



Strange but responsive bedfellows: single-issue activism and the media

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This paper is about the various ways old media is connected to newer conduits in communication, such as operating news portals, single-issue movements' information bulletins, or private individuals' blogs. As this case study suggests, century-old media principles (classic rules of newsworthiness, or just lust for fame) sometimes influence the latest forms of public information exchange on the web. It also seems that the liberation of the public sphere from gatekeepers' heavy hands by non-professional newsmakers often produces highly spurious results, not to mention the democratic potential of the decentralized exchange of ideas in cyberspace.

1. Children and computers: the issues at stake

Children and computers have constituted a puzzling match for public thinking in the past decade or two. This issue has turned out to be a natural meeting point for technophiles as well as technophobes, IT marketing chiefs and education policy makers, puzzled parents aiming to catch up with their children in using their gizmos, communication regulators, or moral panic entrepreneurs capitalizing on the change of media technologies, just to mention a few. One day the paper writes about the legendary Homebrew Computer Club in Menlo Park (CA) where the teen Wozniak and Jobs wrote their first computer programs in the 1970s, while another day's article covers burnt-eyed teens as slaves of their passion in gaming arcades. Reports cover DVD Jon, the Norwegian Wunderkind who has severely traumatized Hollyath with his 25-line-code slingshot, followed closely by reports on school administration measures aiming to bar students from file sharing and Internet porn access.

Perhaps these superfluous examples don't reflect in adequate depth the level of interest in the "children and computers" debate. Neo-liberal public policies aiming to create knowledge economies and network societies (for those who like them) or early achiever consumer students and an all-too-versatile workforce (for those who don't) have transformed education systems, age-old classroom practices, as well as opening a gigantic market for the IT industry. Long-term government digital literacy strategies have been launched in perhaps every

country on the globe. In richer countries, every IT CEO's rosy dream, the software-stuffed laptop for every school child, has started to come true.

In the midst of this edu-techno-econo-political turbulence, in 2000 the Organization for Economic Cooperation and Development launched a major school performance research in 32 countries called the Programme for International Student Assessment (PISA). A quick glance at the series of questions and problems students had to solve with a paper and a pencil clearly reveals the aim of the research: to find out the extent to which national educational systems prepare pupils for future information society challenges. Instead of lexical knowledge, students had to mobilize comprehension, problem solving and application competences. Based on an international sample of about 174.000 students¹, the fifteen survey items also included questions referring to parental background (occupation and education) and to their school's management details (policies, facilities, exams, etc.). Research results were received with great attention by educators, the political establishment, and of course by the media in every participating country. The "all-OECD student contest" was a just about perfect news item for newspapers and television. The truth revealed by mammoth research² about our nation's children in a country-by-country comparison, accompanied by obvious expectations of forerunners and miserable losers in the race - can anyone in the newsroom dream of more? The PISA research has brought stunning results indeed. It has shown that a considerable part of the European crew in the future global economic race (that is, the future German and French workforce) today produces mediocre results in schools. Apart from the emerging quest for the factors responsible for the sobering results, the Finnish students' outstanding achievement (they came top in the comparison) has led to a popular conclusion: computer use in schools makes education successful. Nokia For All.

2. The journey starts: a second reading

On May 25, 2004 Thomas Fuchs and Ludger Wößmann, researchers at the Ifo Institute for Economic Research at the University of Munich, published a paper (What accounts for international differences in student performance?)³ presumably with the key aim of challenging the all-too-convenient techno-optimistic assumption read from the PISA results that - using a bivariate analysis - pointed to a positive correlation between students' computer use and their school performance. Using the PISA database, their regression analysis revealed the weight of various factors that correlate with good achievements in mathematics, science and reading comprehension. With the second run of the data, and "taking away" i.e. controlling parental background factors, they found the not too surprising result (that probably every teacher or sociologist knew) that the strongest determinant of school performance (at the age of 15 or so) is that which

¹ 4,500-10,000 students per country.

² As the subsequent discussion will show, the "mammoth research" phrase is not my invention.

³ www.pisa.oecd.org/dataoecd/29/47/33680685.pdf

pupils bring to school from home.⁴ Fuchs and Wößmann conclude in their study that parental background is such a strong factor that (since higher social status correlates positively with the possession of ICT at home) it is this that makes computer use correlate so strongly with school performance. Meanwhile, so they claim, if parental factors are disregarded, the mere possession and use of computer(s) at home has a significant negative correlation with student performance.

3. The second paper: making the claim stronger

While the German authors' major goal with their May 25 paper was probably to cool down unqualified beliefs in the mechanically benevolent impact of ICT in education, they took a closer look at the data to specify the forms of relationship between educational achievement and computer use. They published their results shortly after their first study, on June 21, 2004⁵: "Computers and Student Learning: Bivariate and multivariate evidence on the availability and use of computers at home and at school". Since this paper will be the basis of subsequent international media coverage of the "computers and children" issue, it is important to pin down the chief claims of Fuchs and Wößmann. Their starting point in the discussion is the initial reading of the PISA results highlighting a positive correlation between school performance and computer use. With the help of regression analysis of the PISA data, they found the following results:

Once parental factors are controlled,

1. *The mere possession and use of computers at home might not be benevolent for learning (probably because playing with computer games takes away students' learning time and energy).*
2. *Whether or not schools have computers is, in itself, not significantly related to pupils' school performance.*
3. *There is a positive correlation between school performance and the ICT use if the home computer has email and net access and if there is educational software at home.*
4. *Student performance show an inverted U-shape in relation to the amount of computer use at school. This means that those using them only a little (maybe because of improper instruction, or because teachers bar less successful students from computer use) perform worse than those with a group average amount of use, while there is a drop in the performance of students who spend more time with the computer than the average*

⁴ It is a further question, however, to specify what that important thing brought from home is. Since it is not the main focus of this paper, the blunt enlisting of major factors will suffice for the aims of this discussion: economic and cultural capital, language use, norms, problem-solving attitudes, social networking skills, skills of knowing the "name of the game", proactive chance-seeking attitudes, and their combination that is conveniently called culture.

⁵ http://www.ifo.de/pls/ifo_app/research_output.abstract?p_id=9359&p_base=DLCI

I think it is important to highlight the closing methodological warnings of the German researchers:

"...Despite the extensive use of control variables, the analysis has still been descriptive rather than causal."

"...Our results also cast strong doubt on the possibility of giving a causal interpretation to bivariate results for other variables."

"Our results suggest that any such finding may well be spurious, being driven by other important factors."

