MOVING TOWARD SOLUTIONS

ASSISTIVE & LEARNING TECHNOLOGY FOR ALL STUDENTS

NCTI Key Findings from the NCTI Dialogue Forums

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Assistive & Learning Technology for All Students*

Summary of Key Findings

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The Individuals with Disabilities Education Improvement Act (IDEA) of 2004 and the No Child Left Behind Act (NCLB) of 2002 mandate that all students, including those with disabilities, be taught to the same high standards and hold schools accountable for their achievement. However, for the nearly 7 million students with special needs, taking full advantage of their rights to a high quality education requires support to learn in ways that meet their educational needs.

Assistive and learning technology offers great promise for these students. The tremendous advances in technology in the past decade have led to the development of speech synthesis and recognition technology, interactive software, and miniaturization and portability that help these students achieve and thrive. The promise and potential for the field has never been greater. The question remains: ***What will it take for assistive and learning technology to be considered a critical component of education to help more students learn, achieve, and reach their potential?***

The National Center for Technology Innovation (NCTI), an initiative funded by the U.S. Department of Education's Office of Special Education Programs to foster technology innovation and collaboration, posed this critical question in a series of forums conducted from the fall of 2004 to the spring of 2005. NCTI convened a diverse group of stakeholders who had never before been brought together—researchers, developers, manufacturers, and policymakers—to explore the promise of the assistive and learning technology field and commercial sector, identify the barriers that currently inhibit the adoption and use of assistive and learning technology, and identify ways to overcome these challenges.

In broad ranging discussions and surveys over several years, NCTI identified major gaps in communication among stakeholder groups as a serious barrier to collaboration, ultimately affecting the development of high quality tools for students with special needs. As an information broker, NCTI saw that the time was right to spark dialogue and discussion, identify key trends and tensions, and strengthen existing networks among diverse groups to facilitate greater collaboration.

The forums revealed the dedication of many key leaders and groups that has contributed to and sustained the field. The forums also uncovered a range of complex external and internal factors that are converging to affect the research, development, purchase, and implementation of assistive and learning technology throughout the nation's schools.

Assistive and learning technology has the potential to grow into a significantly larger share of the education market and to serve more students more effectively if the field addresses the current challenges identified in these discussions. This report provides a prismatic look at the dynamic field of education and business professionals focused on technologies to meet special learning needs. It highlights the individual perspectives of stakeholder groups and provides a unique synthesis. Through its work, NCTI seeks to improve understanding of opportunities within reach, promote collaboration, and encourage the development of technologies and implementation approaches that will create higher expectations for students with special needs and enable them to succeed.

The Time is Now: Making the Most of Convergence

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Assistive technology (AT) has been available for more than 20 years. Educators, researchers, developers, and manufacturers have been using computers and other technologies to create tools to help students with special needs learn. Yet the AT field has not been fully recognized as a discipline with identifiable work in scholarship, practice, and the marketplace.

A number of trends are converging to create new opportunities for students and the field. First, special education delivery now happens more often in the general education classroom, not in segregated special needs classrooms; AT has proved to be instrumental in making the general education curriculum accessible to students with special needs. Second, school administrators are paying close attention to these students because current reporting mandates mean the achievement of such students now plays a critical role in the success of the entire school system. The third factor is the stunning innovation of technology; it has become easier to use and customize, more powerful and robust, and available at lower costs, making it attractive as part of a schoolwide solution.

The convergence of these factors is unprecedented. Assistive and learning technology has caught the attention of school administrators and technology coordinators who are under pressure to increase achievement levels of all students, balance tightening budgets, and support staff who are dealing with increasing diversity in the classroom. For the field to fully harness the momentum, however, it must resolve to address core challenges and respond with consensus to the opportunities.

Key Findings From the NCTI Dialogue Forums

Moving Toward Solutions is gleaned from a comprehensive analysis of more than 13 hours of forum transcripts. It synthesizes the perspectives of a broad range of stakeholder groups. By releasing this report, we hope to articulate more precisely those areas in which collaboration and dialogue among stakeholders will be most productive.

BUILDING LEADERSHIP CAPACITY FOR IMPLEMENTATION

Inadequate teacher preparation, low awareness, and gaps in leadership at all levels of the education system undermine the implementation of assistive and learning technology. Few incentives or enforcement mechanisms of existing credentialing standards create a weak link in the preparation of new teachers and administrators. Although some training is available through statewide organizations and other providers, the capacity of these organizations is limited to address the waves of underprepared professionals throughout the system.

Recommendation: Developing leadership to use and integrate technology in general and special education is critical. The teacher preparation programs and accrediting bodies must raise expectations and accountability to ensure that professionals have the necessary skills to ensure effective integration of assistive and learning technology. This can only happen when a powerful vocal coalition of leaders, researchers, parents, and others educate policymakers and the accrediting boards to consider assistive and learning technology as essential to student achievement.

