

Computers: “No positive effect on learning”

Shocking new research by experts from Germany's Ifo Institute has been conducted into the effect of computers on children's educational performance. Presented at the Royal Economic Society's 2005 Annual Conference at the University of Nottingham, Thomas Fuchs and Ludger Woessman have suggested that the widespread use of computers has, in actual fact, had a negative impact on pupils' level of achievement.

Their report, *Computers and Student Learning*, states that: “Computers in the classroom have no discernible positive effect on children's educational performance while computers at home could actually be detrimental.

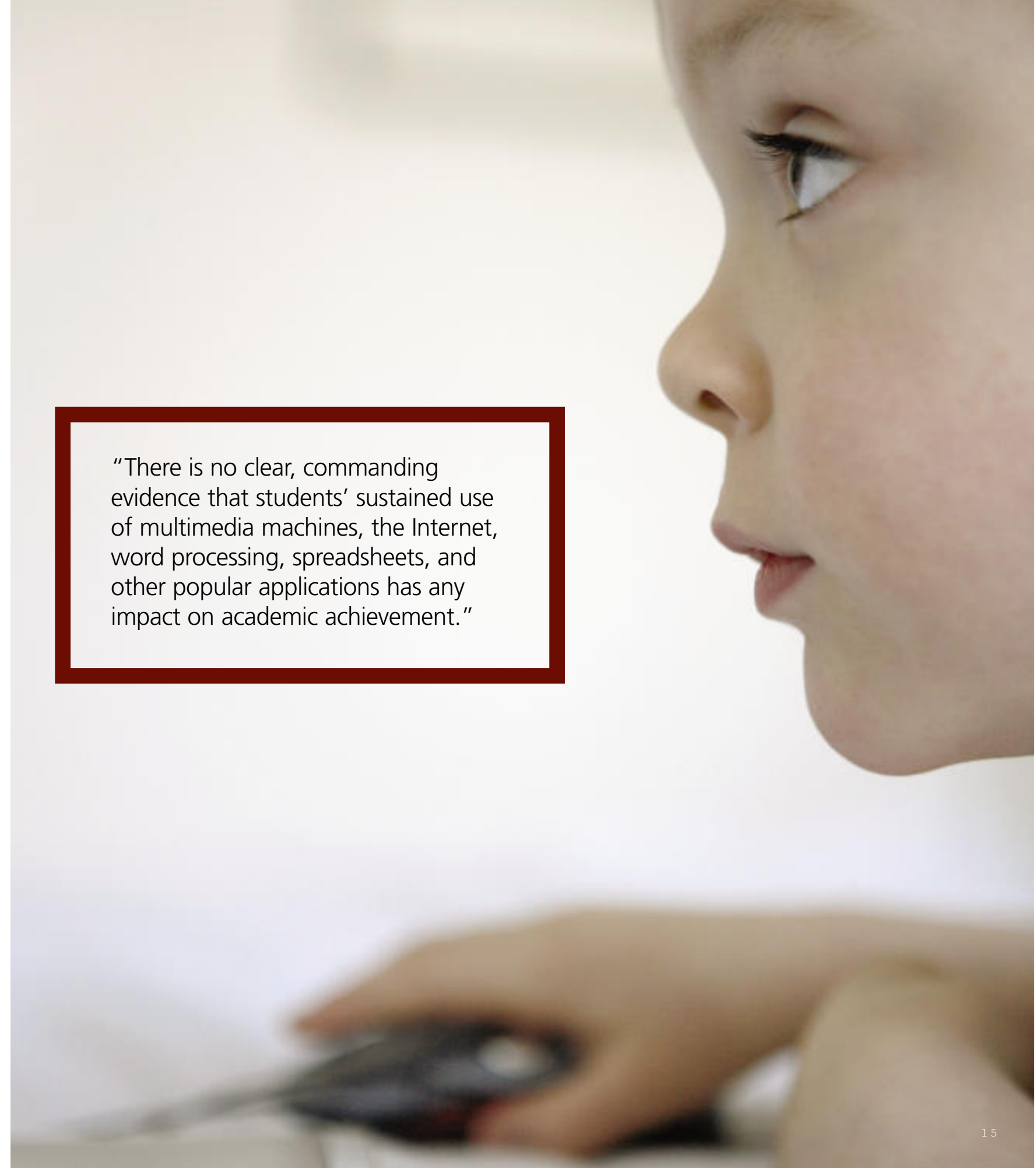
“It appears that computers at home are not exactly used for running educational software, mining the Internet for useful data or composing better homework assignments, all things that would have a positive impact on performance, but rather for playing games, chatting and otherwise providing entertainment. Computers thus displace other activities more conducive to learning.”

Over the last seven years, the Government has invested billions of pounds providing ICT equipment for schools. Spending has doubled with £46 per pupil in 1998 to £96 in 2004. While this has undoubtedly made a marked difference to school life, some critics

consider that the money would be better spent on more traditional resources and more teachers. Professor Sherry Turtle has asked: “Are we using computer technology not because it teaches best but because we have lost the political will to fund education adequately?”

While some question the bias of funding towards ICT, others question the wisdom upon which the drive to fill classrooms with computers is based. Over the last thirty years, much research into computers and education has been conducted, yet little has been found to show that computers in themselves actually improve education. Former President of the American Educational Research Association, Larry Cuban, says: “There is no clear, commanding evidence that students' sustained use of multimedia machines, the Internet, word processing, spreadsheets, and other popular applications has any impact on academic achievement.”

The pressure group, Alliance for Childhood, have warned that as ICT is shaping our children's lives both at home and at school, then we should be aware of not only the potential benefits, but also the potential harm that new technology may have. In a report commissioned last September, they warned: “Computers pose serious health hazards to children. The risks include repetitive stress injuries, eyestrain, obesity, social isolation, and for some, long term physical, emotional or intellectual developmental damage. Our children are the most sedentary generation ever. Will they thrive spending even more time staring at screens?”

A close-up, profile view of a young child's face, looking intently towards the left. The child's hand is visible at the bottom, resting on a computer mouse. The background is a soft, out-of-focus white.

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Fuchs and Woessman’s findings are based upon a detailed examination of internationally comparative data on educational performance known as PISA (Programme for International Student Assessment). The initial release of PISA seemed to point towards a positive relationship between the availability of computers and educational performance. However, when the Ifo researchers took into account the students’ family background and availability of other non-computer resources, the picture of the positive relationship between student performance and school ICT use changed radically.

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Many studies have shown that family background characteristics play a significant role in pupils’ educational achievement. When the PISA data was analysed taking such background into consideration, the positive correlation between computer availability in the home and performance at school turns negative.

The report found that the mere availability of computers does not translate into higher student performance. Curiously, it is both low and frequent computer use that were found to have a negative effect on test results, while moderate users maintained a higher performance level.

On this finding the report states that: “This appears to point to a displacement of more effective teaching methods by time spent before a computer screen or even to diversion of funds that might have been allocated to instructional material or improving teacher training.”

ICT equipment is prevalent in the work place, and to prepare them for the job market it is essential that pupils have the appropriate skills to use them. Email use, Internet access and educational software are all useful learning tools, both at school and in the home.

However these recent findings seem to suggest that over-reliance on ICT for ICT’s sake can be detrimental. It is a question of quality over quantity. When it comes to education and computers, It would seem that moderation is the key – it is not how often they are used but how they are used that is the most important thing.

