

All Means All: U.S. Education Policy and Assistive Technology



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In a great number of the more than 14,000 U.S. school districts, the concept of inclusive education is being implemented. In support of inclusive education, in which students with a range of special needs are incorporated into general education classes, universal design (UD) principles are being increasingly explored. As many UD proponents would put it, an inclusive classroom, in which technology is used to strengthen every student, is one in which “all means all.”

As in all public sectors, in the education world, policy drives funding. As the country struggles with economic recession, educators wonder whether funding will be adequate to fuel emerging trends in inclusive, UD-based instruction. Beyond funding, they wonder whether inclusion will ultimately end the separation between instructional and assistive technology in schools? Will it erode the boundaries between general and special education? This month we examine those questions and others as we address the content and impact of U.S. education policy on assistive and instructional technologies.

MARTIN BLAIR, PH.D. SPEAKS

Classroom technology is evolving faster than ever, says Martin Blair, program specialist, Mountain Plains Regional Resource Center. Accountability systems are changing as reauthorization of existing federal laws, such as No Child Left Behind and the Individuals with Disabilities Act (IDEA) oc-

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curs. Such reauthorizations, he explains, take place every 5-7 years producing new requirements for states in terms of ways students access the general curriculum. The difficulty, he notes, is that policies are never quite in synch with technology, student accountability and outcomes. “These policies have been developed piecemeal. We aren’t sure if there is a better approach because the system is going to change next year and the year after that, and on and on.”

He adds, “The technology that we are seeing on the mainstream market now did not exist a few years ago and will be drastically different five years from now.” The challenge, he emphasizes, “is in finding ways to ensure that technology is accessible to the greatest number of students and that it is employed in an evidence-based way to improve educational outcomes for kids.”

Dr. Blair supports the eventual merging of general and special education, with the responsibility for intervention shifting to general education. “What the reauthorized IDEA says is that the way for schools to identify children, especially those with specific learning disabilities, is the antithesis of what we used to call the ‘deficit model’ in which we would administer an achievement test based on a child’s IQ. If there was a significant deficit between IQ and achievement we would determine that the child had a specific learning disability in the area where the deficit occurred.”

IDEA 2004, he states, has moved the responsibility of response to intervention to general education “and the regular classrooms therefore need to have access to specialized interventions to see whether the children are experiencing a specific learning disability or are experiencing a ‘teacher disability.’”

Despite the intent of IDEA 2004, he concludes, the current intervention approach “is still described, authorized and pushed under the auspices of special education law.” That will change, he predicts.

In terms of technology, instructional and assistive,

he notes, “it will be intriguing to see how this evolution will pan out when a responsibility that has been under the purview of special education for so long moves to general education.”

What is important during this ongoing changeover, he emphasizes, is that the educational and technological expertise of special educators be fully utilized and respected. “Generations of accumulated knowledge are there to benefit general educators and others” as the era of inclusive technologically-aided classroom instruction unfolds.

In addition to his responsibilities with MSRPEC, Dr. Blair retains his posts as assistant director for policy development at the Utah Center for Persons with Disabilities housed at Utah State University and director of the Utah Assistive Technology Program. He also serves as policy director for the National Center on Disability and Access to Education (NCDAE), as a policy consultant for the Association of University Centers on Disabilities and assistant director for Technical Assistance for Excellence in Special Education (TAESE). Dr. Blair, who began his career as a middle school special education teacher, earned degrees in special education, secondary education and disability studies from Utah State University.

Supporting our interview with Dr. Blair are resources aimed at examining U.S. education policy and classroom technology. We also feature members of our Knowledge Network. The members spotlighted this month focus on aspects of education policy pertaining to assistive and instructional technology. We invite you to contact these members for further information. Please share this newsletter with other organizations, families and professionals who may benefit from it. We invite you to visit us at <http://www.fctd.info>. We welcome feedback, new members and all who contribute to our growing knowledge base

U.S. EDUCATION POLICY AND ASSISTIVE AND INSTRUCTIONAL TECHNOLOGY: WILL THE WALLS COME TUMBLING DOWN?

AN INTERVIEW WITH MARTIN BLAIR, PH.D.,
CLASSROOM TECHNOLOGY POLICY EXPERT

“Policy drives money,” Dr. Martin Blair declares. “The policy drives the activities that we engage in and it drives where we put our funding emphasis. That does not mean that everything in the policy will be funded. Policy sets the vision for how the budget should be spent. There is never enough money to go around. Inadequate policy – policy that is formulated piecemeal – leads to gaps in implementation.”



