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Open Source for Education

Teachers to Open Source Advocates: "You have Homework!"

There are technology advocates that want to replace the software that is used in most schools with "no-cost" software. This kind of software is called "Open Source." The name, "Open Source" does not mean "free", but it means that the folks that create the software release the "Source Code" rather than keep that code as a business (i.e., trade) secret. What this means for teachers; i.e., how important this distinction is, is "not much." But, the Open Source argument distracts school district executives from more important questions.

What are more important questions than, "Can we save money on software?" The most important questions… Why should teachers care?

What benefits are there for teachers and students?

What about this software improves teaching and learning?

What about this software increases teachers' and students' productivity?

What about this software increases curricular goals, increases our job performance, increases the long-term value to employers of the students that we graduate, or increases scores on high-stakes tests?… Answers…

Why should teachers care? Because some of the rhetoric pushing this software scheme is yet another "outside group" (not teachers) that wants to dictate and control education

Because many of these folks (Open Source Advocates) "forget" to ask teachers what teachers and students need.

Some of these advocates assume that they know what is best for teachers and students because they are "saving money" for school districts

Because these folks are chanting the "mantra of cost-savings" to high-level school district administrators, and because district administrators listen to this "No-Cost (\$0.00) Spin"

Because high-level district administrators already think that too much money is being spent on technology without seeing a return on the investment (in terms of student learning and test score increases)

What benefits are there for teachers and students? Little or no benefits to teachers are delivered in this switch to Open Source software because …

High level district administrators are apt to grab the dollars saved on software and spend them on anything except the increased professional development and increased release time that would be needed for any new software deployment; i.e., teachers are expected to get up to speed on their own time, using their own resources

Sidebar (Note: teachers have already learned to use some software, often on their own)

Also, the cost of professional development and release time would be higher than the cost of the software that will be replaced, e.g., \$100 for the software, \$40 to \$100 per day for substitutes, \$18 to \$25 per hour for extra duty pay

Teachers are often on their own in downloading and installing the software at home (where they do most of their planning and lesson development work)

Students are often on their own in downloading and installing this software on computers at home

The software that is targeted for this cost reduction is the Microsoft™ Office Productivity Suite, software that almost all teachers already own

Teachers and students need more than Office Productivity Software

Teachers and students need software that adheres to standards and offers interoperable (interchangeable) file formats and the ability for teachers to collaborate and share

It would be nice if the collaboration was automatic

Teachers need a complete set of tools that transfer components without rework, without saving, then importing into another program. Teachers need programs that work together

Sidebar For example, when the teacher creates a Mind Map, the proper software will allow "one-click"…

Creation of a Word Processing Document Outline

Creation of a Presentation Slide Show

Creation of a PDF file

Creation of a Web page

Creation of a Project Management Plan

The Sending a Copy by E-mail And it would be even better if a presentation slide show automatically turned into a Mind Map. One crucial option for recommending any software is ensuring that the software works with other educational software.

This is known as the Schools Interoperability Framework (SIF) initiative. Compliance with the SIF initiative is generally missing in the proposal to save money on software. Possibly because making sure that software "plays nice" with other software also costs money (because this compatibility requires servers, infrastructure and technical staff).

Sidebar Not all Open Source projects are useless for teachers. For example, the state of Indiana has an Open Source project that seems to be working well within its limited scope. (Note: The Indiana 1:1 Computing Project targets only high school language arts students, and the only focus is student research, report writing and presentation development.)

The Indiana Project focuses on learning and instruction. And learning and instruction are what motivate teachers to learn on their own, train one another, and share what works.

What makes the Indiana project a success is that state leaders had the wisdom to ask teachers what teachers and students needed. The Indiana Project Leaders also attribute project direction, creative project ideas, and suggestions for program improvement to teachers. It's clear that some educational leaders have the wisdom to focus on the needs and benefits to students, and not sell out to the "We don't have any money for education myth." "One Size Loosely Fits All" Replacing Microsoft software because Microsoft charges a licensing fee sidesteps several important questions…

Microsoft already provides most of its software to school districts at about a 90% discount.

There is nothing to prevent school districts from purchasing licenses for teachers' home computers. In fact, some districts do this.

(Note: Teachers may want to exercise caution in accepting school district software because the school district may claim that the intellectual property that was created with that software belongs to the district, even if that intellectual property was created at home, after hours.) Is this "free" software as good, or better, than the Microsoft software? Answer: No. the commercial software is better (has more features, has organized technical support) than the Open Source software

Will this software be easier to use and require less effort to implement? Answer: Ease of use is about the same. Users just have to get used to a few minor differences.

New features: The nod goes to the commercial software. In fact, the newest version of Microsoft Office 2007 is "slick" (although most school district staff won't see this software until next school year.

Will school districts upgrade to Office 2007 any time soon? No.

Will teachers need to purchase anything out of their own pocket in order to use this software? Most teachers already have an academic copy of Microsoft Office, and won't bother to upgrade until they purchase a new computer. Office 2007 is worth the upgrade if you are collaborating with others across a network or online, and your collaborators have the same software

Since teachers share very little, most teachers won't find the collaboration features essential

Training teachers to collaborate and making that collaboration easy is a huge missing ingredient in technology plans.

