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Assistive Technology Teams: Many Ways to Do It Well

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Acknowledgment

There are hundreds, possibly thousands of assistive technology (AT) teams operating across the United States. There is no census for tracking the number of AT teams. And while we can't be sure how many teams exist, the National Assistive Technology Network (NATE) set out to explore assistive technology service delivery by surveying members of AT teams. NATE would like to thank all the survey respondents who took the time to provide detailed information about their assistive technology teams.

Due to demographic and funding variables, we expected that no two teams would be alike. And yet, there were many issues that teams had in common, regardless of their size and location. AT teams are rarely static in their development; there is always some pressure to modify procedures in order to meet ever changing needs. So it is a healthy endeavor to periodically reexamine how your team functions. NATE hopes this monograph will provide useful information for your AT team as you continue in your efforts to provide highly effective AT services.

Assistive Technology Teams in Schools: Many Ways to Do It Well

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Assistive Technology Teams in Schools: Many Ways To Do It Well

The National Assistive Technology in Education (NATE) Network is committed to supporting individuals and teams who provide assistive technology services in schools. One of the goals of the NATE Network is to bring together information from the many fields and disciplines that are involved in assistive technology services in educational settings and to provide that information in a cohesive, integrated manner, so that individuals from all disciplines can use it. Additionally, the NATE Network seeks to promote increased collaboration at the local team level among individuals from different disciplines as they strive to provide high quality, effective assistive technology services. This monograph is part of the NATE Network's commitment to help service providers develop their capacity to work collaboratively to implement assistive technology services that are not only legal and ethical, but also cost effective and efficient.

The purpose of this monograph is two-fold: (1) to share information gathered from existing assistive technology (AT) teams across the country, and (2) to provide specific ideas and strategies to improve the function of AT teams. It is our belief that this information can help all AT service providers reflect on the performance of their own teams and make any needed changes in how they function.

Assistive Technology and Teams

Across the country, school districts employ a wide variety of models of service delivery for assistive technology. These include:

- A knowledgeable, experienced district level AT Team serving as a supportive network to help every IEP Team choose and provide appropriate AT
- AT teams in each building
- A large AT Team (or multiple teams) that serves multiple buildings or a section of the district
- A large team at the district level that develops representation across the district

- A small team of people at the district level responsible for AT, with other responsibilities in addition to AT, such as direct service delivery in their respective field
- One person responsible for AT with some reduction in other responsibilities
- One person responsible for AT with little or no reduction in other responsibilities

In many of these variations there is a team involved, and in the cases where a district does not have an AT “team” there is often a plan to develop one. One reason may be that IDEA requires decisions about a child’s educational program to be made by teams. Because of the likelihood that there is a team involved, members of the NATE Network believe it is important to address benefits, characteristics and needs of teams in schools in general and AT Teams specifically. In thinking about teams, it is critical to remember that there is no one model for an AT team that is better than the other. The model of AT service delivery that will work the best depends upon the district’s personnel and financial resources, size, geography and the availability of assistance from state or regional services. There are many ways to do it well!

What is a Team?

A team is a group of people who work together toward a common goal. In special education, many groups are called teams, e.g., the IEP team, the teacher assistance team, the AT team, etc. However, if you serve on more than one team, you probably know that various teams function very differently. Some may be very efficient while others seem to get bogged down. One team may typically stay very focused on the task at hand, while another strays easily to related or even unrelated tasks. What accounts for the vast performance differences among these groups that we call teams? There could be many factors, including the different nature of their tasks, a different set of instructions, different time limitations and also different personalities and interaction styles of team members. It may also be that some of these entities we call “teams” may be groups of people who are required to come together to work on a task, but have not truly formed an effective team.

A team is more than the sum of its parts. For a group to be a real team, there must be a compelling team purpose that is distinctive and specific to the small group and that requires its members to roll up their sleeves and work together to accomplish something beyond individual end products (Katzenback & Smith, 1993). While a group of people can work together very effectively, they do not become a team without several very specific changes occurring (Johnson & Johnson, 1997). These include changes in leadership, mission, perception of the members and the way interactions occur.

Groups vs. Teams

Often groups of people work together to accomplish a task, but they are not necessarily functioning as a team. Groups of people working together who have **not** developed into a team typically have the following characteristics:

- Have an appointed leader
- Have a specific task or mission with short-term objectives and/or assignments
- May have individuals come and go from the group fairly regularly
- Have members who bring their own information, which they may or may not contribute and who do not worry much about the group as a whole
- Delegate tasks and use meeting times to report back
- Make decisions in a variety of ways, which may or may not include consensus.

The amount of time that members spend on the task is not the critical factor. In addition, team members do not have to be full time in order to perform as a team. Many effective teams are composed of individuals who only devote a small portion of their time to the team's tasks and activities. However, effective teams typically have the following characteristics:

- Share responsibility and rotate leadership
- Have members that stay but tasks that come and go
- Develop over time, going through a series of predictable stages
- Have members who are concerned about the whole team and its functioning
- Use meeting times to discuss, decide and do real work.

- Value and use consensus.

Why AT Providers Work in Teams

Teams take time and effort. For individuals to take that time and effort to make a team work, they have to believe that it is worthwhile. In assistive technology, there are several reasons why AT services are often provided by a team:

- AT crosses several disciplines. There is no one “expert” who knows everything that is needed to effectively implement assistive technology with the broad range of students who need it.
- Successful implementation of AT typically requires many people to collaborate. Acquisition of the AT, training of staff who will implement its use on a daily basis, monitoring its effectiveness, and trouble shooting and repair are all part of AT implementation and may be most effectively accomplished by a combination of individuals whose knowledge and skills compliment and support each other. If these individuals have formed a team, then they already know how to work together to build on each other’s skills.
- AT often needs to be used in multiple environments. When this is true, a single service provider cannot possibly “do it all.” When individuals carrying out implementation tasks have a good working relationship, it means that there will be more consistency and carryover between settings.
- Effective planning and problem solving require multiple perspectives so that potential problems can be avoided, or handled quickly, if not avoidable. Discussion during the planning stage can often illuminate potential problems that, if not attended to, would diminish the effective use of AT.
- Teams help distribute the workload in a way that is both effective and efficient. A good team can divide tasks and collaborate to use their individual skills in the most effective way, making everyone’s job easier. For instance, if a voice output communication device for trial period needs to be rented and programmed for a specific student, one team member may have already established contacts with vendors and time to get in touch with them, while another may be skilled at programming the device and has observed the child in settings where it will be used. They are more efficient working together than either would be working alone.

Team participation creates involvement and ownership. Sometimes the tasks a team shares could actually be done by an individual—even quite effectively. However, if it is important that a number of different people have a part in the outcome, then having them work as part of a team better accomplishes that larger goal.

What Do We Know About AT Teams?

There is no organization that tracks the development or function of assistive technology teams. Clearly, the U.S. Department of Education and State Departments of Education are concerned with the provision of AT services. However, their focus is primarily on compliance with IDEA regulations. Across the country, teams have developed at the local school level, at the district level, at the regional level, and at the state level. Non-public school AT services have developed, as well. But there has been little information to guide the development of AT services or the operation of AT teams. Depending upon funding, geography, expertise and philosophy, AT teams have done their best to come together and work toward the common goal of providing AT services.