4. The aftermath: the prairie fire

Taking English and Hungarian web sources into account⁶, the UK Edition of BBC News made the first major reference to the June study of Fuchs and Wößmann on November 24, 2004⁷. The claim of the bbc.co.uk piece in its lead paragraph is "Students who use computers a lot at school have worse maths and reading performance, research suggests", which would be accurate if the BBC had added "unless they live in affluent families" or "assuming that two student groups were compared which came from similar socio-economic environments". BBC News makes a grave mistake in this piece. They quote the authors' observation that students with more school computer use "perform sizably and statistically significantly worse in both math and reading" - the claim that would later appear abundantly around the world. The only thing the BBC author failed to mention is that it can be observed only *if family and school resources and four more variables are controlled*, that is, this observation is a result of a statistical procedure. The down-to-earth reality, on the other hand, is that if one took a random group of heavy user students from a well-to-do school, their results would be *sizably and statistically significantly better* than that of a poorer school's students with moderate computer use.

⁶ Apart from English-language sources, I have found Internet sources referring to the Fuchs-Wößmann study in the following languages (determined by country domains): Czech, Italian, Croat, French and Canadian, Spanish and Argentinian+Chilean, Danish, Dutch, Norwegian, German, Lithuanian, Israeli, Vietnamese, Slovak and Chinese (Taiwan).

⁷ <http://news.bbc.co.uk/1/hi/education/4032737.stm>



Figure 1

In the first place, I have already pointed out that the German scholars' intention was to challenge the bivariate analysis based PISA results, but this does not mean that the validity of the correlation (more computers = better results) would be challenged. In their research, Fuchs and Wößmann said only that the correlation in itself is almost meaningless; as meaningless as the statement in the lead of the BBC piece claiming negative correlation (without mentioning the statistical procedure that factored out parental background determinants). The BBC piece takes an expert opinion from Prince Charles:

"I simply do not believe that passion for subject or skill, combined with inspiring teaching, can be replaced by computer-driven modules, which seem to occupy a disproportionate amount of current practice."

Though at first sight it is somewhat obscure how the renowned architectural historian's opinion relates to the results of Fuchs and Wößmann, but the following Google search might partly explain the source of misunderstanding:

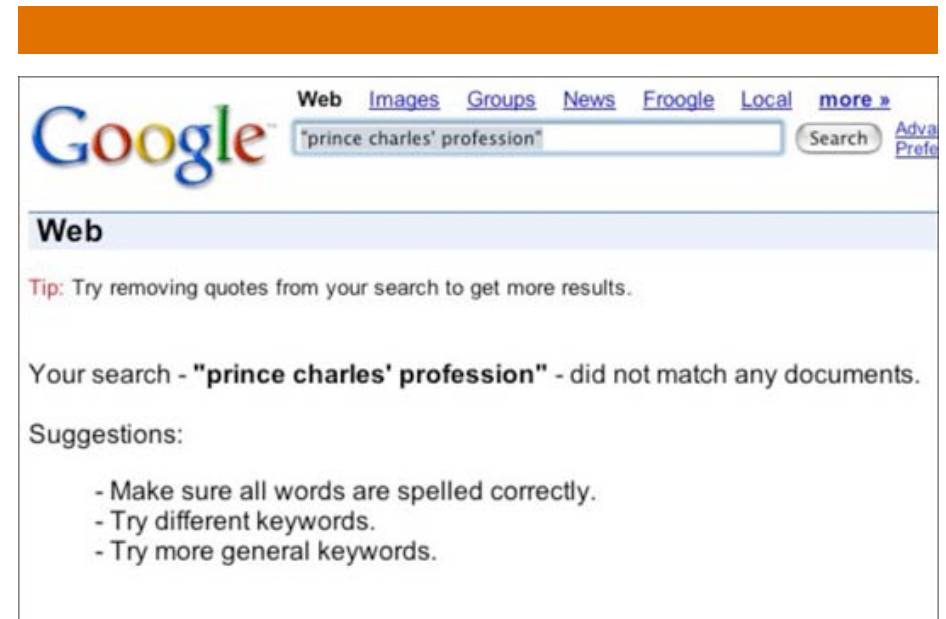


Figure 2

Apart from the skewed lead statement, the report accurately captures research procedures and findings. Not surprisingly, the BBC piece has created instant spin-offs from Canada to Malaysia⁸. Aliceandbill.com presented a post⁹ that ruthlessly exterminated all the complexities of the original work, as the post's title suggests: "Computers Make School Kids Dumber?"

⁸ <http://www.jwbserv.com/minerchi42/>

⁹ <http://www.aliceandbill.com/2004/11/computers-make-school-kids-dumber.html#comments>

REALTECHNEWS

Independent Tech

THE LATEST NEWS

Monday, November 22, 2004

Computers Make School Kids Dumber?



That's the contention from a study done by Thomas Fuchs and Ludger Woessmann of the CESifo economic research organization in Munich using the test performance and background data from the 2000 PISA study involving tens of thousands of students in 31 countries. "Students who use computers a lot at school have worse maths and reading performance, research suggests. Those using computers several times a week performed "sizeably and statistically significantly worse" than those who used them less often."

Figure 3

The piece seems pre-dated (November 22) because it is obvious that the predated quote¹⁰ - i.e. the BBC is not indicated in the post as a source - comes from the BBC lead paragraph. Aliceandbill use the German scholars' results to support their thesis, which is something like "education is declining - as one can witness in stupid TV shows - and computer use is increasing, so the villain is out there." The author, following the BBC's strategy, doesn't fail to mention Prince Charles' authoritative take on the issue, supported with a collegial comment: "I'm guessing that HRH knows his stuff."

¹⁰ "Students who use computers a lot at school have worse maths and reading performance, etc." Later in the post, [aliceandbill.com](#) presents a BBC paragraph as taken from the German scholars' work: "Let the authors be your guide: Fuchs and Woessmann found that the more..." It is ironic to read things that make people dumber in a text whose author has not only lacked the proper understanding of what his or her source said, but has also wanted to present him or herself as someone including quotes from the original study.

ez ITTK heti hírlevele **INFINIT**
REGISZTRÁCIÓ ITTK AZ OLVASÓKOR ARCHÍVUM INFINIT HUNGARY KÖZTÁRSI JELENTÉS

Oktatás és technológia

Ellentmondások a számítógép-használat és az iskolai eredmények összefüggései kapcsán

Egy 31 országot érintő nemzetközi felmérés eredményei a számítógép-használat és a tanulmányi eredmények kapcsolatát illetően ellentmondásos összefüggésekre mutattak rá, kétségbe vonva, hogy az iskolai számítógép-használat valóban fokozza a tanulók teljesítményét. Azok a diákok ugyanis, akik sűrűn használták a számítógépeket az iskolában, jelentősen rosszabb eredményt értek el, mint azok, akik ritkábban ültek le tanulni a komputer elé.