MARTIN BLAIR

Dr. Blair believes emphatically that AT and instructional technology must be integrated in a classroom setting under the umbrella of general education. Such an approach will likely result in improved student outcomes in an era of evidence- and research-based practices and economic scarcity.

“All parties involved in the policy and funding decision-making and implementation processes from the federal government to individual classrooms must recognize the pivotal role played by technologies in equalizing the playing field for all students – those with and without disabilities -- in the pursuit of good student outcomes,” Dr. Blair exclaims.

All elements in the policy formulation and funding determination processes are intertwined at all levels of government, education administration and classroom strategy, he adds.

TEAR DOWN THE WALL?

“We need to look at technology as a means of improving student outcomes. If we continue to simply

see AT as just for the special ed kids and instructional technology for everyone else, we may miss the tremendous benefits of technology in terms of student outcomes for all students as well as for education professionals, experts, administrators and teachers.”

According to Dr. Blair there have been attempts at the district and national levels to close the separation between special and general ed and their respective technologies that have held sway for many years. He cites a recent effort of the Consortium for School Networking (CoSN) aimed at developing an initiative to provide accessible technology for all students. “I don’t think the initiative went very far, but it was a great idea,” he says.

“The notion behind the CoSN initiative was that school technology, including AT, should combine under a single umbrella.” This structure, he explains, removed AT from the purview of special education and integrated it into the educational technology offering in terms of procurement, training and support at the district and school levels.

HELD HOSTAGE TO LANGUAGE

Policies relating to assistive technology have often been cloaked in language associated with “accommodations” and/or “special education services.” This association has colored the understanding of policies related to assistive technology at the state and local level.

Explains Dr. Blair: “When we talk about accommodations or special ed services we segment those accommodations off to a separate population. We think in terms of the 10% of our students who are special ed students. We don’t think about assistive technologies or educational technologies for the other 90% of the student population.”

By talking in terms of accommodations or special education services “we are relegating this discussion of AT to the backroom or, more appropriately, to the trailer on our schoolyard that serves ‘those kids.’ That’s a sad thing because it focuses on the

deficits that the kids have but not on their strengths and abilities.”

He adds: “We need to find a way to have the assistive technology discussion as part of the discussion about mainstream technology.”

CHANGE THE MINDSET

“Finding a way to take AT out of the mindset that it was an add-on for the kids with disabilities and including it with the overall educational technology is the best way for districts or schools,” Dr. Blair declares. Nevertheless, there may be problems in implementing an integrative policy, he concedes. “AT by definition is categorized as specialized equipment and/or specialized software, which begs the question: If AT is made part of mainstream technology offerings or the mainstream technology policy and is no longer specialized, can we then still call it assistive technology? That is a circular argument that I’m not sure I have an answer to, but it is an issue.”



The capacity of the federal government to break the circle is limited, he cautions. “Education by nature is a local issue. The federal government can develop policies and overall initiatives but it has never addressed this specific issue.”

The best the federal government can do, he says, is begin through the U.S. Department of Education “to develop initiatives, including research programs, aimed at investigating ways to combine assistive and instructional technology into one educational technology offering at the state or district level and then evaluate the outcomes and aid states in moving from research to practice.”

MISTAKES HAVE BEEN MADE: TECHNOLOGY OUTSTRIPS POLICY

Dr. Blair claims that several policy mistakes have been made in governing AT and instructional technology. Leading his list of errors is the piecemeal formulation of national policies regarding classroom technology. Staggered policy formulation has occurred, he alleges, because the technology has evolved and developed faster than policies can be formulated. “We often have failed to keep pace with the types of technology being developed due to the way technology itself is developed and how technology happens.”

He uses the sudden exploding popularity of text messaging as an example. A few years ago, he states, “Text messaging didn’t really exist in the mainstream. It’s a phenomenon that has become universal only in the past couple of years and its booming popularity among school age kids was wholly unpredicted.”

A significant cause of long policymaking lead times, he explains, is the number of stakeholders involved in the evolution of policy decisions, which can string policy development along for years. During the policy gestation period, however, technology rockets forward, often leapfrogging the policy.