The next section of this monograph provides information about the development and demographics of a cross section of AT teams.

Survey of AT Teams

The NATE Network has compiled information from surveys of 55 AT teams serving public schools. The results of these surveys offer many implications for the field. At national conferences and meetings between 2000 and 2003, individuals who deliver AT services either part time or full time were asked to complete an AT Service Delivery Questionnaire (included in Appendix A).

Demographics of Survey Respondents

Fifty-five surveys from individuals across 22 states were completed (Table 1). Fifty-two of the respondents were part of public school-affiliated organizations, including five non-public collaboratives that serve multiple school districts. Additionally, three hospitals that provide AT services to schools on a contractual basis were included. While 55 surveys constitute only a small sampling of AT teams across the U.S., this exploratory data shows emerging patterns in the development of AT teams, types of AT service delivery, staffing patterns, populations served by AT teams, methods of staff training and way in which teams apportion their time. The data also provides insights into the current issues that are common across districts and offer a list of strategies and innovations that have been successful for the teams surveyed.

Arizona	Minnesota
California	Montana
Connecticut	New Jersey
Florida	New York
Georgia	North Carolina
Idaho	Ohio
Illinois	Oklahoma
Indiana	Oregon
Kansas	Texas
Maryland	Virginia
Michigan	Wisconsin

Table 1. States represented in the survey.

The Development of Assistive Technology Teams

AT services based on this sample began to develop in the U.S. around the mid 1980s and are still being developed (Figure 1). Many AT teams are still in the early years of development. The majority of survey respondents indicated that their AT teams have been delivering AT services for less than five years. The outermost length of time for AT service delivery was 15-20 years.

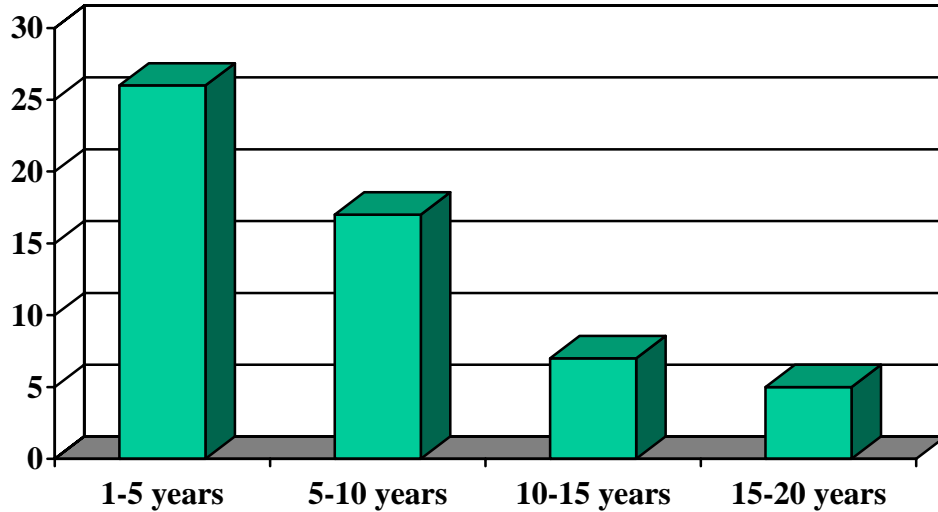


Figure 1. The number of years AT teams surveyed (n=55) have been delivering AT services

Types of Assistive Technology Service Delivery

The survey asked teams to identify the size of agency and type of constituents they serve, organized into the following categories: (1) Statewide AT delivery systems that provide services to hundreds of school districts across a wide area, providing AT support to 1000+ schools. (2) Regionalized educational service centers that provide services to multiple districts but not to the state as a whole. (3) Large school districts that provide AT support to hundreds of schools within one large school district and to as many as 850,000 students. (4) Medium sized school districts that serve between 50 to 200 schools. (5) Small school districts that provide services to up to 50 schools. (6) Independent agencies, such as universities or private disability-based agencies, that sometimes serve a group of schools districts. (7) Non-

school based organizations, such as hospitals, that also contract with school districts to provide AT services in some areas.

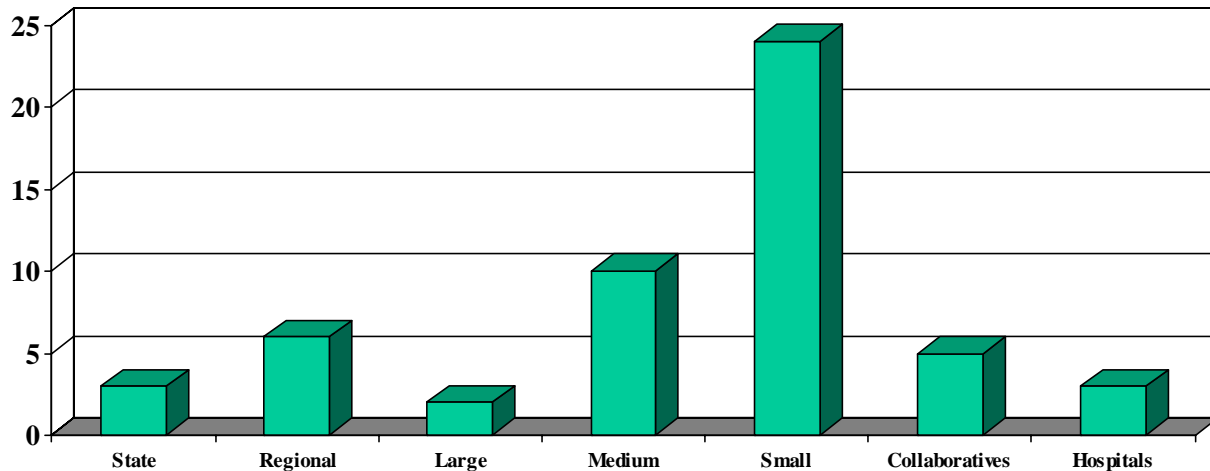


Figure 2. The number of AT teams responding to the survey categorized by service delivery systems.

Small AT teams serving up to 50 schools represented the largest contingent of respondents (Figure 2). This is an important finding because small AT service delivery systems have unique issues that larger or regional education service centers do not experience. For example, small service delivery systems have smaller budgets and fewer full time positions designated specifically to AT. Particularly in rural areas where school districts are small and spaced many miles apart, it may not be practical to develop a centralized full time AT team. In such cases, it may be more practical to build AT expertise at individual schools with the support of state or regional AT experts. In states where there is a density of towns with a small number of schools governed by separate Boards of Education, and only a few students with significant disabilities in each school, it is more difficult to develop AT expertise. This appears to have given rise to collaboratives that assembled AT teams and contracted with schools to provide AT services. The collaboratives in this survey included universities, private disability organizations, and state funded organizations that coordinated special education services across districts. Medium and large sized school districts can better afford centralized teams that can support local IEP teams. In some cases State and Regional AT teams have access to specific funding to support AT.