(The reason: Doing this "right" would cost a school district a lot of money. It is easier to "spin" this responsibility as a teacher issue, and let teachers shoulder the implementation on their own) Teacher collaboration is the most effective time-saver that we can recommend. In fact, the Classroom Toolkit Open Source for Instructional Materials project is a collaborative effort. We are still looking for volunteers. Do you want to join us? Will teachers need to spend time learning how to use new software on their own time? Answer: Of course, compensation for professional development and release time, while the only choice if school districts offered true professional status for teachers, is "scarcer than a politician's kept promise"

Are the files that this software creates 100% compatible with what we have in our district and at home? Answer: This depends upon how well the planning, configuration and communication are within the school district. Planning also needs to consider communication and collaboration with colleagues in the greater world outside the school district

Is our district's IT Department equipped to manage this software? If the district's IT Department can barely keep up with repairs now, how will they be able to handle two kinds of software instead of one kind? Answer: The IT Department can't manage and must set standards based on instructional needs

The standards that the IT Department sets should be based upon educational goals, not just saving money with the lowest-cost option

The standards that the IT Department sets should be based upon solving the needs of teachers and students, based upon streamlining the learning process, and based upon making the use of the technology transparent. (This means that teachers and students can pay attention to the curriculum, and don't even notice what technology they are using)

Will the Open Source software work seamlessly in two important areas?…

Teacher and student collaboration Students' electronic portfolios Answer: It depends on the standards that are set Beware of "Geeks" Bearing Gifts Teachers should be vigilant, worried, concerned, "maybe even hopping mad" when non-educators (techies, lawyers, politicians, court judges; even some school finance directors, and superintendents) make decisions and recommend solutions for education. Some of these folks barely know how to bungle along in their own space, but they have little face validity for making choices for educators.

Teachers should be alert and ready when "save a dime-- create a dollar's worth of hassles" proposals come to the table. Sidebar Actually, teachers should be grateful if they receive any advance notice for changes such as this. Often these "initiatives" just happen during the summer, and teachers are stuck with them for at least a year, when enough complaints cause the error to be fixed and the software returned the following summer. Other considerations are whether the Open Source software is "one version back" with the capacities and functionality that it offers.

The copies of the commercial products (the Open Source products) claim that they stimulate innovation, but they generally followers, not leaders, providing features and benefits that imitate the market leader. The reason for this is obvious, the market leader spends lots of research dollars to find out what the buying public wants. The Open Source developers do not have research dollars so they cannot perform the required research. Where Open Source Shines Some Open Source advocates allow the disdain for how much money Microsoft makes, or their

displeasure that Microsoft refuses to hand over its "secret code" for them to play with to suggest ridding school districts of all Microsoft products. Open Source developers, on the other hand, are more pragmatic. Most Open Source developers create software that runs on the Microsoft Windows server and desktop platforms. Using Open Source software that runs on the Windows platform is a valid strategy that provides lots of choices for additional software tools.

But, teachers will be hard pressed to find school district IT Departments that will allow them to use these "free" software tools.

The reason is that software in use in a school district is never "free."

School district IT Departments are notoriously under staffed and under paid.

And, the advocates of Open Source often cite the ability to run an IT Department on less technical staff when non-Microsoft hardware and software is used.

So, the IT Department that strips software use down to bare basics and shrinks IT Department staff to a skeleton crew is not going to provide the support required to provide all the Open Source software applications that teachers and students would like to use, even if that software runs on the Microsoft Windows platform. The Biggest Mistake of All Open Source advocates tout successes in saving money by creating high school computer labs using old computers and Open Source software.

These labs allow students to write reports and create basic presentations.

But, the biggest mistake of all is believing that elementary students can use these computers when they become too slow and useless for high school students.

What most these non-teachers fail to understand is that elementary school students require more computing power, more multimedia, more audio and video capacity than high school students who are writing reports. Of course the high school students require more computing power, too. But the "cost-saving, as cheap as we can get away with" mentality denies them access to it. The danger is that 1:1 Computing can become synonymous with "low-cost, refurbished, computing for every student, on the cheap" initiatives. Beware of any "techie guru" who spouts the words "low-cost, saving money, cheap." These folks are "non-educators or politicians," and their "near-sighted vision" (or tunnel vision) prevents them from understanding that the quality education that our students deserve is going to be expensive. Very expensive! And, elementary school teachers (along with every other teacher) require additional computing capacity beyond what students need.

In addition, high school students require specialized software, for example: Probeware
USB microscopes

Connections to graphing calculators

Instant messaging for communicating with mentors

Specialized software that is science and industry specific as they participate in real-world project learning And, does the Open Source platform support the auxiliary materials and instructional tools that comes with adopted textbooks?

If the text book add-ons run on Open Source platforms, do they also run on the Windows computer that the teacher has at home? How Classroom Toolkit's "Open Source for Instructional Materials" Movement is Different from other Open Source Projects Classroom Toolkit provides Open Source instructional materials for teachers that starts with what teachers need and what teachers can use.

Classroom Toolkit focuses on strategic processes, standards for streamlining teachers' work loads, tools that teachers can use immediately, and the lowest cost needed to "get the job done in an elegant fashion."

Classroom Toolkit's license requires that everything that is made (derived from) using our materials remain "free," while ordinary Open Source software and materials can be collected, revised, updated, altered and sold. Upcoming Articles The integration of technology is a complex subject, and the April 2007 issue of Classroom Toolkit will continue this discussion of IT Department homework. The upcoming article will focus upon how technology integration advocates went astray by failing to provide measurable, student achievement outcomes as part of technology integration planning. Our May 2007 issue will complete this article series by describing the homework that technology integration advocates need to complete to provide the "back-end processing" that streamlines teachers' efforts and makes collaboration, coordination and communication "one-click" easy.

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