Dr. Blair sees a possible solution to slow-mo policymaking and time-lapse technology evolution. “Finding a way to develop a vision and then following that vision would go a long way toward closing the gap. However, a vision-based approach, while helpful, would ultimately give way before the onrush of technology, leaving us behind again.”

According to Dr. Blair, “Laws like No Child Left Behind or the Individuals with Disabilities Act (IDEA) are reauthorized every 5-7 years with new accountability systems and new requirements for states in terms of how students need to access the general curriculum. The policies connecting the technology, student accountability and outcomes are never quite in sync due to our piecemeal approach.”

A companion policy mistake, he says, “is that we have committed a lot of money into educational technology without looking seriously at the benefits of the technology. Nor have we looked at ways in which the technology can be used most effectively and efficiently.”

“We have not committed funding to technology in a careful and thoughtful manner.” The irony, he adds, “is that if we make the effort to implement educational technology in a carefully planned way, by the time we get around to implementing it the technology is old.”

He adds: “We have gone for the whiz-bang technology because we think that’s what we believed we needed to do. As a result we have abandoned a lot of technology, which is a huge issue in the field of AT.”

CONVERGENCE: A MODEL, COURTESY OF IDEA

When convergence is spoken of, it is usually referred to in terms of technology, i.e. the convergence of AT and instructional technology into a single classroom technology. Martin Blair can envision that eventual convergence but only within the context of the larger convergence of special and general education. Despite the significant challenges to that larger integration, he has spied a possible opening for success, courtesy of the reauthorized IDEA and its provisions for responding to intervention.

Explains Dr. Blair: “The 2004 IDEA reauthorization includes a response to intervention recommendation stipulating that students in general education classrooms need to have access to specialized interventions to see if they are experiencing a specific learning disability or if they are just experiencing a ‘teacher disability.’”

Although the IDEA approach, he concedes, “is still described, authorized and pushed under the special education law, I strongly believe that, in the next iteration of the Elementary and Secondary Education Act (NCLB) and IDEA, we will see the responsibility for the response to intervention shifted more to

general education.”

Should such a shift occur, he says, “it will be an intriguing model for us in terms of how classroom technology is implemented. It will be interesting to see an activity that has been under the purview of special education for so many years become an institutionalized general education responsibility. How will that be received by the general education population, by the administration? How will that approach be administered by the general ed administration, the leadership and management?”

He continues, “I think we have to pay close attention to the reaction of such a change by all involved because it could serve as an excellent model for how we move AT under the umbrella of mainstream instructional technology.”

He predicts that the shift of AT to general education “won’t happen soon but it is something we ought to move toward, reducing segregation [of the different technology categories] step by step.”

RESISTANCE AND POSSIBLE RESOLUTION

Such a shift, he admits, will not be implemented without resistance from AT professionals in special education. “When a group has developed its expertise over a period of decades, its members are quite naturally reluctant to yield that responsibility to another group whose members may not possess such a deep understanding of the technology.” He wishes to make clear that he is not advocating a handover of responsibility but instead is urging that a way be found to administer AT activity from underneath the general education umbrella.

After all, Dr. Blair emphasizes, “the AT expertise that has already been developed over the past 35 years is tremendous. We cannot deny the benefits that have accrued as this relatively new field has blossomed.”

From a technology perspective, he adds, “these fields should be administered together. We have two distinct systems. If we can find a way to combine them

so that there is accountability for the education of all students, not just the general ed students, but also the kids who have been served under special education, then we have a new paradigm for a new era in education and classroom technology.”

“MAKE US BE US AND WE BE WE”

In the U.S., he cautions, “we have referred for years to the ‘melting pot.’ That’s what we think happens, but that is not really what happens. I think the same will occur in education. It’s not a matter of having special ed lose its identity and thus losing the expertise that has been developed, it’s finding a way to approach the education of students in a more comprehensive manner so it is not an ‘us versus them’ situation. We need to find a way to make us be us and we be we.”

However, Dr. Blair admits, there are funding issues attached to the forging of such a combination.

“Funding is where the battles will occur. In the past 4-5 years a lot of the special ed research left the U.S. Department of Education’s Office of Special Education Programs (OSEP) and was placed into a newly formed entity, IES – the Institute for Education Sciences.” As a result, he alleges, “the approaches we had used for three decades to research student outcomes in special ed were placed lower on the priority list. General ed research, using large control group studies, was raised in terms of projects and proposals that were funded. That has created quite a stir. Experts in special ed research were no longer having their projects funded.”