IDENTIFYING AND LEVERAGING EXISTING NETWORKS AND RESOURCES

The assistive and learning technology field lacks a recognized independent advocate, information broker, and unifying voice. The needs of the assistive and learning technology field—research, development, funding, implementation, and marketplace—are not well articulated and publicized. Other related agencies, organizations, and consumers cannot identify a source of reliable and objective information about the field or envision how their resources could be brought to bear on identified needs. The lack of a reliable source of objective information on product development standards and product effectiveness leads to duplication of effort and precludes consumers from becoming informed.

Recommendation: A visible and independent information broker is required to raise awareness of the field and consumer needs, scan technology developments to identify opportunities for collaboration and commercialization, and host reliable product reviews. A broker can serve as a resource to the field, coordinating with existing advocacy networks and circulating information back to stakeholder groups. Such a broker should be funded independently of a particular stakeholder group.

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ADDRESSING THE PACE OF INNOVATION VS. IMPLEMENTATION

Developers offer a host of innovative, feature-rich products, but offerings may be too complex for classroom adoption. The relentless pace of technology innovation provides increasing possibilities for new features and affordability of innovative applications and devices. The realities of using assistive and learning technology in schools, however, do not necessarily support these potentials, and increasingly complex products threaten to discourage implementation.

Recommendation: Further innovation will depend on shared knowledge of the designs and features that students need most and the level of technical expertise that is required to implement products in natural settings such as classrooms. This knowledge base would be informed by research and continued dialogue across stakeholder groups and should be tightly aligned with the actions taken on other key findings.

BALANCING UNIVERSAL DESIGN AND ASSISTIVE TECHNOLOGY

Consumer products and base technologies are increasingly incorporating accessibility and universal design features. The potential exists for innovative applications to be developed as part of mainstream educational and consumer products, opening new markets. Stakeholders are concerned, however, that purchasers with a naïve understanding of universal design will overlook customized technologies that are vital to meeting the learning needs of millions of students.

Recommendation: The message about the complementary nature of universal design and AT must be communicated clearly and continue to be refined to address new developments and technologies. Again, there is a need for an independent information broker to provide impartial information and technical assistance on this topic for developers, practitioners, and school leaders. The needs of students for specific accommodations must not be lost in the debate between universal design and AT.

DEVELOPING A RESEARCH AGENDA TO INFORM POLICY AND PRACTICE

All stakeholder groups expressed concern about the growing pressure to address the mandate for evidence-based research and product adoption. Stakeholders, however, have not reached a consensus about a common core of objectives. The existing research base is insufficient to meet this mandate, and stakeholder groups vary significantly in their capacity to engage in such research. Additionally, product development cycles, which tend to last 6 to 9 months, are at odds with funding and research cycles, which are much longer, often lasting 2 to 5 years.

Recommendation: Research agendas must be articulated that can address outcomes necessary for the aggregation of achievement and functionality data. Such accountability data are essential to influence policy and funding mechanisms, maintain the field's credibility, and support future product development. Articulating these agendas will require an investment of funds, time, and intellect to propose realistic and robust quality indicators, methods, and reporting mechanisms. This must be done in collaboration with policymakers to ensure federal support.

A deliberate and thoughtful campaign must harness the power of interested parties to ensure that assistive and learning technology is considered part of school reform efforts.

Implications

The assistive and learning technology field is at a "tipping point."[1] This is defined in large measure by policy mandates changing the education landscape and the pace of innovation changing the technology landscape. Not seizing this opportunity to share the potential of assistive and learning technology as a powerful part of an achievement solution would consign the field to the margins of the education reform effort.

Turning these recommendations into action will require additional dialogue, to be sure, but discussions alone will not accomplish the necessary changes. A deliberate and thoughtful campaign must harness the power of interested parties to ensure that assistive and learning technology is considered part of school reform efforts. Like the enormous concerted effort of parents in the past century, which moved the needs of students with disabilities to the forefront of policy and practice, a coalition of inspired champions must work together to inform policymakers and educational institutions to address these recommendations.

The strength of the field lies in the great intellectual and passionate investment of inventors, entrepreneurs, policymakers, trainers, practitioners, and consumers who have brought the field to the present. NCTI is committed to pursuing the key findings and recommendations in this report with stakeholders and related groups through fostering collaboration and coordination of efforts. The time is now to invest in the convergence of opportunities and to leverage that investment toward future growth and visibility. Realizing the potential of assistive and learning technology will enable more students to fully claim their rights to fulfill their academic and social potential.

[1] Gladwell, M. (2000). The tipping point: How little things can make a big difference. New York: Little, Brown & Company. The key premise is that movements and ideas, like tall objects, often have tipping points; once they hit that precise point, significant rapid change will result.

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