

The Marriage of AT and IT

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The Instructional Technology (IT) manager in most educational settings has been given many responsibilities. He must manage the computer hardware and administrate the network systems - protecting their integrity and security, work with curriculum specialists to implement software introduced into the network, and perform installations and troubleshoot issues as required during the process of instruction. Most of these responsibilities come with the expectation by faculty and administration that they will receive high priority and immediate action. During times of limited funding and budget pressures, the IT manager and the IT team are hard pressed to meet all of these responsibilities and expectations.

One growing area of responsibility that is emerging is that of providing technology to serve students with disabilities (Albright, 2003). Technology that is used to remediate or compensate for the deficient skills of students with disabilities is known as Assistive Technology (AT). AT involves the selection and implementation of specialized software and hardware to address the needs of individual students. The introduction of AT presents the IT manager with new responsibilities for unfamiliar and diverse new programs and devices.

AT has remained on the periphery of IT until recently. With the current emphasis on high stakes testing, accountability, and inclusion of students with disabilities in general education classes, AT is coming center stage as a means to provide access to the curriculum for all students, to

facilitate testing accommodations, and to help improve the performance of students who struggle with reading & writing. It is important for managers of IT to understand why AT should be an important element of the support their organizations provide. This paper explores the evolving relationship between AT and IT and identifies strategies and resources that may assist in finding common ground the implementation of AT.

Current Issues

Today, anecdotal data gathered from AT coordinators and teachers of Special Education indicate that IT policies in many educational settings have yet to fully embrace and integrate AT. Instructors and educational professionals report being forbidden to make adjustments to the displays and other desktop presentation features of computers available to their students (Hastings, 2003; Shepley, 2003). Teachers recount not being permitted to activate the accessibility features that are provided as built-in features of classroom PCs (Chuk, 2003; Paradis, 2003). Teachers tell of being prohibited from downloading software upgrades and other educational materials such as pictures and other graphic and sound files that might support instruction (Shepley, 2003). Software installations and changes that are permitted must await the personal attention of IT staff who often take so long to address the request that the value of the modification is lost (Hastings, 2003; Chuk, 2003; Alprin, 2003; Shepley, 2003).

These reports are symptomatic of a lack of understanding of the nature of AT and of the larger educational context within which students with disabilities are being educated. While some IT professionals may have come from the business world and seek to apply sound business practice to the administration of networks and support for instruction, there are important reasons why AT must be seen as an integral part of IT and not as an exception. Managers of IT will need to develop a grasp of these concepts if they are to deliver appropriate technical support to all students and to avoid legal challenges.

The Larger Educational Context

First, it is important for IT managers to recognize that Federal and State legislative mandates, and not individual teachers, that are driving the push for the use of AT in the classroom. The Individuals with Disabilities Education Act, Part B (34 CFR Parts 300 and 301 and Appendix C, Public Law 102-119), mandates that each child with a disability receive a free and appropriate public education (FAPE) (Morris, 2002).

New mandates in the reauthorization of IDEA of 1997 now specify that Assistive Technology be addressed as part of the development of the individualized educational plan (IEP) of each student with a disability (OSERS, 2002). This process involves the teachers, parents, therapists and other school officials in the development of the plan for a student's education. The signed IEP is a legal document that becomes the framework for an individual student's education. If AT is specified in this

document, it establishes the expectation that Assistive Technology should play a meaningful role in the instruction of that student with a disability. Failure to follow through with support for AT, would expose the school system and the educational staff to expensive litigation.

Further, there are sound reasons from educational practice for proactive support for AT from the IT team. It is generally accepted among professionals in the field of Special Education that technology can empower persons with disabilities by providing an opportunity for inclusion and access to learning and greater fulfillment and accomplishment in life (Sawyer & Zantal-Wiener, 1993; Wisniewski & Sedlack, 1992; Derer, K., Polsgrove, L., & Rieth, H., 1996; Bryant, D., Erin, J. N., & Lock R., 1998; Lewis, 1998; Schlosser, R. W., McGhie-Richmond, D., Blackstien-Adler, S., Mirenda, P., Antonius, K., & Janzen, P., 2000). General education teachers, who must differentiate their instruction to address the diverse needs of students, find AT provides effective tools for dealing with different learning styles and varied learning abilities (Weikle, B., & Hadadian, A., 2003).

As the population of students with disabilities served by our institutions grows, there will be increased emphasis in the coming years upon supporting instruction of the students with AT. Mandates such as those springing from the No Child Left Behind (NCLB) legislation, will force our institutions to address the reading and writing needs of struggling students who do not have IEPs. The solutions provided by AT

will become more significant to the IT manager as time goes on (Cavanaugh, 2002b).