Populations Served by Assistive Technology Teams

Students between the ages of 3 and 21 are eligible for AT services under IDEA. All but one of the survey respondents indicated that their AT teams served students from ages 3 to 21. Fewer teams reported serving students from birth to age 3. Some respondents working for school districts wrote that AT services commenced at age 5. One team working for a collaborative, however, was established to serve only children birth to age 5. The majority of teams provided services to students with physical disabilities, learning disabilities and those who use augmentative and alternative communication (AAC) devices. Fewer teams served deaf/ hard of hearing or visually impaired students. It is likely that other disability specific departments addressed these students' technology needs. Some respondents specifically identified students with mental retardation and students with autism as recipients of AT services, suggesting that these are important client groups served by AT teams. See Table 2 for the list of populations that teams reported serving.

Populations served by AT Teams	Number of respondents
Birth -3	20
Ages 3-21	52
Physically disabilities	47
AAC	46
Learning disabilities	46
Deaf/HOH	28
Visually impaired	26
Other disabilities listed: Autism MR	

Table 2. Populations served as reported by survey respondents.

How AT Teams Developed

The team members surveyed were asked to describe how their AT teams were initiated and developed. They described forces that shaped the creation of AT services in their agencies and described the staffing patterns and team membership.

Forces that Shaped the Creation of Assistive Technology Services

There is no doubt that Federal legislation has had a major effect on the development of AT services. Specifically, IDEA mandates were reported as having an impact. However, respondents identified additional factors that shaped the development of their services. When survey respondents were asked about forces that helped shape the development of their AT team, their responses fell into seven categories (Table 3). The most commonly cited responses were students' needs and administrative initiatives. Respondents indicated that the assessment of students with complex needs, particularly those with AAC needs, as well as the need for AT devices drove the need for the services of an AT team. In some cases, special education directors initiated the development of AT teams. Policy changes, the move toward more inclusive education, and the focus on technology in schools were listed as influential forces.

As school staff became increasingly aware of AT, both the need for IEP team support and the need for staff training contributed to the development of AT services. The results of needs assessments, the realization that current approaches to assistive technology were not effective, and the desire to move to a more centralized model of AT service delivery were also noted. The needs of staff were recognized as prompting the development of AT services. Parent advocacy and parental litigation were also noted as contributing forces. Funding derived from state grants, university grants and even private sources were also listed as contributing forces in the creation of AT services. And numerous times, respondents indicated that AT teams were created as a result of the grassroots efforts of one staff person whose interest in AT and drive to deliver AT services prompted the start of an AT team.

Forces that Contributed to the Development of Assistive Technology Services	Number of Respondents
Student Needs: AAC Need for devices Assessment of complex students	19
Administrative Initiative for Change: Special Education director initiative Needs assessment results Current approaches not effective Inclusive education Policy changes Focus on instructional technology Wanted an expert model	17
Staff needs: Increased awareness Training needs IEP team support	11
Parent advocacy: Parent awareness, parent litigation	11
Funding initiatives: State grants, private funds, university grants	8
State and federal legislation (IDEA):	6
Grassroots staff initiative for change	5

Table 3. The number of categorized responses on forces that shaped assistive technology services in school districts.

AT Team Members

Certainly, one of the things to look for when assembling an AT Team is the broad information base that comes from having members from different disciplines. An occupational therapist brings different knowledge than a teacher or a speech/language pathologist. Their different perspectives can help them avoid the pitfalls that come from having only a single point of view represented. For example, in trying to help a child effectively use a switch, more than one perspective can be critical. The physical therapist can analyze whether the child's overall positioning is optimal. An occupational therapist can determine where to position a switch so

that a child with limited motor abilities can most effectively activate it. If the switch is being used to activate a communication device, the speech pathologist will have a role in identifying the layout of appropriate vocabulary. The teacher knows what educational tasks the child needs to accomplish and what vocabulary will be critical to ensure participation. For example, the child may be expected to use her communication device to participate in a reading activity. The teacher will be looking for any information that will allow the child to be successful in the completion of that task. Multiple perspectives across disciplines can come together to effectively increase a child's success across a variety of tasks, in a variety of environments.

In addition to diversity of background knowledge, it pays to seek team members with different communication styles and abilities. According to Gladwell (2002), in order to accomplish change, which is usually an ongoing goal, teams need three types of individuals: Connectors, Mavens, and Salesmen. *Connectors* are people who are constantly introducing people and pointing out how they can help each other. *Mavens* are individuals who know a great deal of technical information. *Salesmen* are those individuals who easily convince people that they need to try this new product or idea. We need all three of these types of people on an AT Team. Connectors are important to an AT team because they seek ways to build capacity through collaboration. Mavens are those individuals who make it a point to keep up with the latest in AT devices and strategies. And Salesmen are often excellent consultants and trainers who persuade staff to try new approaches using AT. Bringing people together who can help convince people to implement a new tool or strategy is every bit as important as knowing how to operate the latest software or AAC device.

Staffing Patterns of Assistive Technology Teams

Information about staffing patterns provides insight on what disciplines make up AT teams. It was clear from this survey that no two teams are alike. Nevertheless, the survey provided some interesting data (Table 4). Teachers, mostly special educators, were the most common discipline serving full or part time on AT teams. Most school districts reported two or more teacher positions. Speech-language pathologists (SLP) were the next most frequent discipline serving on AT teams. The majority of AT teams have one, two, or more SLPs. Most AT teams also reported having at least one or more occupational therapists. About half (51%) of

the districts reported having a full or part time administrative position, although fewer small and medium sizes school systems have this (7-18%). Less than one third of the district AT teams indicated that they had secretarial support. Again, fewer small and medium-sized districts reported having secretarial help (4-5%). Physical therapy (PT) positions were reported in just over one-fourth of the AT teams that were included in this survey (27%). Physical therapist positions were more common on small teams that serve schools directly, and not as frequently reported on state and regional teams where the emphasis is more on training and consultation to staff than student assessment. PTs on AT teams were usually listed as having other assignments in addition to providing AT services. Teaching assistants or paraprofessionals were included on 47% of AT teams, mostly medium and small teams. Some teams reported having vision specialists, diagnosticians/psychologists, hearing specialists, recreation therapists or rehabilitation engineers on their AT teams.

Staff Patterns on AT Teams (n=53)	
Teachers	101
SLPs	91
OTs	55
Administrative/coordinators	28
Technical assistants/paraprofessionals	26
Secretarial support	17
PTs	15
Other:	15
Vision specialists	
Hearing specialists	
Diagnosticians	
Recreation therapist	
Rehab Engineer	

Table 4. Staffing patterns on AT Teams surveyed.

How Teams Apportion Their Time

Team members responding to the survey were asked to assign a percentage to the amount of time their teams spent on student assessment, staff consultation, and staff training. Table 5 shows the range of responses organized by the type of AT service delivery system. Some but not all data suggested a pattern. Additional survey data is needed to better define this. The available data indicated:

- (1) State-level AT service delivery systems emphasized staff training with less time spent on student assessment and more time on consultation.
- (2) The range of time spent within regional systems varied. This is probably dependent upon the size and number of districts and students they serve.
- (3) Respondents in medium and small sized districts spent the bulk of their time on student assessment and staff consultation, with comparatively less time on staff training.
- (4) Because of the small number of large systems who responded to this survey, no clear pattern emerged for that group. The data suggests, however, that the use of time depended on whether the intended purpose of the team was the provision of assessment services or the development and building of local capacity.
- (5) Regional and collaborative service delivery systems appeared to emphasize staff consultation.
- (6) Hospitals that contracted with school systems spent the bulk of their time on AT assessment.