A convergence in the U.S. approach to education and classroom technology will likely result in the same reprioritizing, he predicts. “We need to converge in a way that respects the expertise and experience that we have generated over decades of conducting research and in educational administration and management.”

Measurement of student outcomes and accountability is essential, he says, “but there is more than one way to evaluate student outcome and student achievement. We need to be respectful of the experience and expertise generated over several decades.”

UNIVERSAL DESIGN: RIGHT VEHICLE, RIGHT MISSION, RIGHT TIME?

Employment of universal design (UD) concepts in classrooms would seem to be a way to dissolve traditional barriers separating special education from general ed. Comments Dr. Blair, “If we are aiming to achieve an ‘all means all’ classroom by using educational technology solutions that improve outcomes for all students within one administrative structure then universal design might well be the right vehicle for the right mission at the right time.”

Dr. Blair believes that more widespread implementation of UD concepts would put to rest potentially contentious special ed/general ed, AT/ed tech issues.



“The 2004 IDEA addressed the notion of universal design. The trouble is, no one seems to know what to do with [it]. We know theoretically what it means but how do you implement it?” Individual districts or schools have implemented some UD, he says, but acceptance has not expanded to anything close to general usage.

“IT MAY TAKE DECADES”

The problem, says Dr. Blair, is that time and funding are in too short supply for classroom professionals to even begin considering UD implementation. He also acknowledges a lingering technology aptitude gap between veteran teachers and their

younger, technology savvy colleagues. Although there are some who are confident that the incoming phalanx of digital native teachers will enable schools to swing to a UD format faster, Dr. Blair is not among them.

“It may take decades for that transition to be complete and implemented nationwide,” he predicts.

He recalls that when he began as a teacher in 1991 he was one of the first teachers in his school utilizing computers in the classroom. “I learned to use a computer when I was in college.” He regards himself as a mid-career learner when it comes to technology proficiency. “There are a lot of individuals teaching school who are older than I am who are barely comfortable with email. Now there are students coming through the university system who in a few years will be teaching school. They are using iPods and related technology that I only know about because of my teenaged kids.”

The issue of technology literacy among professionals “is huge,” he says. “That’s a training issue. Technology changes so fast, I don’t know how teachers can keep up.”

THAT THING THAT THEY DO

For pre-service teachers and the first flight of their colleagues now entering the classroom, technology use is in their DNA. “It’s the thing that they do,” Dr. Blair acknowledges. “It’s how they stay involved in the world around them. They are digital natives, not digital immigrants like most baby boomers.”

Melding digital natives into classroom environments that are often nearly devoid of technology, not to mention universal design, “is a huge challenge,” he says. “These young people will be the educators in our schools in the coming years and they may have a desire to use some of this cool technology in that setting. In fact, there may be pressure to use some of this technology, but we have no idea if the technology will be effective.” In addition, and importantly, the administrative structure to support the technology does not yet exist.

For schools to develop a sound technology foundation, Dr. Blair explains, is a very expensive proposition because the life cycle of technology is so compressed. “By the time schools import sufficient technology, assuming that they can, much of that technology is already obsolete.”

CONSUMER TECHNOLOGY: CAN KIDS WITH DISABILITIES USE IT?

A question pestering Dr. Blair begs an answer: Can children with learning, cognitive or physical disabilities use technologies intended for the general population as those technologies were designed to be used?

For example, he explains, “Say a high school decides to put some of its lectures on podcast. What about those few students with visual or hearing impairments? What can be done for them? For schools who may text or email assignments to students and then require those students to do the assignments on computer, what about those students whose disabilities prevent them from using a traditional keyboard or mouse?”

What are the policies surrounding this predicament? he asks. “Do we have policies in place to accommodate or are we universally designing our technology offering and our technology course in a way that it does not matter if a student is unable to see or hear? How are we dealing with that?”

Dr. Blair admits that he does not yet have the answers to these questions. “But those are questions we have to address if we are really talking about ‘all means all’ universal design. Those are policy questions. We tend not to think about them until we have that student in our class who has a visual or speech impairment, for instance. If the policy is in place, then that is the time to be having these discussions.”