Figure 4

A day after its appearance on [bbc.co.uk](#), Infnit, a Hungarian professional ICT portal (identifying [bbc.co.uk](#) as a source) accurately captured the findings of the German scholars¹¹, except for their lead paragraph (taken from the BBC text) saying that students who often use computers do significantly worse in school. Infnit's somewhat misleading report was instantly taken up by [www.ngo.hu](#), a leading portal for the NGO sphere in Hungary¹², and [www.sulinet.hu](#), the major

¹¹ <http://www.ittk.hu/infnit/2004/1125/indexokt2.html>

¹² <http://www.ngo.hu/modules.php?name=News&file=article&sid=1492>

educational internet portal¹³ funded and operated by the Hungarian education ministry.

The screenshot shows the Sulinet website interface. At the top, there is a navigation menu with the following items: "Sulinaet » Szakképzés » Iránytű »". Below this, there is a secondary menu with "Pályaorientáló | Szak-mák | Piaci KRESZ | Önmenedzselő | Dologidőben | Pályázatok | Iránytű". The main content area features the heading "Iránytű" and a large, bold title: "Ronthatja a számítógép a diákok eredményét". Below the title is a sub-headline in italics: "Ellentmondásokra mutatott rá egy friss elemzés a számítógépek és az iskolai teljesítmény összefüggései kapcsán. Eszerint a közhiedelemmel ellentétben nem biztos, hogy a gyakori iskolai számítógép-használat javítja a diákok eredményét." At the bottom left of the screenshot, the text "Figure 5" is visible.

While the Infinit article's title talks about "contradictions around computer use", www.sulinet.hu chose a more straightforward (and more misleading) title, stressing "impact" - never claimed by Fuchs and Wößmann - saying "Computers might worsen student results". The "editorial strategy" of www.sulinet.hu, i.e. getting an article from another source with a reference but adding a more dramatic title is, as I will show in later examples, a rather common pattern when various websites take material from each other.

G.J. MacDonald, correspondent for Christian Science Monitor, handled the German research results with a bit less caution than Infinit's contributor in his article on December 6th¹⁴. The title of the article¹⁵ - "Contrarian finding: Computers are a

¹³ <http://www.sulinet.hu/tart/cikk/fk/0/2462711>

¹⁴ <http://www.csmonitor.com/2004/1206/p11s01-leqn.html>

drag on learning"- clearly suggests the direction of editorial leaning. Similarly to the BBC piece, the Christian Science Monitor article captures research findings with a certain accuracy, except for the lead paragraph:

"For all the schools and parents who have together invested billions to give children a learning edge through the latest computer technology, a mammoth new study by German researchers brings some sobering news: too much exposure to computers might spell trouble for the developing mind.

From a sample of 175,000 15-year-old students in 31 countries, researchers at the University of Munich announced in November that performance in math and reading had suffered significantly among students who have more than one computer at home. (...)"

Though the first paragraph's statement about computers that "might spell trouble for developing mind" can sympathetically be regarded as a cheap formulation, the statement in the second paragraph - that performance in math and reading had suffered significantly among students who have more than one computer at home - is obviously not true if taken out of its context. Also, similarly to the BBC piece, the Monitor article also makes use of an authority: Ludger Wößmann himself, on the basis of a phone interview from Munich, whose contribution can at best be characterized as accurate but insignificant, serving only as an authorization patch for the Monitor article. MacDonald's piece in the prestigious CSM has caused a prairie fire on the web: dozens of educational websites and blogs helped to spread the word, with most (though not all) of them repeating the "computers are a drag on education" message.

¹⁵ Taken by USA Today Online two days later: http://www.usatoday.com/tech/news/2004-12-06-complicating-things_x.htm



Figure 6

While Eanna Cunnane's report¹⁶ two days after the CSM article, "Home computers bad for schoolchildren?", tries with certain success to explain the complex issue in a short piece on [media52.net](http://www.media52.net), [naturalhealthline.com](http://www.naturalhealthline.com)'s author chose a different argumentative strategy in a 2004 December post entitled "PCs and Pot"¹⁷. In the first part of the 360-word piece, the author takes the BBC coverage of the report - quoting the inaccurate opening statement "Students who use computers a lot at school have worse math and reading performance" - then continues the article without much explanation:

"Another study, 'Prospective cohort study of cannabis use, predisposition for psychosis, and psychotic symptoms in young people', published December in the British Medical Journal, found that teenagers and young adults who frequently use cannabis are increasing their risk of suffering from psychotic symptoms such as bizarre behavior and delusions later in life. (...)"

¹⁶ <http://www.media52.net/archives/000197.html>

¹⁷ <http://naturalhealthline.com/newsletter/15dec04/brudnoy.htm>,

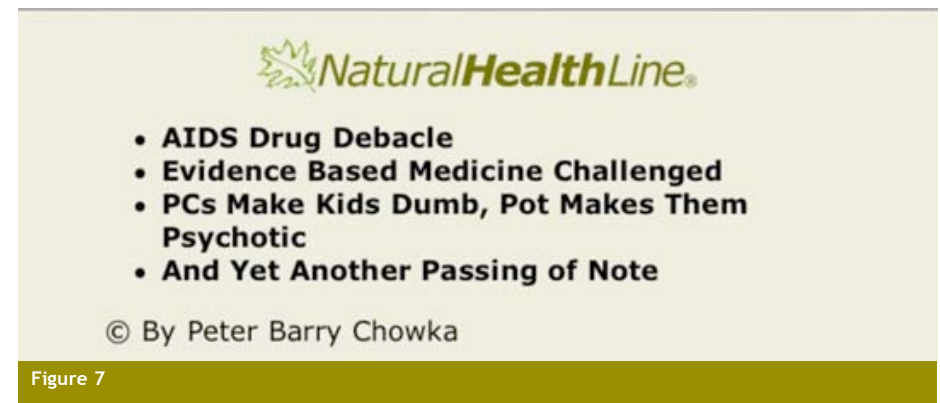


Figure 7

Naturalhealthline.com's method is truly remarkable. It seems that its editors do nothing but automatically prey and cut & paste (without much context or explanation) those authoritative statements (in this case from the BBC and the *British Medical Journal*) that support their world-view¹⁸.

On another aspect, CSM's MacDonald is accurate with his hunch:

"To hear new questions raised about the educational value of technology is music to the ears at the Waldorf schools, an association of 350 schools where students don't touch computers until the 11th grade."

On December 10th the website of the Waldorf Kindergarten and School in the Hungarian town of Vác published a piece¹⁹, referring to the Infinit article as their source, but their title - "Computer use is more harmful than beneficial for school performance" - while remarkably similar to Aliceandbill, no longer reflects the complexity outlined accurately by the Infinit report. Apart from the streamlined title, the article is an identical copy of the Infinit piece.

The site of the National Teachers' Union also used the BBC News Online report on November 23, and their main strategy to be accurate was the abundant use of "may" and "might" in their discussion entitled "Computers may hinder children's progress"²⁰.

¹⁸ If porn is about making objects of respectable human affairs we wonder why naturalhealthline.com's method cannot be regarded as editorial porn.

