Closing The Gap

Assistive Technology for Children and Adults with Special Needs

AT – IN DEPTH

Assistive technology assessment: Are our assessment strategies providing the needed information?

By Jane Korsten

Who should do the assessment and where? What should assessment include? When is assessment over and when does implementation start? When should recommendations be made? What information (data) is necessary to support funding requests?

This article will address these questions from a historical perspective and discuss current best practices in assistive technology assessment from both philosophical and pragmatic perspectives.

Assessment: A working definition

Webster defines 'assessment' as "a process of gathering and documenting information about the achievement, skills, abilities, and personality variables of an individual." Encarta World English dictionary defines it as "a judgment about something based on an understanding of the situation; a method of evaluating student performance and attainment." While what has been called "assistive technology assessment" in the past may meet the official definition of 'assessment', it has often fallen short of it's intent by: being an 'event' rather than a 'process'; identifying delays rather than interests and abilities; and, by replacing 'understanding of the situation' with understanding of the technology.

Assessment: A historical perspective

Historically, many assistive technology assessments were initiated by parents and conducted by experts in clinical settings, away from customary environments in which the technology would be used. Standardized tests in various disciplines were sometimes used to document delays in language, cognition and motor skills. Children with developmental differences were frequently compared to typical peers in order to determine the significance of delays, resulting in the identification of needed 'prerequisite skills' that, in reality, have rarely proven to be consistent and reliable predictors of success with respect to AT. The assessments were often 'product oriented events' in

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which some level of clinical bias was difficult to avoid. At the conclusion of such an assessment, recommendations looked like open-ended equipment lists that included switches, computer software and communication devices, estimating all tools the individual might need in a life time. Evaluator familiarity with, and bias regarding the available equipment was often the final determinant in recommendations.

Since clinical assessments often excluded situations within customary environments, direct service providers may or may not have provided input into the assessment and were seldom active participants. This frequently led to selection of equipment that was not always a good match to an individual's abilities, needs and environment. As a result, professionals in educational settings seldom had any experience with AT decision-making or operation

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beyond what it was thought they needed to support the particular recommendations that were made. They were then charged with creating opportunities for the student to use the equipment, but had little understanding of how and when the equipment should or should not be used and what strategies could be used to support effective use. Historically, this led to a 'disconnect' between assessment and implementation. As a result, AT products were abandoned or underutilized, often judged to be ineffective. Far worse, individuals often were judged to be incapable when, in reality, the assessment strategies used to select the equipment failed to identify an appropriate match between the technology and the individual, the tasks and the environment.

Assessment: A philosophical perspective

"The underlying philosophy of the diagnostic examiner sets the stage for the entire training process. The examiner decides what information will be sought and, just as importantly, what information will not be sought. ... Any diagnostic battery should, in the ideal sense, reduce the number of clinical options that are potentially available to the teacher to one. Therefore, any question whose answer does not reduce the clinical options is not related to the task and should be replaced." Gray (1973)

Gray's definition of assessment shifts the focus away from clinical "standardized tests" to a more functional focus, gathering 'information' that will guide implementation, thus linking assessment and implementation. By seeking to reduce options that are related to the task, one finds that standardized developmental testing may have little relevance. Gray's definition encourages flexibility in the assessment process and allows for differences across individuals, assessment questions and settings.

Assessment is the starting point of a 'process' that lays the foundation for everything that follows. It guides implementation and so, must have clearly defined questions that relate to tasks identified as important in customary environments. Determining student abilities and needs with respect to the tasks that the student is expected to do in customary environments allows identification of specific features that will be needed in order to support student participation and achievement with assistive technology. These features need to be identified before any equipment is considered. Once tasks, interests, abilities and needs have been identified, the critical features needed for the specific individual in a specific situation can be determined. Only then can meaningful AT recommendations be made. If such a connection between what the student needs to do and the tools selected can be clearly established, the tools will be more immediately useful. Additionally, the necessary skills that the students needs to be taught to in order to use the equipment well can be taught within the context of what the student needs to learn to do with the technology.

If assessment is viewed as a "process" rather than an "event", it is more likely that the assessment will include meaningful trials with promising technology, as well as collection and analysis of trial data. Such data becomes a dynamic or ongoing assessment and should support the initial assessment, guide tool selection, implementation, recommendations and funding requests.

Rather than yielding a developmental level and a laundry list of equipment, a process-oriented assessment should identify an individual's 'starting point', clearly indicating current levels of achievement with respect to the tasks at hand. This starting point is determined by the interests, motor abilities and needs of the student in the customary environments and it is the center around which the implementation strategies will be developed and the critical features required of devices and services identified.