“NCLB HAS BEEN A GOOD THING”

How has the policy impact of No Child Left Behind impacted the implementation of classroom tech-

nology? According to Dr. Blair, NCLB has strengthened the accountability component in all technology considerations. “Though there has always been a need for accountability for student achievement, NCLB really upped the ante. It has made us focus on how we are helping all children access the general curriculum. It has made us focus on using all types of educational approaches, including those that are based on electronic media or those that remain rooted in book, paper and pencil.

“We have had to determine how efficient these types of educational approaches are. I think NCLB has been a good thing because it has made us take an initial long, hard look at what we are doing and how we are doing it in providing content to children. It has made us evaluate how we help children interact with the curriculum.

“We now look at evidence-based and scientifically based procedures. Methods that are not resulting in improved kids’ outcomes, we have to throw out. That’s a good thing.”

He expects the emphasis on evidence-based criteria to continue in the Obama Administration. According to Dr. Blair, a move toward increased accountability dates to the end of the Clinton Administration. “It wasn’t called NCLB, but when the Bush Administration came in, the increased accountability train had already left the station. Even though NCLB has proved to be controversial, I do not believe that the emphasis on outcomes and accountability will go away. It will be tweaked and revised.”

THE IMPACT OF 2004 IDEA ON AT

The reauthorized IDEA, and subsequent AT-related regulations, have focused IEP teams on taking a long, hard look at the benefits of AT for individual students, Dr. Blair says. “It wasn’t until IDEA ’97 that AT was even required to be a consideration in an IEP. IDEA 2004 strengthened that consideration, indicating that AT needed to be considered for all students. It focused on AT teams.”

Yet, despite that focus, three inherent problems remain regarding AT teams, according to Dr. Blair: 1.) IEP teams do not know what technology is available; 2.) They do not know how to use the technology they already possess; 3.) Technology is very costly.

“If AT and related technologies are part of the overall district or state education technology administration, it is likely that the administrators will keep up with technology, know how to use it and how it interacts with assessment systems. It’s like risk pooling: the cost is shared across larger budgets and a larger number of potential users.”

The impact of legislation and regulations has enhanced AT’s profile, he notes, “but we remain unsure about the types of technology that are available or how to use what we do have. That is a local district issue, maybe even a state issue. That type of professional development has to happen at a very local level and it’s an expensive undertaking.”

DISTRICT LEVEL INCENTIVES TO ENCOURAGE EFFECTIVE TECHNOLOGY USE

Dr. Blair urges incentives to encourage effective uses of technology at the district level. “We talk about incentives or penalties for students not meeting adequate yearly progress and districts and states that are not meeting the standards they have set for themselves. We need to find a way to develop a carrot. That’s expensive, however, and I do not know how that can be achieved in tough economic times like these.”

He adds, “We need to have better data. If the Administration could find a way to collect data on effective and efficient uses of technology and then disseminate it for districts and states that are developing their educational technology policies that would be a significant step.”

He is uncertain, however, if this scenario is likely to happen. “There are around 60 state education agencies, including all states and territories. Although those agencies have their hands tied when dealing

with the more than 14,000 U.S. school districts and charter schools, there may be some models with incentives that might work in some instances. There needs to be a critical mass to get some momentum going. I don't see that happening soon."

An effective policy or infrastructure has to be based on evidence-based practices because state and district superintendents are currently responding to student outcomes, he says. "If we can find a way to demonstrate that improved and efficient uses of technology and combined technology infrastructure result in improved student outcomes then the attention of superintendents and those who must answer to the public for what happens in their school buildings will be attracted."

A USEABLE POLICY TEMPLATE: QIAT, PLEASE

According to Dr. Blair, ideal outcomes of effective administrative policy would include sufficient funding to support an infrastructure that would in turn support the convergence of AT and instructional technology at the state and district level. The staff would understand how to use the technology. The division between special ed and general ed would no longer exist. There would be a technology approach to help kids be successful."

According to Dr. Blair, the QIAT Consortium's Quality Indicators for Assistive Technology Services has done great work in developing indicators for effective state and district policies. He advises administrators to pay attention to those indicators as they implement their ed tech systems.

"QIAT has expended a lot of time and effort in defining what an effective policy would be and what it looks like at the implementation level and how to evaluate implementation in a way that's meaningful for students, parents and educators. If the educators on the ground can see that what they are doing is having a positive effect and can see that data clearly, their actions are reinforced."

