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## Open Source for Education

### Lack of Educational Intelligence: The Major Problem with Open Source Software

On the face of it, license-free software seems like a "better-than-the-proverbial-sliced-bread" idea. We can download gigabytes of tools to drive our instructional delivery and instructional management. We can install hundreds of learning-aid tools that propel student learning to "high-stakes-test-scoring" heights. We expect that this license-free stuff will: Make students learn better, faster, easier, more&hellip;

Reinforce the concepts that we meticulously lectured about

Solidify cognitive connotations between (and among) ideas and intellectual constructs that have become anchored in our students' idea repertoires

Launch the "knowledge-cognition-analysis-application-synthesis-evaluation" higher-order thinking skills paradigm to nose-bleed-producing heights

Open Source software is not the only free stuff available for teachers to use for personal productivity or student learning. Other categories of free tools include: Freeware: (Free software, but you can't alter the source code)

Trialware: (Free to use for a trial period, often 30 days. Sometimes, this is more than enough)

AdWare: (Free to use software or services that are paid for by the ads that are flashed in front of you)

Commercial No-Cost Products: (Software tools that are no-cost that are used to sell expensive products. For example, Adobe's Acrobat Reader is the software that reads all those "PDF" files that you find on the Internet.

Adobe gives this reader away so that people who want to share printable documents are influenced to purchase the expensive Acrobat's (PDF creator) software. Unfortunately, reality seldom bends or contorts itself to the will of our fantasy and wishful thinking.

Why no Educational Intelligence

Open Source software (freeware and other no-cost tools) are not created with teachers in mind.

In fact, teachers have to scramble and strategize to make use of most software, even the "educational type."

Although talented and top-notch programmers earn three to four times as much as expert and "long-term seniority-level" teachers, programmers do not understand the job of teaching (They don't have a clue)

Could not step into your classroom and keep order, let alone get your students to complete the assignments

Believe that teaching is easy and that clear explanations (embodying the logic used in programming) are all that are needed to prompt students to learn

Could not bring your students anywhere close to the performance that you will bring them on the high-stakes test

In addition, Open Source projects are: Programmer Community Driven: A loose (sometimes, ad hoc, committee of volunteers decides on a project idea, and volunteers contribute to the overall code devotement

The programs are often "knock offs," i.e., "copy-cat ideas" of commercial programs, especially of Apple's ideas, but also of Microsoft's and Adobe's ideas. Due to the distributed nature of the Open Source development, the software does not fit together

The exception to this scenario is Novel's. Novel has developed an Enterprise Level solution of Open Source software that is tailor-made for school districts. Of course, the design, engineering and testing of Enterprise-level software is expensive. Therefore, Novel's solution is not "free."

In addition, Novel's solution is also compliant with the Schools interoperability Framework (SIF) Schools Interoperability Framework (SIF) Most Open Source software does not focus upon integration with other software that is found in school districts.

However, commercial software vendors see the wisdom of this strategy, and the major players have joined the SIF Association.

Who are the major players? Here is a partial list of companies that teachers might be familiar with&hellip; Apple's; CampusWare's;

Chancery Software's;

Compass Learning's;

Curriculum Associates's;

Curriki's;

IBM's;

Microsoft's;

Novel's;

Pearson's;

Plato's;

Renaissance Learning's;

Scholastic's;

Visual Software#8482;For a complete list, visit the SIF Association site&hellip;  
Membership in the SIF Association by school districts ranges from entire states with vision, including:Alaska  
Pennsylvania  
South Carolina  
Virginia  
WyomingOr, State Departments of Education and a few school districts in the following states&hellip;Arizona  
Connecticut  
Florida  
Hawaii  
Indiana  
Kansas  
Kentucky  
Minnesota  
New Hampshire  
New Jersey  
New York  
North Carolina  
Ohio  
Oklahoma  
Oregon  
Texas  
Wisconsin

WyomingWhy aren't the rest of the states alert enough to provide the vision and commitment, plus the funding to become compliant with a software standard that would provide the following benefits&hellip;?Access to better quality data

Spending more time on instruction and less on paperwork

Money savings&hellip;and not just on software purchase, software management; but also on the work that teacher, librarians, counselors and campus administrators must perform

Reduced support costs

Access to SIF implementation tools and support

Network with a wide variety of local, state and federal education decision-makers -- as well as software developers and vendorsIf joining the SIF Association seems like a "no brainer," and you don't see your school district or your state Department of Education on the SIF Association membership list, then check around to find out the reason that your school district or state is lagging behind.SidebarOne possible reason is that other states would like the few states with vision to pay for early development. Then, they can join in later without supporting the organization in its development.Another reason could be that the state is grappling with the effects of The No Child Left Behind Act (NCLB) and is too busy propping up test scores to care about the extra work that teachers and school district staff have to perform&hellip;due to the fact that productivity and learning management software fail to work together.

