "global" language will tend to be marginalised, increasing the pressure to pass through English or Spanish speaking educational institutions to acquire "validated" knowledge. Besides increasing dependency economically (Wallerstein 1991, 2004), this is not beneficial in all cases, since knowledge that has been developed in other contexts will be adapted to other needs and circumstances.

For instance, on Greenland, the requirement that midwives and obstetricians receive their training in Denmark (involving excellent knowledge of both Danish and English) has tended to affect the quality of midwifery adversely. Among other things, it has led to the centralisation of delivery wards to the capital Nuuk, at huge distances from the expectant mothers' homes and families (Löfman, Rämgård & Schaerström, 2010). A shortage of "qualified" staff has resulted, meaning that medical staff are now imported from Europe, at high costs and without knowledge of the local language. Finally, the cultural and linguistic distance between medical staff and expectant mothers has increased. This leads to poorer communication - both verbally and in body language - reduced understanding and sensitivity to medically relevant changes in the birthing process, as well as reduced trust and confidence. Medical complications are likely to result from the stress that all these factors cause. In other words, the quality of medical education and "knowledge" acquired at a European institution can not be measured in absolute terms, but will be more or less suited to a particular local context. Clearly, "best practices" in Denmark (where transport to the nearest delivery ward is rarely an issue) can hardly be applied outside that context.

Another risk is that communication at a "global" level will be superficial, and not reach critical issues at stake. In Global Education for Sustainable Development, it is difficult to

attain an adequate level of depth in the communication that takes place in the global classroom (Norden & Anderberg, 2010). This is probably because the underlying notions that the students carry with them differ widely (Avery, 2010) even when communication takes place in a shared lingua franca. Language is connected to specific knowledge, and ways of seeing the world (Lindell, 1992; Lucy, 1996, 1997; Pavlenko 2000). Basic problems with proficiency also prevent students from being active, asking questions, or discussing issues with sufficient nuances and detail (Airey, 2006; Hellekjaer & Westergaard, 2003; Lim Falk 2008; Yip, Tsang & Cheung, 2003). Sufficient knowledge of cultural and contextual differences is therefore essential, as well as sufficient communicative skills in the foreign language.

In this respect, an aspect of particular interest is the possibility that ICTs offer to engage in communication with communities situated in similar positions, and experiencing similar challenges. This opens the potential to shift the patterns of exchange that would otherwise be defined by core-periphery hierarchies (Wallerstein, 1991, 2004). Like in the time of the non-allied nations, relationships can thus be consciously established between different communities in the periphery.

This strategy entails a double advantage. On the one hand, communication can be open and authentic, with real exchange of ideas, information and experience, since communication between equals is very different from exchanges that mainly serve to express and maintain a particular relationship of power. On the other hand, communities that occupy a similar position on the global arena are more likely to share similar challenges and opportunities. The experiences and initiatives of each community are therefore more likely to be interesting and relevant to other communities in the same position. Best practices and practical models for solving various problems are also more likely to be relevant and applicable.

Conclusions

It is not possible to estimate the impact of introducing ICTs in the short term, and time is needed to assess different consequences. In principle, it is also not possible to evaluate the success or failure of implementing ICTs in terms of school achievement in a particular subject alone. Using ICTs involves students and teachers spending time training a certain set of skills, while spending less time training other skills. The skills acquired in one school subject will to some extent be transferable to other school subjects, and also to subsequent courses in the same subject. This applies both to the new skills linked to the use of ICTs, and to previous skills, that are lost unless conscious efforts are made to maintain them – since it cannot be assumed that other types of skills will simply remain at the same level, automatically. The question thus becomes what mixture of competencies is considered valuable and necessary, either in individuals or in society as a whole, and to which extent these particular skills need to be trained in a school context, if they are not learned outside school.

It is vital that learning that takes place in virtual environments is coupled with processes of reflection, discussion, and assessing relevance of course content to the local context and

community. To "act locally", it is not enough to "think globally". It is also vital that passivity is avoided. In traditional "teacher centred" teaching, students direct attention towards the teacher, and passively accept content that is mediated by the teacher. If we do not wish to replace this passivity by equally passive "machine centred" teaching, conscious measures are needed to empower the students. Learning also needs to be community based, in the sense that it allows students to act in interaction with other members of their community (cf. Rommetveit, 2003), in ways that are meaningful locally.

An in-depth understanding of the conditions of one's own culture is needed to gain understanding of other cultures as well. Otherwise, it is easy to take cultural phenomena as empty symbols, since the link to the material conditions of a particular society is missing. When "knowledge" is thus detached from its material and culturally specific basis, it also loses the potential to serve as information that can be used for meaningful action. It no longer has value in use, and only keeps exchange value (Engeström, 1999), defining social hierarchies of different kinds.

It has been argued that affirming local communities and culture leads to narrow minded rejection of other communities and cultures. In fact, this depends on the particular values and practices of the community. While some communities build their identity on hostile relations with their neighbours, the opposite can also be true. Knowing how to interact constructively with a number of other groups is cultural behaviour, and there are many communities where such interaction is considered essential. Hostile attitudes between communities are in other words not a characteristic of "culture" as such: culture can just as well promote peaceful coexistence and cooperation.

Today, many of the social and environmental challenges we are facing involve complex causal relationships at a global level. Communication between communities is urgently needed, to make appropriate decisions and engage in necessary action (Callicott, 1997; Nordén & Anderberg, 2010). To establish a sense of belonging, a solid character, sufficient self esteem and a sense of coherence, young people need the opportunity to form their identity within the local community where they live. This is the solid foundation that will allow them to reach out to the global community, and act responsibly later in life, as citizens of the world.

Note 1: See the *United Nations Convention on the Rights of Persons with Disabilities*, Art. 24, for the right to inclusive education. The question of suitable technical aids is addressed under Art. 4 g,h and Art. 9.1 g, h.

Note 2: For capacity building, Agenda 21 (Chapter 37, UNCED, 1992) stresses "the ability to evaluate and address the crucial questions related to policy choices and modes of implementation among development options, based on an understanding of environment potentials and limits and of needs perceived by the people of the country concerned".

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