Percent of time spent on service delivery:	State	Regional	Large	Medium	Small	Collaborative	Hospital
# of surveys	4	7	2	10	24	5	3
Student assessment	0-20%	0-70% mean 29%	0-70%	10-60% mean 35%	10-75% mean 30%	5-30% mean 18%	70-80%
Consultation to staff	20-50%	20-80% mean 43%	20-30%	30-65% mean 49%	10-75% mean 49%	30-55% mean 41%	10-20%
Staff training	20-80%	10-80% mean 29%	10- 70%	0-40% mean 16%	10-60% mean 20%	10-47% mean 30%	5-10%

Table 5. The allocation of time by AT teams to provide assessment, consultation and training services, categorized by service delivery system,

Methods of Delivering Staff Training

Staff training was a component of all patterns of service delivery. The most common methods of delivering AT training were on-site or after-school training delivered one-on-one or to small and large groups of staff (see Table 6). Some districts had the ability to offer full or part time technology training in centralized training labs or educational service centers. Few districts conducted summer training or sponsored large conferences. Distance education was the least common method of staff training. Half-day training sessions and departmental training sessions were additional methods of staff training listed by survey respondents.

Methods of staff training	Total # of teams offering
Small groups	40
1-1	38
On site	38
After school	32
Large groups	31
Centralized sites	25
Full day	23
Summer workshops	17
Large conferences	13
Distance education	5
Other: Departmental meetings Half-day workshops	

Table 6. Methods of Staff Training (n=47 surveys)

Issues and Challenges Identified by AT Teams

Survey respondents described a variety of current issues affecting AT teams. Responses indicated two main categories of issues: (1) the functioning and activities of the AT team (e.g., team building, equipment, building local capacity, providing training, and evaluating effectiveness) and (2) issues related to the agency or district (e.g., funding and administrative support). General summaries of the data will be described in this section. Specific comments from survey respondents can be found in Appendix B. The responses are aggregated into two groups: (1) Large agencies: State level, regional level, and large districts which provide services to agencies as well as large numbers of school staff and students, and (2) Medium and small districts, where the focus is more often on direct AT services to school staff and students.

Team Building Issues

Large agencies and school districts indicated concern about recruiting, training and retaining talented and experienced staff. They were concerned about having an effective means of service delivery to manage AT needs relative to the size of their teams. Medium and small districts were equally concerned about these issues and recognized their need to define roles, responsibilities, policies and procedures, including assessment procedures. Smaller districts appeared to struggle to build cohesive teams when many members were part-time or had additional assignments.

Equipment Issues

Maintaining assistive technology in a variety of settings and transitioning to post secondary settings was also identified as problematic by large agencies. The tracking of hardware and software was of greater concern to small and medium districts.

Building Local Capacity Issues

Large agencies and school districts appear to be highly concerned about the best ways to get the message about AT to all schools, to get staff to “buy in” to using AT with students, and to request support on behalf of students who might benefit from AT. They want local building

personnel to take ownership for AT and to understand that AT needs to be incorporated across the day. The lack of time for school teams to learn, plan, implement and evaluate curriculum-based AT strategies is a clear concern.

Small and medium sized school districts focus more at the school and IEP team level and worry that AT is not really being considered at IEP meetings, nor is there sufficient follow-through on AT plans. Lack of AT information and resources can make it difficult to bring about consistent AT use. Small and medium sized districts are also concerned with the lack of ownership of AT on the part of special and general educators.

Training Issues

Training issues are common to both large and small districts. Clearly, there is a great need to develop more effective models of training that will reach more staff. Issues such as a lack of interest in AT training, limited release time, and staff turnover are major impediments.

Training issues appear to transcend the size of one's district. Regardless of district size, training issues are a major concern. To use AT effectively, training is a must, but new ways to transmit AT knowledge and skills appear to be needed.

Issues in Evaluating Effectiveness

Larger districts are concerned with monitoring outcomes at district levels, whereas smaller districts are concerned with follow up at the level of the student who is using AT. Regardless of size, AT teams are aware of the lack of AT accountability in education. Data collection at the district level and at the student level is interconnected, in that schools that have no measure of effectiveness cannot provide measurable documentation to their district and state leadership. Lack of effectiveness data ultimately makes it harder to gain support for funds to support AT. While AT teams who responded to the survey are aware of the need to evaluate effectiveness, comments were general. This lack of specificity suggests that AT teams may be aware of the need to gauge effectiveness, but have few strategies to tackle the issue.

Funding Issues

Participants' responses suggested that sources of AT funding are not always well defined. Funding issues centered around the lack of human resources to address AT, the lack of funds for equipment, and the lack of funds for training. Funding streams are not always clearly identified. Funding streams differ somewhat from district to district and from state to state.

Administrative Support Issues

Based on the comments of survey respondents, administrators are aware of AT, but their appreciation of its advantages may be limited. Administrators may not show support for AT because they do not see the necessity, do not understand that AT is more than just computers, fear the expense, or simply lack interest in it. Smaller and medium sized districts indicated that there is a lack of clear policy and procedure regarding AT service delivery, which is important in light of changes to more site-based school management. Also, AT is not always included in district technology plans, and as a result there are no long-term strategic plans.

Additional Challenges Related to AT Services for Various Populations

Survey respondents from all size and types of agencies described a variety of challenges that are unique to different student populations: high incidence disability (HID) populations and low incidence disability (LID) populations. HID populations include students with learning disabilities, slow learners, and students with behavioral and emotional difficulties, while LID populations include students with physical disabilities, sensory impairments, autism, mental retardation/cognitive disability, and students who are non-speaking. There are distinct AT challenges presented by these different populations of students.