¹⁹ <http://www.zpok.hu/waldorf/fulltext.shtml?x=19534>

²⁰ <http://www.teachers.org.uk/showwirearchive.php?id=7139153>



Figure 8

They take the out-of-context “more computers = worse results” claim, then, with an inventive twist, argue as follows:

“There has been a sizeable investment in computers by the Government and by families in the belief that their use can be beneficial to students. This study is not just contrary to the Government view...”

This claim, compared to the German scholars’ work, is definitely false. Their conclusion then hopelessly mixes causes and results:

“One theory behind the possible reasons for these findings is that the reliance on information technology may hinder the creativity of children.”

Though the teachers’ union most likely has a certain concern about children, a blog post²¹ by J. Bartholomew seems to be interested in the topic because it offers an opportunity to blame the government for something.

Shortly after the BBC report, on November 30th, Stephen Downes uploaded a detailed analysis²² of the Fuchs-Wößmann article to his site (www.downes.ca). Downes explains the PISA process and the German economists’ work with painstaking but still accessible accuracy and makes two important points. Firstly, he argues that the educational process cannot be captured with appropriate accuracy and sensitivity with empirical statistical analyses based on economic models (based on the notion of benefit-maximizing agents). Secondly, referring, among others, to Aliceandbill’s post, Downes warns that the results of Fuchs and Wößmann’s work taken out of its methodological and conceptual context can easily be used for completely different rhetorical and political purposes.²³ As the second wave of reactions following Fuchs and Wößmann’s work shows, Downes was all too accurate with his latter claim.

²¹ <http://www.tq-enterprises.com/bartholomew/2004/11/computers-in-schools-damage-student.html>

²² <http://www.downes.ca/cgi-bin/website/view.cgi?dbs=Article&key=1101829692>

²³ Another interesting spin-off of the BBC piece was when, after it was reported by a Canadian professional journal (*Education Week*), the article created an invigorated discussion, mostly among teachers, about education and computers. <http://www.edweek.org/tb/2005/10/25/274.html>

5. The second prairie fire

Journalists, activists and bloggers rather abandoned the “computers and children” issue for the rest of the 2004/2005 winter. Lisa Snell’s short February piece on www.heartland.org²⁴, “PISA Results Cast Doubt on Heavy Use of Computers in the Classroom” follows the pattern that is already familiar from the previous examples. In the first paragraph, referring to Fuchs and Wößmann’s work, she claims that “students using computers performed ‘sizeably and statistically significantly worse’ than those who used them less often.”

HEARTLAND INSTITUTE



School Reform News → February 2005



PISA Results Cast Doubt on Heavy Use of Computers in the Classroom

Written By: Lisa Snell
Published In: *School Reform News*
Publication Date: February 1, 2005
Publisher: The Heartland Institute

Researchers Thomas Fuchs and Ludger Woessmann of the CESifo Economic Research Organization in Munich, a joint project of the University of Munich’s Center for Economic Studies (CES) and the Ifo Institute for Economic Research, analyzed test performance and background data from the 2000 PISA study and found that students using computers performed “sizeably and statistically significantly worse” than those who used them less often.

Figure 9

²⁴ <http://www.heartland.org/Article.cfm?artid=16283>, taken from *School Reform News*.

Again, maybe I am getting on the reader's nerves, but I have to stress that this statement, referring to only two variables, is misleading in itself, because the original OECD study pointed out robust positive correlation between the two factors. Then, quite familiarly by now, she captured the major points of the Fuchs-Wößmann study rather accurately.

The Royal Economic Society held its annual congress on March 21-23, 2005 at Nottingham University. The two German researchers presented their 2004 June paper at this prestigious event. Two days before the presentation (which I will return to later) a considerable segment of the UK press launched an unanimous blast against computers in education. On March 21 The Telegraph in its leader article claimed²⁵ a simple two-factor (and therefore obviously false) conclusion about computers in learning (see below). The article mixes sentences from the original study with out-of-context conclusions.

news.telegraph

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Pupils make more progress in 3Rs 'without aid of computers'

By John Clare, Education Editor
(Filed: 21/03/2005)

The less pupils use computers at school and at home, the better they do in international tests of literacy and maths, the largest study of its kind says today.

Figure 10

The truly sad thing about this article is that if one did not read the original study, there can be no doubt about its major claim. As is common in the press reports following the Nottingham event, the report's chief goal is to contrast (their

²⁵ <http://portal.telegraph.co.uk/news/main.jhtml?xml=/news/2005/03/21/nteach21.xml>

understanding of the) research findings with the Labour government's policy to invest more in school ICT.

On February 2, 2006 Google found 52 sites that contained the Telegraph sentence (supposedly a quote from Fuchs that I slightly doubt): "Indeed, the more pupils used computers, the worse they performed". The message was taken up by all sorts of education- and/or IT-related websites. Rather amusingly, Infnit, the above-cited Hungarian ICT portal (which had already gave an inaccurate account of the *same* Fuchs-Wößmann paper five months before) now took the Telegraph article and claimed in its March 28 piece that "the fewer students use computers at home and at school, the better they do in cultural and math tests", this way curbing a bit their previous, already misleading November claim that "...students who often use computers do significantly worse at school". Not only had Infnit's editor mistranslated "literacy" as "culturedness" (műveltség), the whole sentence pretty much resembles the - obviously flawed - title of the Telegraph piece. As in the case above, Infnit's report was taken up by various other portals including www.szochalo.hu, the leading social science portal, on March 28²⁶ and www.hvg.hu, Hungary's most prestigious economic weekly's online edition, on March 29²⁷.

hvg.hu

KERESÉS: hvg.hu-n

hvg.hu kezdőlapnak
Feliratkozás a hírlevélre

IT | Tudomány » Informatika

HVB Triatlon Tőkegarantált Alapot,
ahol a legjobban teljesítő portfólió
hozamából részesül

CAIB

ISKOLAI TECHNOLÓGIA

A számítógép az oktatásban mégsem akkora segítség?

2005. március 29. 16:12
Utolsó módosítás: 2005. március 29. 16:16

A 31 országban 100 ezer tizenöt éves gyermek tanulási szokásairól és képességeiről szóló PISA-felmérés (Programme for International Student Assessment) alapján két német kutató a számítógép-használattal kapcsolatos eredményeket helyezte új dimenzióba, egyúttal vitába szállva a magának a PISA-jelentésnek néhány megállapításával is. A novemberben közreadott tanulmány már az interneten is elérhető.