Assessment: A pragmatic perspective

When assessment was product driven and equipment less plentiful, it was possible for an 'expert' to know a good bit about all of the tools and little about the individual's needs and abilities. Recommendations were made often from an understanding of equipment rather than from an understanding of the individual who would use the equipment and what s/he needed to do. Successful assessment and appropriate recommendations increase with the change of focus to a more process oriented approach in which the knowledge of an individual's abilities, the environment and the tasks required in that environment are considered. Assessment outcomes, driven by identification of student abilities and needs, yield selection of strategies for supporting student participation and achievement, resulting in recommendations for equipment that will support the strategies.

In addition to this change of philosophical focus, the explosion of equipment options makes it difficult for any one person to be sufficiently familiar with the wide range of technology available today. That, combined with the need for multiple perspectives in decision-making, makes it important for an assessment to be conducted by a 'team' with complementary knowledge, skills, and experiences rather than by an 'expert' individual.

Assessment: A promising practices perspective

Effective assessment requires: clearly stated questions that will be answered through the assessment process; a framework for gathering and reporting the information; and, an understanding of how the information will be used to guide selection of devices and services needed to support implementation. The IEP provides the context in which AT must be considered by identifying areas of concern for which technology may need to be explored. In order to make effective decisions, teams need strategies that enable them to determine assessment questions and decide what they will need to do to conduct an assessment that gathers the information needed to answer those questions.

There are an increasing number of strategies to support the AT assessment process. Quality Indicators for Assistive Technology (QIAT) offers quality indicators, intent statements, and common errors for eight areas important to the development and delivery of AT services. These areas are: Consideration, Assessment, Inclusion in the IEP, Implementation, Evaluation of Effectiveness, Transition, Administrative Support, and Professional Development and Training. The Assessment area outlines the following indicators:

• Procedures for all aspects of AT assessment are clearly defined and consistently applied.

• AT assessments are conducted by a team with the collective knowledge and skills needed to determine possible assistive

technology solutions that address the needs and abilities of the student, demands of the customary environments, educational goals, and related activities.

• All AT assessments include a functional assessment in the student's customary environments, such as the classroom, lunchroom, playground, home, community setting, or work place.

• AT assessments, including needed trials, are completed within reasonable time lines.

• Recommendations from AT assessments are based on data about the student, environments and tasks.

• The assessment provides the IEP team with clearly documented recommendations that guide decisions about the selection, acquisition, and use of assistive technology devices and services.

• AT needs are reassessed any time changes in the student, the environments and/or the tasks result in the student's needs not being met with current devices and/or services.

While these indicators do not dictate how a particular school or agency might structure an assessment, they do offer a framework for conducting an assessment that will support collection of useful information for AT teams working to provide highly effective AT services.

Assessment: A resources perspective

There are many resources available to help teams as they strive to become increasingly able to conduct effective, efficient assessments.

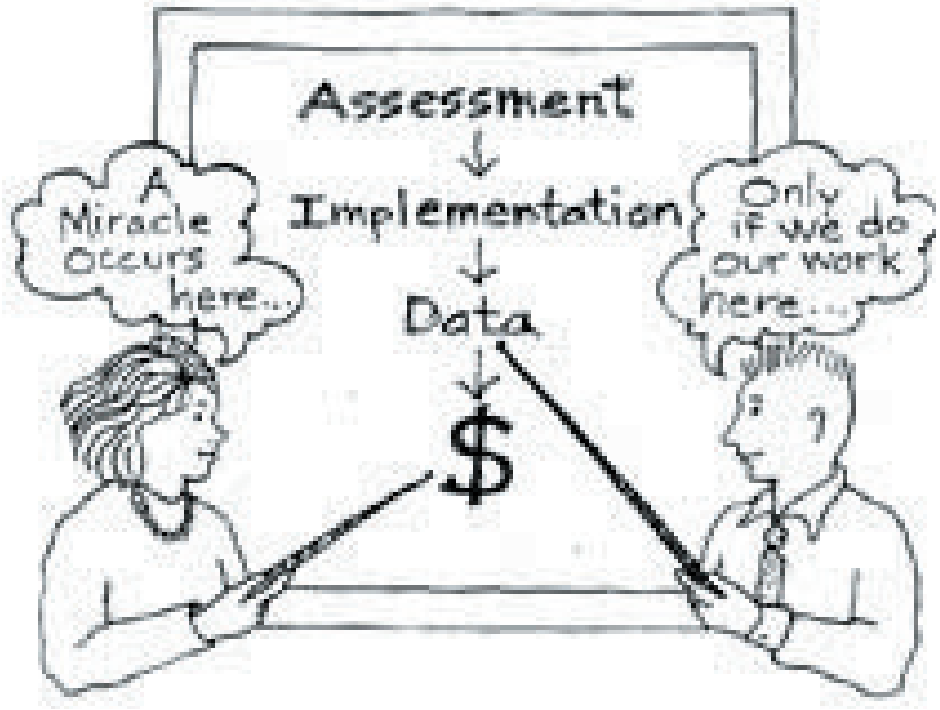
Assistive Technology Teams: Many Ways to Do it Well, by De Coste, (Reed & Kaplan, 2005) explored AT service delivery by surveying members of AT teams across the country, summarizing information about how AT teams work and reporting what appeared critical to success. It addresses the importance of a team and offers guidance on team selection and training. The authors reported that while they expected no two teams would be alike due to demographic and funding variables, there were many issues that teams had in common, regardless of their size and location. The information presents conceptual models for AT teams to consider when planning, organizing and training a team to conduct AT assessments.