Challenges in Meeting the Needs of Low Incidence Populations

Survey respondents indicated that there are specific challenges in meeting the needs of students with LID. These are generally related to the more extensive needs of the students and the fact that service providers must often seek out and learn to operate new assistive technology devices that are not readily available in the district. Key issues noted were:

- The amount of time needed to properly assess the needs of complex students
- Identifying student's strengths and needs and the tasks the student will do

- Learning how to use less common, unfamiliar devices
- Perception that low incidence populations require an endless pot of money
- Developing purposeful communication systems that students can use in multiple settings
- Incorporating AT and communication devices into daily routines
- Understanding that AT must be combined with good, ongoing instruction

Challenges in Meeting the Needs of High Incidence Populations

The challenges in meeting the needs of students with high incidence disabilities were different from those of students with low incidence disabilities. Challenges often related to students not wanting to be singled out or made to look different from their peers. Key issues noted were:

- AT needs of student with learning disabilities are not recognized and not referred for AT services
- Separating student needs from what the teacher is willing to try
- Stigma of AT use
- Motivating students to learn and use new strategies involving AT
- Low reading and writing skills
- Pressures of keeping up with curriculum balanced against the need to develop skills
- Developing AT plans that allow students with learning disabilities to become more independent across all classes
- The need for districts to consider more flexible strategies for the entire class in keeping with universal design for learning (UDL)
- The push for high tech solutions when low tech may be less restrictive
- Requests to provide AT services to students who do not qualify for Special Education
- Home use of AT

How Teams are Addressing Issues and Challenges

Survey respondents described a variety of ways to promote AT use. Their ideas are presented in two groups. State level, regional level, and large districts provide services to large numbers of AT stakeholders and their ideas are grouped together. Medium and small district teams more often provide direct AT services to school staff and students and so their data is grouped together. Unique innovations fell into five main categories with some overlap: (1) Resource sharing, (2) networking, (3) training, (4) funding and (5) school-based strategies. Larger service delivery system innovations centered on training, networking, and resource sharing. Medium and smaller systems offered innovations in these areas as well, but also presented school-based strategies and funding ideas. Smaller districts are more likely to have limited budgets, therefore, innovative funding strategies are critical to the promotion of AT services.

Strategies Utilized By Large Agencies and School Districts

Assistive Technology teams in large agencies and school districts used a variety of strategies to respond to the challenges that they identified. Their responses are grouped under sharing resources, training ideas, and networking ideas.

Sharing Resources:

- Disseminating information on AT services (brochures, on-line information, etc.)
- Development of assessment tools and other materials to support local school teams (e.g. WATI AT Assessment)
- Newsletters
- Website on AT
- Developing an AT loan library
- Equipment leasing program across small districts paired with AT support/consultation
- Trial equipment loan or rental services: (e.g., Members pay 5% per month of the original cost to try out the equipment for 30 days. Up to 3 months of the rental fee can be credited towards purchase.)
- Group buying to bring costs down (especially helps small districts)
- On-line supports and idea exchanges

Training Ideas:

- Developing replicable training modules
- Distance learning networks for training
- Use of internet and interactive video to train staff
- Sending key staff to national AT conferences and then having them provide after school workshops
- AT training to school districts
- Ongoing development of school based AT teams via 3 levels of training, from introductory to advanced
- Apprenticeship training for new AT team members
- Statewide leadership training
- Intensive summer institutes with hands-on training

Networking Ideas:

- Promoting the use of the SETT framework (student, environment, tasks, tools) as a team strategy in thinking about student's AT needs and AT consideration
- Local study groups
- Quarterly regional meetings
- Partnering with other agencies in other states on training
- Coordination of AT services across staff, regional and local levels
- The integration of special education technology efforts with general education technology divisions
- Guidance from national leaders in AT

Strategies Utilized by Medium and Small School Districts

AT teams in small and medium districts used a variety of strategies to address the challenges that they identified. Their responses are grouped under sharing resources, training ideas, networking ideas, school based strategies and funding.

Sharing Resources:

- Developing an AT information manual and disseminating this to all special educators and administrators
- Establishing a standard for AT hardware and software tools to guide school purchasing
- Developing a lending library of AT devices aligned with equipment trials
- Loan library and inventory managed by an assistant
- AT tool trunks equipped with AT equipment and information that rotate to schools, and are used to train staff on AT
- Brainstorming with other departments about low tech supplies that can be made and then giving inexpensive low tech supplies to schools

Training Ideas:

- Moving away from an expert model to a training model
- Provide in-service training on AT to related service providers
- Training to departments on how to incorporate AT
- Having AT designees identified at each school and training them on basic AT
- Requiring training for staff/students who want try AT
- Purchasing equipment and then requiring teachers to come to training to obtain the equipment
- Provide devices and software for staff to use following after school training
- Training college students who provide volunteer hours in classrooms
- Providing after school workshops, professional day workshops
- Providing summer workshops or institutes
- One credit, 5 week, staff development courses on AT topics

Networking Ideas:

- Providing continual reminders of available AT services (pamphlets, bookmarks, magnets, on-line updates)
- Sharing the QIAT indicators as a guide to developing quality AT services
- Aligning technology services by housing AT services with instructional technology departments
- Co-training with instructional technology
- Organizing guest presenters and inviting staff in other districts to attend
- Developing and training AT Liaisons for each school building

School-based Strategies:

- Having AT team members schedule time in special classes on a regular basis to provide consultation to the teacher
- Involving IEP team leaders in AT solutions
- Working regularly with resource teachers in their classrooms
- AT labs that have core AT software placed in high schools
- K-2 transitional AAC classrooms to jumpstart literacy and the use of high-level devices
- Identify students who need quick set up and staff training prior to the start of the school
- Bookmark good websites on teachers' computers

Funding:

- Using Medicaid reimbursement funds to purchase computer hardware and software for special education classrooms
- Establishing a statewide buying program to lower the cost of AT devices
- Bulk purchasing of AT equipment and then reselling it to schools at a savings
- Use of district wide software licenses to lower the cost of software
- District-wide networking of software such as graphic organizers and typing programs
- Using State grant funding to develop AT services

Strategies for Different Populations

Survey respondents were asked to identify strategies they have found to be effective in addressing the challenges they identified in working with low and high incidence populations. Suggested strategies that benefit low and high incidence populations fell into three main categories with some overlap: building capacity, assistive technology devices, and training. The strategies that respondents identified are by no means comprehensive, however, they constitute some good ideas to share.

Students with Low Incidence Disabilities

Respondents indicated a variety of strategies for meeting the needs of students with LID.

Building Capacity:

- Build the understanding that all staff are responsible for AT across the curriculum
- Keeping action plans brief; less is more
- Providing informational resources and catalogs to staff
- Working with itinerant staff to help with carry over
- IEP team involvement in the assessment/selection process
- Using the SETT process to involve staff in the planning process
- Working with school teams and supporting what they ask for
- Regular collaboration with team members so all feel ownership
- Getting principals' and supervisors' support to fund AT for low incidence students
- Follow up visits to ensure AT is being used appropriately

AT Devices:

- Providing quick start kits and low tech communication devices to schools
- Developing a preview center where staff can see AT tools, first hand
- Providing centralized AT loan libraries
- Providing trial plans with AT devices

Training:

- Using trainer of trainer models

- Offering 1-to-1, person-to-person training
- Offering summer workshops on classroom strategies (e.g., inclusion using AT, integration of AT)
- Providing AT tools in conjunction with training
- Training administrative staff to help them understand the importance of AT devices
- Focusing training on best practices
- Regionalizing training for less common AT (e.g., AAC devices)

Students with High Incidence Disabilities

Strategies for meeting the needs of students in the HID group include a wide variety of useful and creative ideas.