Dr. Blair adds: "This represents behavior change. We only persist in doing those things we are re-

inforced for having done. I think the QIAT indicators and framework are quite helpful in aiding us in focusing on what we are doing well and what we need to change. This is a good way to implement systemwide change."

SILO COUNTRY

Policy development in the U.S. traditionally is "siloed," with education entirely within the purview of the U.S. Department of Education, while transition to the work world and community living is almost entirely within the U.S. Department of Labor and the U.S. Department of Health and Human Services. Dr. Blair views this silo effect as a policymaking knot that needs to be untangled.

"The issue of entitlement programs versus eligibility programs has import beyond the realm of information and assistive technologies. We need to get representatives from the appropriate federal agencies in the same room to discuss ways they can bridge the gaps between those programs."

Such discussions, he hopes, might result in a way to make the just-in-time learning concept -- when a person of any age can access, via electronic media, the content that is appropriate to an immediate learning need -- whether at school, at work, or at home.

As his model for facilitating effective interagency policymaking, Dr. Blair chooses the Interagency Committee on Disability Research (ICDR), which invites participation from more than a dozen federal agencies. "The notion of pulling individuals together from various agencies to investigate common problems is a beneficial one," he says, "and the Obama Administration ought to take seriously the recommendations that are provided."

For interagency collaboration to be effective, he cautions, "there needs to be an outcome, or a vision, that not only is developed but is called upon frequently and reviewed frequently." Policy makers should develop "a document that has a common language and common understanding among the

federal agencies that are involved. It needs to be used in policy development, in the reauthorization of legislation and statutes that these agencies use to fund their programs. Commonalities need to be found and capitalized upon.”

TRENDS: SCRUTINIZED BUDGETS

With a financial albatross weighing on all segments of American society, predicting trends in AT policy at the outset of a new Administration is a murky exercise at best, Dr. Blair says.

“There is now so much scrutiny on the federal and state budgets to only spend money on what works well. We need to gather strong data that validates the types of technology integration policy changes I’ve been referring to. That is the only way that we will ensure long-term positive effects for all students.”

From a taxpayer’s perspective, he says, “I appreciate that approach. Yet some exploratory research may not bear immediate fruit. The evidence may not be readily visible. I think we should continue that type of research being careful to consider positive short-term and long-term outcomes and benefits in terms of AT policies. We need to be careful and deliberate in figuring out what works and what does not work.”

“As we look at a new IDEA and a reauthorized Elementary and Secondary Education Act,” he says, “there will be a tendency for us to hunker down, to not create anything that is new or visionary. I hope, however, that we’re able to get beyond the approach of just fixing what doesn’t work. We’ve got the know-how and the will to make tremendous policy strides in the coming decade. We live in an age of constant technology breakthroughs, at a time of increased education accountability, and in an era when our society is expected to shape its own future. We would be wise to take a long view, to gather solid data about what really works for all kids, and develop policies and funding streams at all levels of education that drive and support student success.”

RESOURCES

ARTICLES

U.S. Education Policy and Assistive Technology: Administrative Implementation

By Martin Blair

Center for Persons with Disabilities, Utah State University (2007)

Dr. Blair presents administrative-focused AT policies and procedures designed to achieve positive student outcomes. He also identifies what he believes to be errors that have been made in U.S. education as they relate to AT. He issues recommendations in the following six areas: Leadership; Management; Supervision; Program development; Funding; and Outcomes.

The article may be accessed at:

<http://www.uatpat.org/resources/presentation/Assistive%20Technology%20Policy%20in%20the%20United%20States.doc>

To Leave No Child Behind

By Lucinda O’Neill

Ciconline.org (2005)

In this article, the author argues that Universal Design for Learning (UDL) is more versatile and inclusive than AT, providing learning benefits for all children, including those with disabilities. UDL’s benefits are applied early in the learning life of all children whereas student access to AT requires proof of a performance deficit and then “...seeks to adjust individual students to an inflexible, print-based curriculum.”

To illustrate her point, Ms. O’Neill spotlights the following:

- University of Oregon’s accommodation station, a computer-based tool that helps determine which accessibility features are the most helpful
- Equalizer, a tool to help teachers create differentiated learning activities
- CAST’s eTREKKER, a tool to help students with learning disabilities do online research
- MathML, mathematical markup language

which ensures that math notations are transferred from one medium to another so they can be read or Brailled.