Figure 11

²⁶ <http://www.szochalo.hu/modules.php?name=News&file=article&sid=4359>

²⁷ <http://hvg.hu/Tudomany.it/20050329sulicomp.aspx>

Education Guardian's March 21 article²⁸ "Pupils 'do worse with computers'" follows the familiar pattern, first making general claims about the negative direct impact of computers, then accurately presenting the research procedure. In the following week articles with the following titles covered the topic²⁹:

- ◆ "Computers 'can harm learning'" (*The Scotsman*),
- ◆ "Computers fail kid skills test" (*The Telegraph/Calcutta*),
- ◆ "Back to the slate and chisel. Computers may hinder children's education, say boffins." (*Inquirer*),
- ◆ "How computers hinder a child's ability to learn" (*Daily Mail*),
- ◆ "Home computers hurt math skills: study" (*Calgary Herald*)
- ◆ "Pointless computer skills damage children's reading and maths" (*Evening Standard*)³⁰
- ◆ "Taking a byte out of grades. Home computers deal blow to math and reading performance, study suggests." (*The Gazette, Montreal*)³¹
- ◆ "Flick that switch. Too much time on the computer is holding back teenagers in school." (*The Age, Melbourne*)³²



²⁸ <http://education.guardian.co.uk/elearning/story/0,10577,1442532,00.html>

²⁹ Collected by Ifo's press review service: http://www.cesifo-group.de/portal/page?_pageid=36,1665602&_dad=portal&_schema=PORTAL

³⁰ http://www.findarticles.com/p/articles/mi_qn4153/is_20050321/ai_n13455803

³¹ <http://laptopnews.tripod.com/id13.html>

³² <http://www.theage.com.au/news/Education-News/Flick-that-switch/2005/03/24/1111525284168.html?oneclick=true>

The articles then generated more and more reactions in cyberspace, with most cases repeating what the "serious press has to say" about such a mind-boggling issue, just to mention a few:

- ◆ *Single Fathers Online*³³
- ◆ "Interesting People" list at *elistx.com*³⁴
- ◆ *Intodimensions.com, a Swedish technology-blog*³⁵
- ◆ *International Reading Association*³⁶
- ◆ *Campaign for Real Education*³⁷
- ◆ *Olkgal's blog in Singapore*³⁸
- ◆ *Connected (online magazine in Scotland)*³⁹
- ◆ *The National Literacy Trust*⁴⁰
- ◆ *The Internet Scout Project (Wisconsin)*⁴¹
- ◆ *The Virtual Teacher Centre*⁴²
- ◆ *Computer Buyer*⁴³
- ◆ *ATTAC*⁴⁴

An honest example of the undecided author can be revealed in a post on the site of the National Education Association⁴⁵. The author either chose a creative rhetorical device (turning an opinion into another one) or just changed his mind in the meantime. The piece, entitled "Toxic Computers?", starts with the usual "computers may harm learning" claim, then captures the main findings of the research, before concluding with the rather sober and common-sense advice: "So, are computers harmful? Probably not. But you need to take care how, and how much, little Johnny uses them."

³³ <http://www.singlefathersonline.com/index.php?name=News&catid=1>

³⁴ <http://lists.elistx.com/archives/interesting-people/200503/msg00211.html>

³⁵ <http://www.intodimensions.com/index.php?cat=14>

³⁶ http://blog.reading.org/archives/cat_research.html

³⁷ <http://www.cre.org.uk/newsletter1-05.html>

³⁸ http://olkgal.blogspot.com/2005_03_01_olkgal_archive.html

³⁹ <http://www.ltsotland.org.uk/ictineducation/connected/connected13/news/homepcs.asp>

⁴⁰ <http://www.literacytrust.org.uk/Database/ICTpress.html>

⁴¹ <http://scout.wisc.edu/Reports/NSDL/MET/2005/met-050506-education.php>

⁴² <http://vtc.ngfl.gov.uk/docserver.php?docid=11354>

⁴³ <http://buyer.pcpco.co.uk/buyer/buyer/news/71771>

⁴⁴ <http://www.atacc.ab.ca/newsletter/05-04.html>

⁴⁵ <http://www.nea.org/neaoday/0503/upfront.html>

Toxic Computers?



Photo: Gerard Launet

They may be standard fare in homes and schools, but computers may not be helping students learn. In fact, they could be hurting kids—or so concludes a sophisticated study by researchers at the University of Munich in Germany.

Thomas Fuchs and Ludger Woessmann used a major math and reading survey called the Program for International Student Assessment (PISA), involving 15-year-olds from 32 countries. At first blush, PISA seemed to show that computers at home help: Students from homes with computers scored higher than those who were computerless.

WARNING!

This computer may be harmful to your child's learning.

But the researchers reasoned that families with computers were probably better off in many ways, and that could account for the higher scores. So they used statistical techniques to show the effect of computers on achievement when income and other family characteristics are equal. The result: Students

Figure 13

There were only a few opinions that tried to question the methodology or the results of the German research.⁴⁶

⁴⁶ e.g. "david" at www.opencontent.org's "bunk": <http://opencontent.org/blog/archives/150>, or Seb Schmolter's post: <http://www.schmolter.net/mailings/20050328.shtml>

The screenshot shows the Guardian Unlimited website interface. At the top, there are logos for 'Guardian Unlimited' and 'learnpremium' (from The Guardian), along with the tagline 'The website for schools'. Navigation links include 'Read today's paper', 'Sign in', and 'Register'. A 'Go to:' dropdown menu is set to 'Guardian Unlimited home'. Below this is a navigation bar for 'EducationGuardian.co.uk' with categories like 'Home', 'Higher', 'Schools news', 'FE news', 'Students', 'TEFL', 'Books', 'Choose a degree', 'E-learning', 'MBAs', 'Education weekly', 'Interactive guides', 'Language resources', 'Jobs', 'Courses', and 'Talk'. The main content area features a green box labeled 'E-learning' and a search bar. The article title is 'Pupils 'do worse with computers'' by Robert Booth, dated Monday March 21, 2005. The article text begins: 'Academics will today argue that the growing use of computers in secondary school classrooms and for homework could be leading to worsening performance in literacy, science and maths. An international study of about 100,000 15-year-olds in 32 different developed and developing countries suggests that the drive to equip an increasing number of schoolchildren in the UK with computers may be misplaced.'

Figure 14

A new figure has appeared though in the discussion, luckily now a benevolent one:

"But if computers don't help then plenty of books at home do. The authors of the report found that, 'students with more than 500 books in their homes performed better in maths and science than those with none'."

It seems now that having books - >500 books, to be exact - at home has a good direct impact, a claim that makes the article flirt with the status of a sociological

parody. (Perhaps 500 hardbound volumes can even beat a computer.) Donald MacLeod's opinion piece in Education Guardian on the same day⁴⁷ entitled "Lose the laptops" adds gravy to the report, starting with:

"At last! the evidence we luddites have been waiting for. Today's report by academics on the damage computers do to children's education should silence enthusiastic politicians and software salesmen clamouring for more computers in the classroom and making any parent without a PC feel guilty. But I don't suppose it will - there's too much money involved."