Building School Capacity:

- Including the student, parents and team when developing AT plans
- Using the SETT framework
- Getting on school agendas to show low tech and easy to use AT and how this has helped students
- Finding school staff invested in technology and build their expertise
- Bringing school administration into the process

AT Devices:

- Focusing on software and low tech solutions
- District wide provision of low tech AT to LD classrooms
- Bulk purchasing of portable word processors (e.g., AlphaSmarts™), spell checkers and software for teachers to try with kids
- Obtaining consent for staff to take software home to use to create teaching materials

Training:

- First training staff on software/devices, then after buy-in, focusing on individual students
- Providing workshops that cover the basics of AT for high incidence populations

- Providing district training on low tech devices such as portable word processors
- Applying for grants that provide staff development for hands-on training

Building a Successful AT Team

Both newly formed teams and teams that have been working together for many years can benefit from specific team building activities. The Team Building Supersite (2004) uses the example of how flocks of geese work together to illustrate team building strategies.

Fact #1 – As each bird flaps its wings, it creates uplift for the bird following. By flying in a “V” formation, the whole flock adds 71 percent greater flying range than if one bird flew alone.

Lesson Learned – People who share a common direction and sense of community can get where they are going quicker and easier because they are traveling on the strength of one another.

Fact #2 – Whenever a goose falls out of formation, it suddenly feels the drag and resistance of trying to fly alone and quickly gets back into formation to take advantage of the lifting power of the bird immediately in front.

Lesson Learned – If we have as much sense as geese, we will stay in formation with those who are ahead of where we want to go and be willing to accept their help as well as give ours to others.

Fact #3 – When the lead goose gets tired, it rotates back into the formation and another goose flies at the point position.

Lesson Learned – It pays to take turns doing the hard tasks and sharing leadership.

Fact #4 – The geese in formation honk from behind to encourage those up front to keep up their speed.

Lesson Learned – We need to make sure our honking from behind is encouraging, and not something else.

Fact #5 – When a goose gets sick or wounded or shot down, two geese drop out of formation and follow it down to help and protect it. They stay with it until it is able to fly again, or dies. Then they launch out on their own, with another formation, or they catch up with their flock.

Lesson Learned – If we have as much sense as geese do, we too, will stand by each other in difficult times as well as when we are strong.

Responsibilities of Teams

There are at least three areas which any team must address: (1) Completing the task or tasks which it was created to accomplish, (2) developing team norms and processes, and (3) meeting individual team members' needs, including the development of new skills.

The tasks of the AT Team generally center around assistive technology. However, there is a significant difference in specific tasks and actions if the AT Team's goal is to provide direct services to students or to develop the capacity of other school district staff. It is important for the AT Team (and their administrators) to develop a vision of what they want to accomplish and the specific tasks they will undertake to achieve that vision.

Because individuals serving on AT teams are very busy, building the team is often left to chance. Meetings are scheduled haphazardly, agendas are not written, and the strongest or most energetic person gravitates toward leadership. The norms of operation develop quickly during the first few meetings. However, teams may end up with significant problems if they don't spend at least part of their time talking about and planning for their operating procedures. Defining and then rotating roles such as facilitator, recorder, and time keeper make a significant difference. Learning to use a clearly defined decision making process and consensus in reaching decisions are important aspects that require the team's attention.

Finally on a regular basis, the team as a unit should consider what each member brings to the team and what specific new skill, if any, each team member may want to acquire. Not every

team member needs to know the same thing. Rather, the team members should strive to complement each other as they plan for their own skill development.

When Do Groups Become Teams?

There is a threshold below which a group of people working together to accomplish something of importance to themselves remains just that—a dedicated *group* of people. What makes them a team? *A team is a small number of people with complementary skills who are committed to a common purpose, performance goals, and approach for which they hold themselves mutually accountable.* It is the shared purpose and goals combined with the mutual accountability that allows a group to become a team (Katzenback & Smith, 1992). One of the keys to building an effective team is to be aware of the individual interests, strengths, and skills that members bring to the team. Diversity is critical. When putting a team together look for individuals with different qualities and interests. It is diversity that makes a team strong, flexible, and capable of handling a wide range of tasks (Team Engineering Collaboratory, 2004).

As people begin to work together with the purpose of becoming a team, their interactions change as they learn to understand each other and to function more as a group or team. Team growth tends to progress in predictable stages that have been identified as forming, storming, norming, and performing (Tuckman, 1965; Tuckman & Jensen, 1977). Each stage has its own purpose, focus, and characteristics.

- **Forming** - During this beginning stage, the members are getting to know each other. They tend to avoid serious topics and discussions of feelings. Much of their time is spent focused on tasks and defining their scope. Meetings may be very formal. In order to move beyond this, stage members need to become comfortable enough to risk the possibility of conflict.
- **Storming** - This second stage may contain more conflict as team members strive to efficiently deal with tasks. This is a time when some members will still be very silent while others step up to fill what they feel as a void and become dominant. There is some discomfort that goes with storming as members of the group “wrestle” with how things

are going to be done, who will be responsible for what, what the reward system will be, etc. In order to move beyond this state, members must become more comfortable and trusting. The ability to listen is a critical skill for progress to the next stage.

- **Norming** - Members begin to know and identify with each other. In this stage there is active acknowledgement of members' contributions and strengths. Leadership begins to be shared. There is a level of trust that contributes to group cohesion. Members feel and express a sense of belonging to the group or team. Creativity is very high and there is a lot of information exchanged. To move to the next stage, members must trust that the group or team can function well and that they can put most of their energy into tasks rather than development or maintenance of the team.
- **Performing** - This is the most productive stage, where energy can be focused on tasks. Each member knows what other members can and will do. Members can work very well as a whole team or in subgroups because their interdependence is established.

When team members change, even if one or two people leave their position, the team automatically goes back to the forming stage and must progress through the sequence again in order to reach the highly productive performing stage. Effective teams recognize this and take time to address it. They return to discussing their roles and defining their scope of responsibility. They may engage in visioning activities as well as taking time to reflect and review the events that have shaped the team to date. Finally, they listen to new members and begin to incorporate their suggestions into the processes and procedures of the team.

New and Young AT Teams

For teams that are newly forming, there are many decisions to be made. Here are just a few of the many questions that teams need to answer as they begin to provide assistive technology services: Is the goal for the team to build the capacity of other service providers to provide better assistive technology services, or is the goal to provide direct services to children who need assistive technology, or some combination of the two? Table 7 lists the difference in performance that result from the answer to that question. Building capacity in local schools was a strategy frequently identified by surveyed teams from all sizes of districts and agencies serving students with both low and high incidence disabilities. However,

building capacity is a long-term initiative that takes a great deal of time and persistent effort. AT team members must weigh the long-term benefits of using an expert model where they do all of the assessments and recommendations or a capacity building model where they train local IEP team members to take part or all of this responsibility. Your team may want to attempt a combination of direct and capacity building methods. However, it may be difficult to pull back from the perception of “expert” once this method of service delivery is well known in your district.

Expert models of AT service delivery	A capacity-building model
<ul style="list-style-type: none"> •have formal referral systems aligned with the IEP •provide direct and ongoing assessment •make decisions and recommendations based on assessment •share responsibilities for implementation •monitor long term equipment loans •focus a greater percentage of time on small group and school-based training 	<ul style="list-style-type: none"> •is a resource to all staff •does not conduct assessment which is a school-based task •provides guidance on AT decisions •do not have a lead role in implementation •may provide trial loans, but not long term loans •focuses a greater amount of time on developing district level training alternatives

Table 7. Major difference between expert and capacity building models of service delivery.