A third scenario, like happened in Texas, is that the State Department of Education doesn't have the staff to promote an initiative that is useful for schools. In the Texas case, the Texas Education Agency fired all the "Ed Tech" folks several years ago, and has taken years to rebuild its technical expert staff.

Note: This sort of mismanagement creates what we call in Texas the "TwoFer Effect." The "TwoFer Effect" means that you get two for one, i.e., for each year that the fired staff is not rehired or replaced, the state lags behind by two years. For example, if the Ed Tech staff is not rehired for five years, then five years of progress are lost; then, it takes two or three years for the staff to ramp up the program that was allowed to languish. So, the reconstituted staff starts with a seven or eight year lag before they can begin making up the five years that were lost. The lost progress is easily a decade or a decade and a half if the project languishes for just five years.

Teachers Point of ViewTeachers focus their attention and life energy upon instruction. Teachers are "single-minded" about this.

In addition, teachers are often "swamped and overwhelmed" by lots of paperwork and "rinky-dink" non-instructional (non-payoff) tasks that flush upon them from the chain-of-command bureaucracy.SidebarInformation flow is the crux of "Educational Intelligence." The product of applied intelligence is called "wisdom."

In most work sites, teacher wisdom flows one way, i.e., from teacher to teacher; or, from teacher to students.

Wisdom seldom flows two ways, i.e., from teacher to principal; or, teacher to superintendent; and from teacher to student.

One way information flow, is the rule in a "chain-of-command" organization. But, if educational intelligence cannot come from the "top" (because it doesn't reside there); and if educational intelligence is squelched from the bottom (because the bureaucratic, chain-of-command, control valves block the upward flow) then how can Open Source solutions gain a foothold in education.

If educational intelligence doesn't drive instructional management and instructional delivery, how does software that was not developed with clear educational principles stand a chance of success?

The Reason that Educational Intelligence won't go "Open Source" Educational Intelligence, the ability to collect data and create decision-supporting "Dashboards" that collect, interpret and deliver meaningful data in real time, will not enter the Open Source arena.

These programs are complicated, and the programs rely on a solid understanding of the thought infrastructure and underlying principles behind those decisions.

Developing educational intelligence would require that we: Dump our educational theories and base our strategies and instructional practices on "the facts of observable and measurable observation"

Evaluate the past decisions of bureaucratic decision-makers, and expose the wisdom (or lack thereof) of all those "magic-bullet" innovations that failed to bare fruit

Pay some really high-priced technical talent to custom-build the system (by extremely high-priced, we are talking about \$250 to \$300 USD per hour and multiple years of billable time)

Pay for some really high-priced hardware, software, support contracts and technical training School districts that balk at paying \$150 to \$175 per hour for technical help just crumple when they find that these Business Intelligence folks command payment in the \$250 to \$300 dollars per hour range.

Can't you see our school district folks responding like whimpering dogs that have just taken a "big-stick beating" when they learn what such a system would cost? And, that does not factor in the lead time that it will take while the technical folks get "up to speed" (climb the learning curve) concerning the underlying processes and educational intelligence strategies.

If you are going to measure strategic processes, you better know how the measurable activities, benchmarks, and underlying systems work. Therefore, the project will amass a huge cost before the first bit of helpful technology is created.

Sidebar One reason that Educational Intelligence will not go "Open Source" is that there is so much money to be made for the people that can develop this type of application. For example, recent news reports show that major software players went on a Business Intelligence "shopping spree." For example: SAP AG purchased Business Objects SA for \$7 billion USD

IBM purchased Cognos for \$5 billion USD

Oracle purchased Hyperion Solutions Corp. for \$3.3 billion USD Of course, these cash-rich, high tech companies know something that school district personal don't know, i.e., that streamlining the decision-making process to enable front-line, operational employees to make real-time, on the spot decisions increases customer satisfaction and profits.

