

Sweet, R. and Meates, A. (2004) "ICT and low achievers: What does PISA tell us?", In Karpati, A. (Ed.) (2004) *Promoting Equity Through ICT in Education: Projects, Problems, Prospects*, Budapest, Hungarian Ministry of Education and OECD.

ABSTRACT

With a particular focus upon low achievers, and using data from PISA 2000, the relationship between literacy achievement levels and access to and patterns of use of ICT by 15 year-olds – in the home as well as in the school – is analysed.

The analysis shows that in many countries ICT resourcing practices or policies have resulted in the schools in which low achievers are located having equal levels of ICT resources to those schools in which high achievers are located, and in which the access that low achievers have to ICT within schools differs little from the ICT access enjoyed by high achievers. On the other hand countries are identified in which the schools that low achievers are found in have the lowest level of ICT resources; where, within schools, the lowest achievers receive the least access to ICT; where they receive the least access when computers are scarce; and where school principals feel that the lack of ICT resources hinders the learning of 15-year olds. Many of these problems of low achievers struggling to get access to ICT within schools seem to be more apparent in countries with relatively low levels of GDP, but this is not always the case. Some, although generally not all, of these problems can be seen in relatively wealthy OECD countries such as Australia and France. A more limited number of countries can be identified – of which Germany is an example – in which low achievers generally enjoy higher access to ICT within schools than other students.

There is no general trend for low achievers to be less interested in computers than high achievers. There are, however, hints from the results that they like to use them in different ways (using non-verbal images for example). There is also strong evidence that in many countries they feel far less confident and competent when using computers than do high achievers, and that their level of perceived confidence and competence is far lower than their reported interest. This strongly points to the importance of concerted effort to find ways to better connect low achievers with ICT, or to better engage the interest in ICT that they clearly have. In this context, the finding that low achievers' perceived confidence and competence in using ICT is higher than their reported interest in ICT in English-speaking countries, but that elsewhere the reverse is generally the case, is intriguing. It is open to speculation on the extent to which this is a function of the fact that the dominant language for both the most common operating systems and the more commonly used software is English. If this is part of the reason, it helps to reinforce calls that are commonly made by educators for the availability of more appropriate educational software, and for more educational software to be written in languages other than English.

In general, inequities in ICT access and use seem to be far greater in the home than they are in the school. This helps to emphasise the importance of the school in giving low achievers access to ICT. It emphasises the importance of schools and school systems working actively to combat the limited access that low achievers, in many countries, have to ICT in their home. The findings help to counteract a common impression that schools do not need to worry about many students' ICT access and skills, because they are thought to pick up these skills and gain this access readily outside of the home.

Finally, the analysis shows that in many countries there is a strong digital divide, defined in terms of literacy levels, with low achievers having less access to a range of ICT resources in the home, and less interest in and confidence in their ability to use ICT. This digital divide need not be related either to national wealth or to the ease and cheapness of ICT access. For example in the United States it seems to be surprisingly large.