If a team’s goal is to build capacity, what is the best way to do that?

- What is known about current strengths or needs of staff?
- How can they learn more?
- What opportunities are there for training others?
- How will responsibilities be assigned?

If the goal is to directly serve students, how will that be accomplished?

- What is the referral process?
- Are there existing forms? If not, will they be developed?
- What will other staff be expected to do prior to referral?
- How will responsibilities be assigned?

If a decision is made about what assistive technology might help a particular child, will that decision be a recommendation or a directive? This, too, relates to building capacity vs. providing direct service. If the AT team chooses to use a more expert model, then any “recommendations” made are really directives. It also means that much of the responsibility for successful or unsuccessful implementation is retained by the team. If the goal is to build capacity and empower others, then a recommendation is more in the form of guidance in response to direct questions from local team members. Thus, the responsibility for the success or failure of implementation is shared rather than belonging solely to the AT team.

- How much control will AT team members have over what is actually implemented? How much should they have?
- Will the team train others? Will the team be responsible to directly train the student?

How much time is available to spend on assistive technology?

- Is that time regularly scheduled or flexible?
- How often will the team need to meet? Is that regularly scheduled?
- Is there secretarial support? Is it needed?

What assistive technology is available for demonstration, training, and trial use?

- What might be needed?
- How can AT scattered throughout the district or agency be found?
- Is there money to acquire additional assistive technology?
- Are computers and peripherals available to simulate augmentative communication devices for assessment and training purposes?
- How will additional sources of equipment, such as vendors, who will loan or rent equipment and loan libraries in your region or state be identified?

How is assistive technology included in the district’s technology plan? Working collaboratively with the Instructional Technology staff can be very beneficial. They often have goals of providing technology or access to digital information for “all” students, but

may not have necessary information to do so. The input of special educators who are knowledgeable about assistive technology can significantly impact a district's technology plan and the selection of hardware and software.

- Is anything specifically mentioned?
- Are new computers purchased with sufficient capacity to be used with voice recognition, voice output, and other adaptive input or output methods?
- Is there access to newly acquired computers for students with disabilities?

If the answers to these questions are not known, can the person to ask be identified?

Finally there are many questions about how an AT team will function that must be addressed in a way that all members have input and agree to the decisions that are made.

- Is there an assigned chairperson or team leader? If not, how will tasks and responsibilities be assigned?
- How will decisions be made? Can any team member make a decision alone or does more than one person need to be involved in all decisions?
- Will consensus be used when making decisions? If so, is training needed to do so? What is the source for such training in your district?

Established Teams

Established teams that are highly effective periodically review their methods of delivering AT services. The survey results described in this monograph indicated that there are teams that developed 10, 15 and even 20 years ago. Many of the questions listed above for newly forming teams are appropriate for established teams to reconsider. As student populations increase and AT teams grow, there is a need to periodically take a look at how different populations are served. Is a more centralized, direct service approach serving your district effectively, or is there a need for individual schools to take on more of the AT responsibility? Do students with low incidence disabilities (LID) such as those who use augmentative communication devices (AAC) or those who need alternate motor access get adequate AT services? Are staff serving students with high incidence disabilities (HID), such as those with learning disabilities, integrating technology into general education?

Teams should periodically consider the rationale for their predominant method of service delivery. More direct models are useful when serving students with LID who need ongoing support. Students using AAC devices, students using alternate motor access, and students with complex disabilities such as autism and cerebral palsy, often require ongoing AT services. The type of AT that is used to support these students often requires special training and expertise. All staff do not need to have this specialized, in-depth type of expertise, therefore an expert model may be more appropriate for these students.

Training is another topic for team reflection. Training to support students with complex disabilities is often very student specific, more often conducted in small groups. Training topics on AT for students with learning disabilities are often beneficial for other students in general education, and therefore, are more in keeping with universal design for learning. Universal design for learning is the practice of proactively embedding technology-based strategies into the curriculum to support all types of learners. Special and general educators more often need to “own” this type of knowledge. For example, it would be useful for all staff, including general educators, to know how to use graphic organizing software to help students outline their ideas prior to writing. For staff serving students with HID, a more capacity-building model, focusing on short-term guided practice and district-wide staff development opportunities may be more appropriate.

Edyburn (2004) asserts that the current system of AT evaluation and service delivery is not scalable to meet the needs of students with high incidence disabilities. The numbers are too great. Therefore we may need to create alternative systems for accessing AT for students with mild disabilities. Services to support AT for students with HID may need to be a blend of short term, school-based guided practice with more concentrated time spent on developing and delivering training. Multiple training methods are needed to reach new audiences who may be reluctant to address assistive technology. In addition to district level workshops and courses, website resources and online learning opportunities may need to be pursued in order to more efficiently get AT information out to large numbers of staff who may only be marginally invested in attending face to face AT workshops. Proportionally, more AT staff time will need to be directed toward training and online resource development in order to

address the large number of special and general educators who need to develop technology-based skills and integrate AT into the curriculum.

There is no one model of service delivery that works in every situation. Again, there are many ways to do it well! Both expert (centralized) and capacity building (decentralized) models of service delivery may be needed in the form of two distinct teams or as sub-teams within a larger AT department. Even for established AT teams, rethinking service delivery is a healthy endeavor.

What Strengthens a Team?

Teams that take time to address team building issues and to reflect on their own needs and skills become stronger and more effective. A strong AT Team:

- Spends the time and energy to develop a high performing team because of the benefit for students.
- Has members that appreciate the contributions of other members.
- Understands the sequence of forming, storming, norming, and performing and can determine where the team is currently functioning.
- Provides comprehensive planning that takes into consideration all aspects of the tasks the student needs to do and the setting in which they will be done.
- Builds on each member's unique contribution to arrive at effective and workable solutions and interventions.

There are many great resources that can strengthen. This section will provide an overview of several critical steps and direct you to additional resources.

The building of '*just the right*' team can be a challenging prospect. However, AT service providers attempt to serve a growing number of students with diverse needs, they must rely on the team approach. In thinking about the nature of an AT team and what they hope to accomplish, it is helpful to have the right vocabulary. Table 8 provides terms that can be used to describe a team. As team members examine their own unique needs, it may help to think about how these terms relate to their AT team (Team Technology, 1997).

A group of people	Synergy	Having one aim
Whole > Sum	Co-operation	Flexibility
Working together	Reporting to one supervisor	Serving one student

Table 8. Words to describe teams

Some of these words can describe any group assigned a task (e.g., group of people, serving one student, reporting to one supervisor) while others only apply to a well functioning team

(e.g., whole>sum, synergy, cooperation, having one aim). The remaining words (working together, flexibility) could apply to a group that is beginning to become a team and striving to increase its effectiveness.