An analogy for school districts would be allow teachers to make on-the-spot spending, discipline and scheduling decisions without having to obtain prior approval. Sidebar For example, Federal Express provides a budget and authorizes supervisors to make \$100, "no questions asked" refunds for any shipment that was delayed.

Fed Ex has the wisdom to know that customer satisfaction is crucial for repeat business in their competitive industry. Sure, this is an expensive strategy, but Federal Express understands the business intelligence enough to know that losing angry, unsatisfied customers costs emmensely more. Anyone that has seen the endless delays in getting school district decisions made

Tricks of giving credit for good ideas to supervisors, even after they did everything possible to sabotage the idea

Squelching of initiative and great ideas by campus leadership because it wasn't their idea

"Protect your tail feathers" hesitancy in trying something new by staff at all levels of the school district's organization

"Don't do anything controversial" and "avoid complaints at all cost" mentality that paralyzes basic, common sense action knows that "bureaucratic nonsense," rather than "educational intelligence" often operates with impunity in our school systems

If Open Source solutions were developed with "educational intelligence," the entire bureaucratic structure (and all its foibles and inefficiencies) would stand exposed. (Talk about an emperor without clothes!) Of course, school district officials should welcome "full, frontal" exposure to all aspects and operations of their system because they hold these assets and responsibilities in public trust.

If Open Source could build on "educational intelligence," then all school district operations would become transparent, i.e., open.

Worst Practices The top four worst practices for integrating educational intelligence are: Assuming the average teacher has the time, expertise, desire and technology resources to use educational intelligence tools

Expecting Microsoft Excel to become the default educational intelligence platform, and failing to provide the professional development to enable teachers to use a robust database management system; i.e., Microsoft Access, FileMaker Pro

Selecting technology and educational intelligence tools without identifying, measuring and benchmarking a specific instructional need

Assuming that a technological system will solve all information access and delivery needs if the decision-makers at the top keep sole access to the decision-making controls If school districts were to adopt educational intelligence-based Open Source solutions, the decision-making power structure would fall "like a house of red tape."

So, few school district executives are going to fund the development of a system that spotlights their decisions. More importantly, even fewer school district decision-makers will fund a system that launches instruction to new heights of

efficiency and effectiveness if that technology means that underlings (i.e., teachers) will be able to make decisions. Educational intelligence is a "two-edged sword," (i.e., transparency and accountability). Top-level school district bureaucrats' authority stands to be cut from under them, their of invincibility stands to be maimed, and their jobs stand to be slashed. Best Educational intelligence Practices For Open Source solutions to become viable in our schools, research-based, tested and verifiable applications must target the progress of measurable student achievement. Then, Open Source solutions could&hellip; Make sense out of the complex data that floods teachers, but provides little direction for instruction

Engage teachers as Subject Matter Experts (SMEs) and build solutions based upon patterns and best practices for instruction

Provide enough professional development in database design, administration and use so that teachers upgrade their skills from an Excel&#8482;-only strategy to a true database strategy for information processing

Put data collection, data management and data-driven decision-making in the context of instruction, i.e., Educational intelligence, where teachers' higher-order understanding of the instructional process predominates in district budget and policy making

Identify specific instructional needs, then deliver information that targets those instructional goals

Hire support staff so that teachers can "off load" bureaucratic busy work" in favor of focusing teacher time on instructional delivery and instructional management When an Open Source solution is developed that is based upon Educational intelligence, school districts will become empowered to root out teacher and administrator worst practices, and prevent new waste and bureaucratic abuse. The key points to remember when launching a Educational intelligence-based technologies are: Only embark on an Educational intelligence project for a specific instructional target

Identify needed data, then establish a cost-effective integration strategy

Identify procedures and methods for infusing that data into the hour-by-hour activities of teachers in ways that decrease the amount of work that teachers have to do, i.e., make teachers' work easier

Create "always-on dashboards" that feed live (real-time) data to teachers, and summary data to administrators

Create "What-If dashboards" that project trends so that teachers and administrators can make real-time course corrections in instructional management and instructional delivery Include teachers in all levels of the development and in all levels of the decision-making process (This step is crucial.)

Include teachers on the design, development and management teams that build a Educational intelligence-based process

Ensure that the Educational intelligence-based solutions&hellip; Directly deliver measurable increases in student achievement

Make work easier for teachers and support staff

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