⁴⁷ <http://education.guardian.co.uk/elearning/comment/0,10577,1442648,00.html>

The screenshot shows the Education Guardian website interface. At the top, there are logos for 'Guardian Unlimited' and 'learnpremium from The Guardian'. Below these are navigation links: 'Read today's paper', 'Sign in', and 'Register'. A 'Go to:' dropdown menu is set to 'Guardian Unlimited home'. The main navigation bar includes 'Education Guardian.co.uk' and 'E-learning', with sub-links for 'Home', 'Higher', 'Schools news', 'FE news', 'Students', 'TEFL', 'Interactive guides', 'Jobs', 'Talk', 'Books', 'Choose a degree', 'E-learning', 'MBAs', 'Education weekly', 'Language resources', and 'Courses'. The article section features a green 'E-learning' header, a 'Comment' box, and the title 'Lose the laptops'. The text of the article begins with 'Donald MacLeod welcomes a new report which confirms something he has long suspected: that pupils perform worse at school if they have computers at home'. The date 'Monday March 21, 2005' is displayed. The article text continues: 'At last! the evidence we luddites have been waiting for. Today's report by academics on the damage computers do to children's education should silence enthusiastic politicians and software salesmen clamouring for more computers in the classroom and making any parent without a PC feel guilty. But I don't'. A sidebar on the left contains a search bar, a 'Learnpremium' section with links for 'What is learnpremium?', 'Take a virtual tour', and 'Sign up for a free trial', and a small silhouette icon.

Figure 15

Then MacLeod goes further and - in diametrical opposition to the Fuchs-Wößmann study that finds a positive correlation between good student performance and having a home computer with Internet access - invites the reader to his personal universe of computer horror:

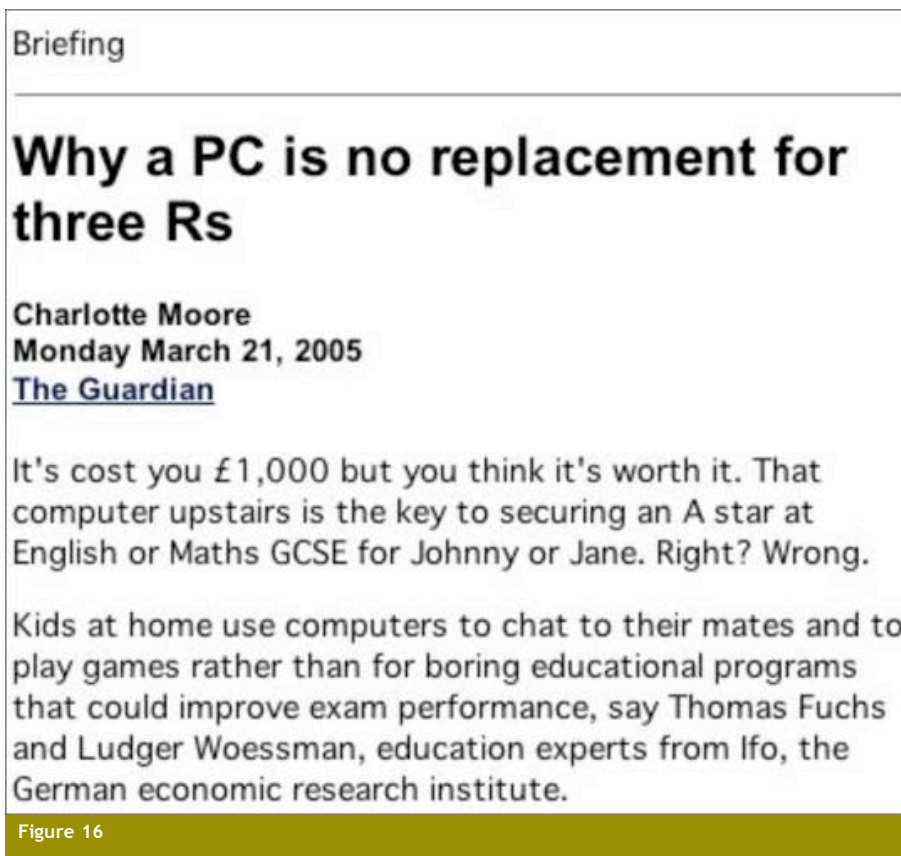
"Did you really think your children were using the computer to run educational software or scour the internet for useful data for their homework assignments? Come off it: they're playing games, emailing friends or scouring the web for dubious websites. Or, if they are doing

their homework, getting into bad cut-and-paste habits which will get them into trouble for plagiarism at university, assuming they ever get there.”

And finally he concludes:

“Go on, get rid of that computer, it's rotting your children's brains.”

Perhaps led by institutional loyalty, Business Guardian's education report⁴⁸ also makes reference to time-wasting student e-chatting that one can find no trace of in the German research paper.



Briefing

Why a PC is no replacement for three Rs

Charlotte Moore
Monday March 21, 2005
[The Guardian](#)

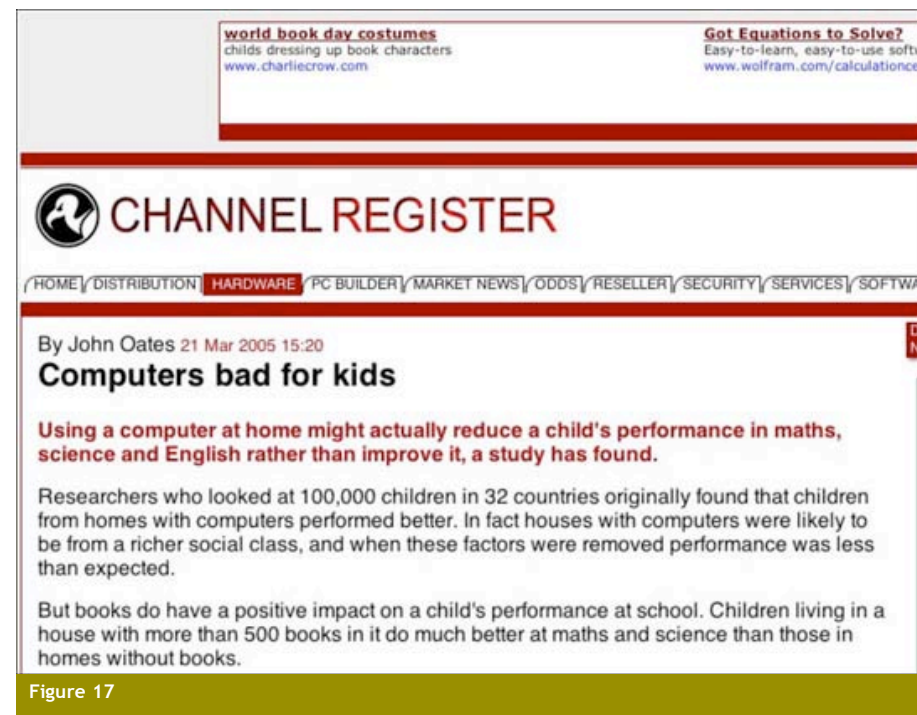
It's cost you £1,000 but you think it's worth it. That computer upstairs is the key to securing an A star at English or Maths GCSE for Johnny or Jane. Right? Wrong.