The SETT Framework (Zabala, 1994) is an organizational tool that helps collaborative teams gather and analyze the information they need to create a Student-centered, Environmentally useful, and Tasks-focused system of Tools that foster the educational success of students with disabilities. The SETT Framework is built on the premise that in order to develop an appropriate system of assistive technology devices and services, teams must first have a clear understanding of the student, the environments in which the student is expected to learn and grow, and the tasks that are required for the student to be an active participant in teaching/learning processes that lead to educational success. According to Zabala, only when the team has a shared knowledge of the strengths, challenges and interests of the student who needs the tools, the customary environments in which the tools will be used, and the tasks for which the tools are needed, can they begin to describe and select the tools (devices, strategies, services, and other supports) that are needed to promote student participation and achievement. The SETT Framework provides a means through which assessment questions can be clarified and framed and decision-guiding information arranged and analyzed.

Each of these resources offer organizational information regarding how to structure a team and how that team might approach the task of conducting an AT assessment, but neither provides suggestions specific to how the team might look at a specific assessment. Neither is a protocol, but rather each promotes the idea that data-gathering methods and activities in a specific assessment will vary based on the specific questions that need to be answered.

There are many tools that can be used to gather the specific information needed to answer assessment questions. Three examples of tools that can be used to gather specific information (which could then be added to the SETT Framework to guide decision-making) include, Hey can I try that? A Student Handbook for Choosing and Using Assistive Technology (Bowser & Reed, 2001), The Written Productivity Profile (De Coste 2003), and Every Move Counts, Clicks and Chats (emc3) , (Korsten, Foss and Berry 2007).

Hey can I try that? A Student Handbook for Choosing and Using Assistive Technology (Bowser & Reed, 2001) is a resource that involves the student in exploring his needs and abilities and identifying the technology s/he thinks might be helpful. This tool guides the student in making the connection between his needs and abilities and the way that he will use the technology to support his learning and living. It also assists in



growth of the student's self-determination with respect to assistive technology.

The Written Productivity Profile by De Coste (2003) is both student and skill specific. It was written to help educators define student needs when assessing different writing abilities and guide educators in creating a written productivity profile. By breaking the task of writing down into fundamental skills, it focuses assessment on specific skills related to writing, which include: critical mechanical skills, keyboarding skills and spelling.

Strategies for identification of interests and abilities can be found in Every Move Counts, Clicks and Chats (emc3). Written for individuals with significant sensory motor differences, assessment documents interests, abilities, appropriate symbol systems, switch use patterns and voice output options for development of a functional communication system. It takes assessment information and provides implementation strategies aligned with the identified interests and abilities.

Regardless of the strategies or protocols used to gather it, perhaps the most valuable part of any assessment is DATA. Final recommendations need to be based on not just the results of a variety of "snapshot" activities, but on student and task specific data that compares and contrasts strategies and tools. Recommendations based on data about student performance in the customary environment using the selected strategies and tools provide the level of documentation needed to support funding requests. How Do You Know It? How Can You Show it? : Making Assistive Technology Decisions (Reed, Bowser & Korsten, 2002) guides teams in developing strategies to evaluate the effectiveness of assistive technology. Rather than providing 'the' way to measure, How Do You Know It? How Can You Show It? presents a 'thought process' to support the development of data collection appropriate for a variety of assistive technology applications."

Summary

In the past, AT assessment has often been an expert-conducted, product-oriented event outside the customary environment. Such assessments often relied on traditional standardized assessments that did not provide the information necessary for appropriate AT recommendations. Thus, these assessments often resulted in the recommendation and purchase of a list of equipment that failed to support student success in natural environments and was unutilized or eventually abandoned. Current promising practices indicate that when AT assessment is conducted by a team in the customary environments, recommendations have a higher probability of successful incorporation into the tasks in those environments. This changing assessment model has led to development of strategies to support teams in conducting more effective and efficient AT assessments.

Whether enough data can be gathered through assessment alone, or whether assessment is the starting point that guides the identification of additional information that is needed, is a decision that needs to be made by the assessment team. In requesting funding for purchase of AT solutions, ongoing data regarding the effectiveness of the recommended tools are essential.

Resources

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