Ms. O'Neill notes that the expansion into the mainstream of accommodations such as closed captioning and described video reinforce the notion that UDL, when employed continuously beginning at the earliest possible stage of a child's life, will help students avoid gaps in learning.

UDL, she writes, makes educational sense and if implemented in the design of educational tools, could make fiscal sense as well. She advocates legislation that would facilitate implementation of UDL in U.S. classrooms.

http://www.ciconline.org/c/document_library/get_file?folderId=30&name=T-Win05-LeaveNo-Child.pdf

Critical Issue: Enhancing System Change and Academic Success through Assistive Technology for K-12 Students with Special Needs

By Penny Reed, Ph.D., Mary Clifford and Asta Svedkauskaite

North Central Regional Educational Laboratory (Learning Point) (2004)

This article is a problem-solving map for educators and policymakers focusing on AT as they advocate for system change and school improvement. It offers action steps, system change goals, warnings of possible pitfalls and a summary of viewpoints. The authors discuss and attempt to resolve dilemmas that are common in schools' efforts to understand, use and improve AT options for special needs students. Topics addressed include:

- Federal policy
- The impact of adequate yearly progress (AYP)
- Funding for AT
- Examples of successful systems change and guidelines based on these successes
- Tools for documenting district needs and goals (Quality Indicators, School District Profile, state AT Manuals)
- Forms and complex processes, especially the

referral and request for services forms and the need to educate teachers in the use of these forms as an AT resource

- Assessment options, including SETT, and examples of successful team-supported assessments
- Developing AT implementation teams
- Professional development and training support
- The importance of ongoing technical assistance
- The need to access a variety of technology (hardware and software), both for trial periods and long-term use, to alleviate problems caused by outdated technology
- The relationship between UDL and AT
- AT in the classroom.

<http://www.ncrel.org/sdrs/areas/issues/methods/technlgy/te700.htm>

No Child Left Behind: Implications for Assistive Technology

By Lisa Wahl

Alliance for Technology Access (ATA) (2004)

The author, an ATA consultant, addresses the following issues contained in NCLB legislation that are directly related to AT:

- Accountability – NCLB has required annual testing of all students in grades 3-8, including those with disabilities. Prior to NCLB some students with disabilities were discouraged from taking standardized tests.
- Testing exemptions – Historically, students with the most significant cognitive disabilities have been exempt from standard testing and are eligible for an alternate assessment. The implications for AT relate to the need for more students with disabilities to have access to standard curriculum and testing. For some students, access is impossible without AT.
- Highly qualified teachers – To the extent that the ability to be effective in teaching students with disabilities is included in revised certification processes AT has been included in a more integrated fashion in teacher profes-

sional development.

- Research-based practice – With the NCLB emphasis on research-based practice, there has been more interest in dissemination of AT research.

<http://www.ataccess.org/resources/nochild.pdf>

FACT SHEETS

Assistive Technology Policy Checklist

National Assistive Technology Research Institute (NATRI) (2006)

This checklist is a multi-faceted tool designed for individuals who are developing AT policies, analyzing existing AT policies or obtaining feedback about the appropriateness of AT policies. The list includes AT policy statements, advisories and technical assistance guidelines issued by state departments of education nationwide to guide the delivery of AT services in schools.

<http://natri.uky.edu/resources/reports/checklst.html>

BOOKS

Fostering the Use of Educational Technology: Elements of a National Strategy

By Thomas J. Glennan, Jr. and Arthur Melmed
RAND Research (2007)

This report identifies principles for guiding public officials and educators in their use of technology to enhance the performance of schools and school systems. Prepared as part of RAND's Critical Technologies Institute participation in federal efforts to plan a research agenda and develop a national educational technology plan. The book is based on a series of workshops, interviews and literature reviews. The authors take stock of the current status of the use of technology by U.S. public elementary and secondary schools and spotlights challenges faced by educators, policy-makers and producers of educational technology and software as they seek to expand the use of technology in schools. Cost: \$15.00.

http://www.rand.org/pubs/monograph_reports/MR682/

KNOWLEDGE NETWORK MEMBERS

MOUNTAIN PLAINS REGIONAL RESOURCE CENTER (MPRRC)



The MPRRC is one of six Regional Resource Centers and is part of the Federal and Regional Resource Center Program (FRRCP) that provides AT-related services to 50 states, the District of Columbia, the Bureau of Indian Affairs and U.S. Trust Territories. The MPRRC, which helps build technology capacity for state education agencies and lead agencies for children with disabilities, serves Arizona, Colorado, Kansas, Colorado, Montana, Nebraska, New Mexico, South Dakota, Utah, Wyoming and the Bureau of Indian Education..