Kids at home use computers to chat to their mates and to play games rather than for boring educational programs that could improve exam performance, say Thomas Fuchs and Ludger Woessman, education experts from Ifo, the German economic research institute.

Figure 16

⁴⁸ <http://business.guardian.co.uk/story/0,3604,1442144,00.html>

The Channel Register's article, also on March 21, presents the issue in the usual way, i.e. a somewhat balanced discussion with an outrageously simplistic title.⁴⁹



world book day costumes
childs dressing up book characters
www.charliecrow.com

Got Equations to Solve?
Easy-to-learn, easy-to-use soft
www.wolfram.com/calculationce

CHANNEL REGISTER

HOME | DISTRIBUTION | **HARDWARE** | PC BUILDER | MARKET NEWS | ODDS | RESELLER | SECURITY | SERVICES | SOFTWARE

By John Oates 21 Mar 2005 15:20

Computers bad for kids

Using a computer at home might actually reduce a child's performance in maths, science and English rather than improve it, a study has found.

Researchers who looked at 100,000 children in 32 countries originally found that children from homes with computers performed better. In fact houses with computers were likely to be from a richer social class, and when these factors were removed performance was less than expected.

But books do have a positive impact on a child's performance at school. Children living in a house with more than 500 books in it do much better at maths and science than those in homes without books.

Figure 17

If there was a competition for professional journalists about who could distort the German researchers' results the most, it is probably the Register's Andrew Orłowski who would have the highest chances of winning. In his article⁵⁰ entitled "How computers make kids dumb", he makes the following claim:

“A study (...) has concluded that using computers makes kids dumb.” Wrong. They didn't conclude such a thing.

“Avoiding PCs in the classroom and at home improved the literacy and numeracy of the children studied.” Wrong. There wasn't any longitudinal research. And the correlations were about slightly different things.

⁴⁹ http://www.channelregister.co.uk/2005/03/21/computers_bad_for_schools/

⁵⁰ http://www.theregister.com/2005/03/21/how_dumb_kids/

“The UK’s Royal Economic Society finds no grounds for...” Wrong. It wasn’t the RES, though I know it might be more appealing than “Ifo in Munich”.

“The authors (...) used the PISA tests to measure the skills of 100,000 15 year-olds.” Wrong. They didn’t measure. It was the OECD.

“When social factors were taken into account, PC literacy was no more valuable than ability to use a telephone..” Wrong. It wasn’t their research, but they refer to another (otherwise obviously outdated) research, published in 1997 (!!).

The rest of the paper was about different observations.



Figure 18

The Register piece had certain spin-offs. An Illinois educational site made a link to the article⁵¹, while the next day’s article on www.sg.hu, the Hungarian news portal of the multinational Sanoma Group, “written” by Mr. Péter Gyurkity, shamelessly plagiarized the Register’s (otherwise strikingly inaccurate) piece.

⁵¹ <http://www.illinoisloop.org/computers.html>



Figure 19

The plagiarized www.sg.hu piece was instantly taken up by three other web portals, each of them taking the “computers make kids dumb” title: The History Teachers’ Association⁵², www.gondola.hu,⁵³ and the Student Journalists’ Association⁵⁴, all in Hungary.

⁵² <http://www.tte.hu/?page=hirek&id=1478&archiv=&ev=>

⁵³ <http://www.gondola.hu/cikk.php?szal=41264&part=4>,

⁵⁴ <http://www.due.hu/index.php?page=article&article=00000603>

Történelemtanárok
Egylete

Szerda, 2005. május 11. Ferenc napja

Az utolsó óráig A dokumentumfilm 2006. május 5-től a mo

Informatika, média

A számítógéptől butulnak a gyerekek?

Egy friss felmérés szerint - amelyben 31 országból több mint 100 ezer tanuló vett részt - a fokozott számítógép-használat butító hatást fejt ki a gyermekekre, mivel elhanyagolják tanulmányaikat.
(Forrás: SG)

2005. március 23.

Fri
[+] elm
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[+] az




Figure 20

laborról Futop-szigeteken
Mire jó a DUE-igazolvány?

Jelentkezz itt!

Korábbi cikkeink

A számítógéptől butulnak a gyerekek?
2005.03.22. 22:08:50

Egy friss felmérés szerint - amelyben 31 országból több mint 100 ezer tanuló vett részt - a fokozott számítógép-használat butító hatást fejt ki a gyermekekre, mivel elhanyagolják tanulmányaikat.

Figure 21




At each step of this news “food chain”, authors didn’t bother to check the claims of the original source. The German scholars’ work has provided another opportunity to this news food chain, or “news laundry”, where portals don’t care too much about the professional or copyright-integrity of their source, let alone the claim in the argument they borrow. Orion Magazine published an article, still in the “second wave” of the post-Nottingham reports, in which they make a skewed reference to the Fuchs-Wößmann study⁵⁵. The Orion piece was incorporated into an article by Metazin⁵⁶ (a newsblog). A certain Dr. Éva Pusztai, a self-titled “learning methodology trainer” then took Metazin’s work and published it under her name⁵⁷ with the title “The dangers of virtual reality” - a topic cca. a million miles away from the questions analyzed by Fuchs and Wößmann. Macleans Magazine⁵⁸ also published a computer-bashing article that referred to the German study, entitled “How computers make our kids stupid”, in which their major educational experts come from the Toronto Waldorf school. Long live balanced reporting.

⁵⁵ http://www.oriononline.org/pages/om/05-5om/Monke_FT.html

⁵⁶ <http://metazin.hu/node/300>

⁵⁷ <http://www.tanulasmodszertan.hu/tanulmanyok/DepressziosGyerekek.htm>

⁵⁸ http://www.macleans.ca/topstories/education/article.jsp?content=20050606_106930_106930



Figure 22

6. The spark

While reviewing the 2004 March articles I have noticed a few interesting things. The most obvious was, how come most newspapers are able to talk about a paper that would be presented only two days later? Also, there were a few recurring sentences and claims in the articles that I found no track of in the paper presented at the RES conference in Nottingham. Then one of the sources made a reference to a curious document entitled “Computers at Home: Bad News for Educational Outcomes”.⁵⁹ The two-page document at first glance neatly captures the results of the study, but closer scrutiny reveals a few tiny but extremely important deviations from the original study. First, the opening sentence:

“Computers in the classroom have no discernible positive effect on children’s educational performance while computers at home could actually be detrimental [my emphasis in both cases - F.H.]”