A second area of understanding for the IT professional has to do with the nature of AT. By definition, there are going to be required modifications to meet the differing needs of students with disabilities. Each student with a disability is unique. Even among similar disability groups, the needs of each student will be different. The “one-size-fits-all” mentality must be replaced by a more flexible approach that seeks out individual differences and incorporates their accommodation into the IT process. Teachers must differentiate their instruction. Technology is a valuable tool in this process. The IT team must find ways to support and encourage teachers in this process. Response to requests for support and installation must be prioritized.

Addressing AT Needs

The prospect of accommodating AT needs will necessarily raise serious concerns from IT managers about the security and the integrity of the systems they administer. The more variation and customization that is required inevitably opens the door to user error, the introduction of viruses, and for incompatibility issues, all of which can devour scarce time resources and distract the IT team from other important responsibilities. The incorporation of AT into the IT process will require a workable formula for providing access to the curriculum and instructional tools

while avoiding exposing the system to unnecessary vulnerability and precluding the consumption of limited time resources of the IT team.

IT managers have a valid concern about time resources. The prospect of multiple teachers of students with disabilities badgering their staff with ongoing requests for installations, changes, and modifications threatens the IT team's ability to perform its mission. One solution that has been used in the field has been to assign one IT staff member to support the AT needs of Special Education teachers (Anderson, 2003; Paradis, 2003). This has been known to be the spontaneous result of the initial efforts at AT support for IT teams. One staff member becomes intrigued by the technology or finds working with students with disabilities personally rewarding (Newton, 2003). However, this solution will not work for those systems where staff resources are most severely limited.

A second solution involves the "deputizing" of a teacher or therapist from the Special Education department who appears inclined toward technology. The investment in training of this adjunct IT team member will require extra time and effort initially. In the long run it can pay significant dividends. By providing this staff member with administrator privileges, the support function of the IT team may be extended and the burden of more trivial support of these students can be removed from the shoulders of the team members (Paradis, 2003; Alprin, 2003)

Some AT Coordinators have observed that this issue requires a reciprocal process of education (Alprin, 2003). Just as the IT staff must learn to support the needs of the teachers of students with disabilities, the teachers and AT coordinators, themselves, must learn more about the PCs and networks with which they interface. Proactive instruction in the contextual use of PCs and network systems for special educators can lead to reduced need for IT support.

Some educators have suggested the preparation of presentations for the benefit of school administration and district level IT administrators illustrating ways in which AT benefits these students and how it facilitates access to the curriculum (Kauppila, 2003). By illustrating the role that IT plays in the facilitation of AT, the high level support may be enlisted that will ultimately be required in order to sustain the policy changes, equipment, and staffing required for local IT teams to support AT.

Pre-service training in AT among IT professionals has become a more widely identified need. The National Council for Accreditation of Teacher Education (NCATE) and the International Society for technology in Education (ISTE) have embraced AT as a important part of the curriculum of graduate level Educational Technology programs. They suggest that AT must be included as part of Educational Technology and Technology Leadership programs (Cavanaugh, 2002b).

Finding Common Ground

A point of convergence for AT and IT may be found in the emerging field of Universal Design for Learning (UDL). UDL has been accepted practice for some time in the physical architecture of public buildings. UDL is building momentum on the Internet in web design. Now we are seeing this concept being brought to bear upon teaching and learning. (Edyburn, 2003) One of the organizations pioneering the application of UDL in instructional design UDL is the Center for Applied Special Technology (CAST). They have developed a set of core concepts for UDL. These may be reviewed on their web site:

<http://www.cast.org/udl/index.cfm?i=6> .

CAST presents the idea that educators should view students as each having their own learning style, interests, and talents. Each will achieve at a different level. If this perspective is worthy, then the design of instruction must evolve. Rather than a one-size-fits-all model, we should be looking to develop a curriculum and to design instruction in such a way that it values and accounts for individual differences. And instead of providing a remedial process once students have demonstrated that they are unsuccessful in the current system, we need a system that proactively identifies and accommodates differences (Edyburn, 2003).

A companion concept to UDL is that of Differentiated Instruction (DI). This approach to designing instruction recognizes the importance of addressing individual differences. By taking each student's current

knowledge and ability into account, DI suggests the presentation of concepts and themes in a variety of levels and formats, and through a series of learning experiences. In this way each students has an opportunity to learn and be successful. (ASCD, 2000)

As students who struggle with reading and writing are being identified and schools are challenged to address their needs, the need for such an approach becomes clear. But how can this be accomplished in a practical manner? Dave Edyburn (2003) has suggested that much of the technology we see used today in AT has attractive features that can be used for the benefit of all students. The reason is that these programs display elements of UDL. By bringing selected tools to bear upon the instruction of varied students, teachers will discover that they have the tools necessary for DI - the ability to create a single lesson and yet present it with different formats and adapt it for different learning modes. When such AT tools are used more globally to help all students, then AT becomes, by definition, part the world of IT.

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