MPRRC assistance consists of the following services:

- Direct technical assistance for states, lead agencies, schools and parents
- Special education and general supervision assistance to states
- Expert consultation on issues confronting state and local educators
- Provision of relevant information and information searches to client states

MPRRC technical assistance to states is determined by state special education directors. For more information about the MPRRC, contact:

Mountain Plains Regional Resource Center
1780 North Research Parkway, Suite 112
Logan, Utah 84341
Phone: (435) 752-0238; (435) 753-0750 (TDD)
Contact: John Copenhaver, Director
Email: John.Copenhaver@usu.edu
<http://www.rfcnetwork.org/content/view/26/292/>

UTAH ASSISTIVE TECHNOLOGY PROGRAM (UATP)



Housed in Utah State University's Center for Persons with Disabilities, UATP delivers AT services and supplies AT devices to individuals of all ages with disabilities and trains university students, parents and children with disabilities and professional service providers. The organization operates an equipment lending program and administers an AT laboratory featuring a state-of-the-art computer lab and fabricating shop. The lab enables users to test software and hardware or to find assistance in designing, modifying or repairing AT equipment. For further information about UATP, contact:

Utah Assistive Technology Program (UATP)
6855 Old Main Hill

Utah State University
Logan, Utah 84322-6855

Phone: (435) 797-3824;
(800) 524-5152 (toll free)

Fax: (435) 797-2355

<http://www.uatpat.org/>

INSTITUTE FOR EDUCATION SCIENCES (IES)

A product of the federal Education Sciences Reform Act of 2002 and administered by the U.S. Department of Education, IES provides rigorous evidence on which to ground education practice and policy. The institute funds hundreds of research studies on ways to improve academic achievement, conducts large-scale evaluations of federal education programs and reports statistics on the condition of education. IES supports the building of an infrastructure for evidence-based education via grants to states to develop longitudinal data systems. Evidence on education is disseminated through the What Works Clear-

inghouse and the ERIC education database, conferences, publications and products and 10 regional education labs and 10 national research and development centers. For further information on IES, contact:

Institute for Education Sciences (IES)

555 New Jersey Avenue, NW

Washington, DC 20208

Phone: (800) USA LEARN

<http://www.ed.gov/about/offices/list/ies/index.html>

OFFICE OF EDUCATIONAL TECHNOLOGY (OET)

An arm of the U.S. Department of Education, OET coordinates the development and implementation of DOE educational technology policies, research projects and national technology summits. OET produces reports in the following categories:

- Data driven decision making
- Computer and Internet use
- Distance learning
- Evaluations
- Teacher preparation
- Visions 2020

For additional information, contact:

The Office of Educational Technology
400 Maryland Avenue, FB6, Room 7E222

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<http://www.ed.gov/about/offices/list/os/technology/index.html>

INTERAGENCY COMMITTEE ON DISABILITY RESEARCH (ICDR)

ICDR facilitates the exchange of information and rehabilitation research activities among member agencies and



coordinates activities that include AT and Universal Design, medical rehabilitation, data and statistics and employment. ICDR collects input to inform planning, identifies emerging research areas, assesses gaps and duplications in existing research and makes recommendations to strengthen the federal research agenda. More than a dozen federal departments and agencies are represented on the committee. For information on ICDR, contact:

Executive Director, Interagency Committee on Disability Research (ICDR)
National Institute on Disability and Rehabilitation Research
Potomac Center Plaza
550 12th Street, SW, Room 6039
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Email: Connie.Pledger@ed.gov
<http://www.icdr.us/>

STATE EDUCATIONAL TECHNOLOGY DIRECTORS ASSOCIATION (SETDA)



Founded in 2001, SETDA is the principal association representing state directors for educational technology. The organization's membership includes ed tech staff and directors for departments of education in 50 states, the District of Columbia and American Samoa. Members collaborate, via task forces, committees and subcommittees, to assess, analyze and propose recommendations on ways to improve student learning through educational technology. For further information on SETDA, contact:

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