Bearing in mind that Fuchs and Wößmann deliberately warned in their June paper (that they also presented in Nottingham) against any causal conclusions - “...Despite the extensive use of control variables, the analysis has still been descriptive rather than causal” - this opening sentence is rather strange. The texts later claims

“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.”

Fine, I thought, I assume so too, but where is this information coming from? In the PISA research there are no questions referring to what pupils do with their

⁵⁹ <http://www.nottingham.ac.uk/economics/res/media/fuchs-woessmann.pdf>

computers. Let alone questions referring to content or activity on the Internet. Where is this information coming from? Then the second page of the documents informs the reader of the German scholars’ phone number and that of a certain Mr. Romesh Vaitilingam. A quick Google search revealed that he is a press officer at the Royal Economic Society. Ooooooops, I said.

Regardless of whether Fuchs and Wößmann prepared this strongly streamlined, media-friendly paper abstract - that later became the major source for the press for their “computers are bad for education” articles - or whether they just authorized RES’s press officer to do so, they must hold responsibility for that.

The conference website also tells us something else. The conference was announced in 2004 and the organizers set the date of October 11 as the paper submission deadline. As the conference site shows even now⁶⁰, Fuchs and Wößmann first submitted their May 2004 paper (What accounts for international differences in student performance? A re-examination using PISA data). But probably when in October and November 2004 they saw the great international attention paid to their second, June 2004 paper concentrating more closely on learning and computer use, in the end they decided to present that one instead of the one they submitted originally. I do not want to blame the German scholars for this at all. Being quoted by the BBC, the Christian Science Monitor and USA Today within a week is really extraordinary for any social scientist. But I do blame them for sexing up their research abstract. They should have anticipated what the media would do with their results. And no question, the media has committed all the conceivable distortions that were necessary to make news items from a social research piece based on multivariate regression analysis. Somewhat maliciously, I could argue that perhaps Fuchs and Wößmann were precisely aware of the expected move of the media. One should not forget that media fame for social scientists pays well in consultancy job opportunities, research grant proposals, commissioned public policy works or university promotions. And, after all, it is allegedly cool to be famous.

7. Discussion: Old and new media

I do not think I need to spend much time with the conclusion, because the saga of the Fuchs-Wößmann paper speaks for itself. A few short concluding remarks might still apply, though.

The methodology of the PISA and the Fuchs-Wößmann inquiry would deserve a separate study, and a few important reservations have already been cited from Downes above. Adding somewhat to that, I think that when studying computer use, and sooner rather than later, PISA should take into consideration the content that pupils use and the online-offline practices connected to the use of the computer and the Internet. Though this misgiving implies wider methodological questions regarding statistical empirical studies, I found it somewhat questionable

⁶⁰ <http://www.nottingham.ac.uk/economics/res/callforpapers.html>

to control for family factors in a research observing student performance. Taking the concrete example of the Fuchs-Wößmann study, I am convinced that different kinds of parents do things with their children differently, including such all-societal practices as talking, eating, watching TV, spending time together, and probably also using the computer at home. Based on this, I question how the practice of computer use can be taken out of the web of family practices framed by various customs, habits, norms, times and spaces. As Downes argues similarly in this review, referring to families living in better circumstances: “The provision of a computer for student use at home is, therefore, *part and parcel* of a supportive parental environment.”

As the flow of news has shown, there is an observable structural harmony between media news values and single issue activism strategies. The media wants “direct impact” news: “loser-winner” or “villain-angel” stories. The news media has a structural aversion to complexity, process, paradoxical (half-good half-bad) situations, or to shared responsibilities. Single issue organizations and other forms of action of subpolitics (let them be teacher groups, Waldorf mothers, single fathers, techno-pessimists or techno-believers) are usually organized around one or a few important questions. These forms of civic action fit quite well with media newsworthiness principles. They are focused, they can tell who their friends and their enemies are. They are concrete: Down with abortion, period. Save the whales, period. No violence on the TV screen, period, and so on. And the media likes focus. On the other hand, these organizations become more and more media savvy: development organizations spend huge amounts of money on civic media trainings. They learn what news value is about. They learn about the power of the image. But also, the media, actors in subpolitics, as well as the larger public have less and less experience in recognizing that the notion of the “public” as such, with shared responsibilities, with messy processes, boring complexities, is essential to democracy. That is, when we all can experience that, regardless of all our differences, we share something common as citizens of the republic. Practices observed in cyberspace regarding the “computers and learning” issue seemed often all too foreseeable to possess a capacity to react to processes of social life in a rich and invigorating way. The fact that cyberspace is an all too perfect environment for prairie fires of half-baked wisdoms questions the critical and robust experience of cyberspace as a public space: all too often, it is more like an unnecessarily extended private sphere. I don’t want to neglect the democratic potential of the fact that like-minded people can create their own online communication space without much interference by business, government or other kind of authority. Indeed, the most insightful comments on the children and computer debate could be found in blogs and not in professionally edited newspapers. Also, though forum chat analysis was outside the focus of this research, one can witness invigorated teacher discussions induced by one or another report on the net. (Sadly, Hungarian-speaking interactive cyberspace has largely lacked these rich exchanges.)

Taking all aspects analyzed into account, however, the democratic potential of cyberspace has not scored very high in this case study. Professional websites were eager to transfer spurious messages only because they were authorized by the traditional media brands. Sometimes it seemed that the proper understanding of the issue in question was the very obstacle of the communication. Sometimes “genuine” peer-to-peer exchanges were filled with such stereotypes and trivializations that would make even tabloid journalists blush. And finally, perhaps the most unpleasant conclusion might come from the analysis of civic cybermedia. When they so easily divide the world into allies and enemies, good and bad things, based on their particular agenda, don’t they do it because they want to please their members and sympathizers? And if so, why is it so dramatically different from the “customer first” principle of the commercial media?

I know that for a journalist it is tempting not to pass up a “children in danger” topic, especially when the dangerous thing is a machine and, what is more, if the Government has a stake on it. I also know that multifaceted, long-term social processes are not very photogenic. But at least *one* journalist or commentator out of the hundreds that I reviewed in this study could have pointed out in a tiny footnote that the most obvious message of the PISA data is that schooling reproduces social inequalities in OECD countries to a *sizeable and statistically significant* degree.

This embarrassingly sad and equally tiring saga needed lots of contributors. Incompetent education editors at a string of world-famous newspapers and at professional organizations. Ruthless journalists who don’t give a damn about kids and computers but who know that they guarantee the “clear and present danger” newsworthiness principle. Totally incompetent web editors who do not even notice if they change the meaning of an article by sexing up its title. Two researchers who were willing to sacrifice a bit of their professional integrity for 15 minutes of fame in the media. Monomaniac bloggers who write about children only because under the auspices of the child topic they can comfortably hate anyone they wish. And self-gratulatory independent (net)publishing desperately seeking authorization from the BBC, the Royal Economic Society or HRH Prince Charles.