THE OSMOSIS MYTH - A REALISTIC APPROACH TO STAFF DEVELOPMENT AND EDUCATIONAL CHANGE

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Many educational leaders and policy makers have grand visions of how computer technology will lead to educational innovation and restructuring. Unfortunately, in 1993 far too many of these people believe that the technology will do the job alone. If staff development is provided, it is too often superficial and unsuccessful. Teachers and their students may be "using computers" but to what end? What has the computer's impact been on the learning culture of a school? Is the school any closer to their goal of improving education and institutional change or has the introduction of technology created a foggy detour on the road to innovation?

The hard part of this process is not the learning the technology, but thinking about thinking and learning; reflecting on the nature of the curricula; and clearly articulating a collegial strategy for implementing change. Computer-based staff development efforts often assume that teachers need to be only computer literate enough to unjam the printer or to use one piece of "canned software" with their students. This line of reasoning deprives teachers of the types of intellectual empowerment which their students experience when using the computer as a vehicle for constructing knowledge.

School districts often believe that teachers will begin making computers important well integrated tools in their classrooms if they attend a two-hour workshop or stand in the computer lab while the computer teacher instructs their class. This is part of what I call "the osmosis effect." Just touch a computer and education will improve. Educational reform is too often equated with plugging students into anything that happens to plug in.

Even in more thoughtful school districts, staff development efforts too often go for the "quick fix." Speakers and authors like Tom Snyder argue that no significant innovation will succeed in a school without directly benefiting the central group of adults first. I was always troubled by this view and have recently become convinced of how profoundly misguided this view is.

The conventional wisdom is too often, "If I teach the teacher to put the students' arithmetic problems into Math Blaster, then they will learn to assist their students in creating collaborative inter-disciplinary multimedia reports in LogoWriter..." "If the teacher can write parental letters using a word processor, then they will fall in love with the writing process and change their language arts curriculum to a whole language process..." "If I teach a math teacher to use a gradebook program, he/she will begin to use manipulatives and symbol manipulators as an integral part of the math curriculum..."

There is no evidence whatsoever to suggest that this all too prevalent strategy of pandering has any positive impact on the growth process of teachers or schools. In fact, I have seen this approach to staff development degrade teachers by assuming that they were not capable of learning new skills or sharing powerful ideas.

It is incredibly insulting to believe that teachers are so selfish that the only way in which to get them to appropriate new technologies and methodologies is to "train" them to do trivial administrative tasks. The implication is that teachers are too "burn-out" or detached to care about the exciting educational potential of new technologies. Too often elementary school teachers are sentenced to a lifetime of word processing and word processing only because of a lack of respect for teachers and a subtle gender bias towards female teachers.

The way in which you directly benefit teachers is by helping them directly benefit kids. You improve the lives of teachers by helping them become better teachers. Even the "bad" teachers our society is so fond of discussing will be inspired by seeing students engaged in exciting new ways—with new materials, ideas, processes, and content. After all, is that not the reason for ongoing staff development?

It seems ridiculous to suggest that teachers are the only group of professionals incapable of using computers in meaningful ways. This view is a result of the way in which schools often approach the use of computers by students. Over the past decade schools sought to make computers, which are transparent in the world and the life of the child, into a discipline—hard and worthy of study. Terms such as computer literacy, computer lab, computer coordinator, and courses in information technology have become commonplace in primary and secondary schools. These ideas, at best, are rooted in the educational bureaucracy's deeply-held paranoia about only teaching what is testable and at worst is designed to create an artificial range (bell curve) of good computer users and bad computer users. Neither case respects what students already know. It seems as ridiculous to think that a sixteen year-old student in an information technology class needs to be taught what a mouse is as it is to assume that a professional educator is incapable of using technology used routinely by Burger King employees.

So, what should we do? I would argue that computer-based staff development activities should focus on the change process and immerse teachers in meaningful, educationally relevant activities, in which he/she will be encouraged to reflect on powerful ideas and share their educational visions in order to create a culture of learners for their students.

SUGGESTIONS FOR SUCCESS

Work With the Living Schools have limited technological and teacher development resources and they should be allocated prudently. Good teachers who have yet to recognize how computer technology may enhance their teaching are not evil. If a school focuses its energy and resources on creating a few successful models of classroom computing each year, then the enthusiasm among the teaching staff will be infectious. When fifteen teachers in a school or district joyfully use technology more teachers are likely to have found a comfortable path towards implementation. Within a few years the most recalcitrant of teachers will recognize that they are in the minority and may seek other employment. It is important that a variety of models be created for teachers of differing backgrounds and subject areas to choose from. The school should be cautious not to create negative models of computing use.

Work On Teachers' Turf Educators responsible for staff development should be skilled in classroom implementation and should work along-side the teacher in his/her classroom to create

models of constructive computer use. It is important for teachers to see what students are capable of and this is difficult to do in brief workshop at the end of a long work day.

Off-site Institutes Schools must ensure that teachers not only understand the concepts of collaborative problem solving, cooperative learning, and constructionism—they must be given the opportunity to leave behind the pressures of family and school for several days in order to actually re-experience the art of learning with their colleagues. Off-site residential "whole learning" workshops can have a profoundly positive effect on a large number of teachers in a short period of time.

Provide Adequate Support Nothing dooms the use of technology in the classroom quicker than not supporting the teacher who worked hard to develop new skills. Be sure that the school does everything humanly possible to support the teacher's efforts by providing the technology requested, maintaining it, and by having access to a working printer and a supply of blank disks.

Practice What You Preach Staff development experiences should be engaging, interdisciplinary, collaborative, heterogeneous, and models of constructionist learning.

Share Learning Stories Teachers should be encouraged to reflect on personal significant learning experiences from their lives and the staff development experience. They should share these experiences with their colleagues and discuss the relationship between their profound learning experiences and their classroom practices.

Celebrate Initiative Teachers who have made a demonstrative commitment to educational computing should be recognized by being freed of some duties in order to assist colleagues in their classrooms, encouraged to lead workshops, and given access to additional hardware.

In-School Sabbaticals Innovative teachers should be provided with the school time and resources necessary to develop curricula and conduct action research in her/his school.

Assist Teacher Purchases of Technology Schools should help fund 50-80% of a teacher's purchase of a personal computer for use in school and home. This act demonstrates to teachers that you value computers as an important aspect of the school and that they should share this commitment. Partial funding also provides teachers with the flexibility to purchase the right personal computer configuration. The school may offer an annual stipend for upgrades and peripherals.

Have Abundant Technology Available A teacher in a school with hundreds of computers quickly recognizes that the school values classroom computing.

Cast a Wide Net No one method of staff development works for all teachers. A combination of traditional workshops, in-classroom collaborations, mentoring, conference participation, and whole learning residential workshops must be available for teachers to choose from at their own pace. Teachers should be made to feel comfortable growing at their own rate. Therefore, a variety of staff development options may need to be offered regularly.

Avoid Software Du Jour The people responsible for paying for school computing are made to feel guilty by the media and other administrators if they do not constantly do something "new" with their computers. Unfortunately newness is equated with lots of software. It is reckless and expensive to jump on every software bandwagon. Using narrow skill-specific software has little benefit to students and undermines staff comfort with computing. Choose an open-ended environment, such as LogoWriter, in which students express themselves in many ways that may also converge with the curriculum.

Never Satisfied - Only Gratified Staff development must always be dedicated to continuing educational excellence.

If we desire to restructure schools then we must recognize that the only constant we can depend on is teachers. Our schools will only be as good as the least professional teacher. Staff development must enhance that professionalism and empower teachers to improve the lives of their students. Our children deserve no less.

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