Many of the questions raised earlier in the section on New and Young AT Teams address the issue of developing a shared vision and common goals. Sharing common goals is a basic premise underlying the building of an effective team. Members become part of a team when they understand that each of their roles facilitates accomplishing objectives that could not be realized by individuals working alone. The National School Board Association (NSBA, 2004) suggests general characteristics of a team:

- awareness of unity on the part of all members
- interpersonal relationships, with members having an opportunity to contribute, learn from and work with others
- ability to act together toward a common goal

According to the NSBA, a strong team has the following characteristics:

- Purpose: Members proudly share a sense of why the team exists and are invested in accomplishing its mission and goals.
- Priorities: Members know what needs to be done next, by whom, and by when to achieve team goals.
- Roles: Members know their roles in getting tasks done and when to allow a more skillful member to do a certain task.
- Decisions: Authority and decision-making lines are clearly understood.
- Conflict: Conflict is dealt with openly and is considered important to decision-making and personal growth.
- Personal traits: Members feel their unique personalities are appreciated and well utilized.
- Norms: Group norms for working together are set and seen as standards for every one in the group.

- Effectiveness: Members find team meetings efficient and productive and look forward to this time together.
- Success: Members know clearly when the team has met with success and share in this equally and proudly.
- Training: Opportunities for feedback and updating skills are provided and taken advantage of by team members.

Effective Team Leadership

One of the most important features of a strong team is *collaboration* (Grazier, 1997). The underlying principles of how and why a team functions successfully is often misunderstood. The principle of collaboration is central to a successful team. One of the most difficult tasks a leader has is to build a team with members that can share a common sense of purpose, who bring their own strengths to the task, and who work collaboratively. Horstman (2000) offered strategies for building a team. He suggested that it is critical for the team leader to communicate the following attitudes to his/her team members:

- I like you
- I trust you
- You are smart and capable

Focusing on these three attitudes can provide teams with an opportunity to build their team with people they like, whom they trust and who are smart and capable. Horstman's theory is that one does not have to have the specific skills or experience necessary to perform a task. If the person is 'smart,' that person can learn the skill. If team members utilize opportunities to staff their team with smart individuals who they like and in whom they can put their trust, they can build a team of highly effective and successful individuals.

Leading an AT team can be a challenge. Many individuals thrust into the leadership role have had little or no training. For the individual new to leading a team, it can help to remember the following four factors:

- **Humility first**-A leader must remember that the job “Isn’t about you!” The leader has two roles, (1) to lead and guide and (2) to be an active member of the team. Of course, the specific responsibilities of the team leader vary depending on the functions of each team, but the leader is not alone. Each member of the team will share both the hard work and the rewards of the team’s actions.
- **Control**-Control can be both powerful and problematic. Letting go of control may be a difficult task for some team leaders, especially those who have been carrying the responsibility for AT services alone in the past. But learning when the team needs the leader to be in control to provide direction and focus, and when the team members can best perform if left to make specific decisions on their own is critical.
- **Responsibility**-The responsibilities of team leaders will vary depending upon the size of the team, experience of the team members, history of working together, and demands of the situation. However, some of the most important areas of responsibility are to support the team members, provide opportunities for them to discuss critical issues, help them to recognize the impact of outside forces, and create an environment with a low level of conflict.
- **Delegation**- This final factor is perhaps the most difficult for many. The leader must regularly reflect on the various tasks that must be done. Following the examination, the leader must delegate tasks that either match with a team member’s strength or encourage personal growth for that team member. At the same time, the team leader must constantly examine and reflect on his or her own performance and understand that the role of team leader is not a dictatorship.

Sharing the responsibilities and allowing team members to work collaboratively toward a common goal will help insure the success of the team. Simply asking for and graciously accepting constructive feedback from team members can go a long way in making this possible. Frank discussions in a receptive environment can help every team member to feel ownership and responsibility for the success of the AT team’s actions.

For more team building activities go to the websites in the reference list and to the Teamwork project of the Team Engineering Collaboratory developed by the University of Illinois Urbana-Champaign:

<http://www.vta.spcomm.uiuc.edu/TBG/tbgt1-ov.html>

For a self-assessment tool to assess your style as a team player go to the Women's Business Center website on team building at:

<http://www.onlinewbc.gov/docs/manage/team.html>

Evaluating the Effectiveness of Your AT Team

If team members want to determine if their team is as effective and focused as it can be, Heathfield (2004) suggests attending to the "C's." Team leaders can use discussion of the "C's" to create an atmosphere of support and demonstrate their receptiveness to input from team members. The information gathered from discussing the "C's" help identify issues that may need to be addressed. Here a list of "C's" that can impact how AT Teams function:

- **Clear Expectations** - Do AT team members, administrators and other staff members hold shared expectations for what should be accomplished? How are those expectations communicated?
- **Context** - Do AT team members understand and appreciate why they are working as a team rather than as individuals? Do AT team members expect their skills to grow and develop as a result of working on the team? Is the AT team's role and purpose understood by others in the school? How do you know that?
- **Commitment** - Do AT team members want to participate on the team? Do they feel the team's mission is important? Is this ever discussed?
- **Competence** - Do AT team members feel that the appropriate people are participating? Do they feel they each have the skill, knowledge, and capability needed to accomplish their purpose? If not, do they feel they have access to resources and training?
- **Charter** - Has the school administration clearly identified the team's authority to make recommendations, implement plans, and garner cooperation from others? Has the AT team taken its assigned area of responsibility and created a vision and strategies to accomplish its purpose?

- **Control** - Does the AT team have sufficient support and latitude so that team members feel that they can accomplish needed tasks? At the same time do team members clearly understand their boundaries?
- **Collaboration** - Does the AT team understand and use specific group processes, especially for decision making? Do team members work together effectively? Has the team established group norms for things like conflict resolution and consensus reaching?
- **Communication** - Do AT team members communicate clearly and honestly with each other in a timely fashion? Are important issues discussed? Are diverse opinions welcomed and invited?
- **Consequences** - Do AT team members feel responsible and accountable for team achievements? Are successes viewed and celebrated as team accomplishments rather than individual accomplishments?

A self assessment for teams utilizing the “C’s” can be found in Appendix C.

Summary and Conclusion

A primary purpose of this monograph was to reflect on the importance of AT teams in school districts and to share the comments from members of 55 AT teams from across the United States in hopes that their observations and experiences can be helpful to other AT teams. These teams represent a cross section of all sizes of school districts and many different types of programs and staffing patterns. The data provided helps to define AT teams and to see that there are many ways to “do it well”. Understanding the forces that shape the creation of teams, who is typically on an AT team, how services are delivered, and how training takes place, helps to build a picture of AT teams across the United States. Knowing more about the issues that are facing teams today, makes us realize that regardless of size and location, we are all experiencing similar challenges. The strategies teams are using to address these concerns have application for others striving to provide assistive technology services to infants, toddlers, children and youth with disabilities.

In this monograph, the importance of building effective teams is addressed. The magnitude of effective leadership, and clear definitions of a team’s functions and responsibilities is discussed. The development of local capacity (e.g., someone knowledgeable in each school building and on each IEP team) was identified as both a critical issue and a strategy for expanding the overall knowledge of assistive technology in school districts. Additionally, the unique challenges of meeting the needs of students with low incidence disabilities vs. high incidence disabilities were highlighted.

Certainly, additional data from a larger number of school districts, both public and private, would help to further understand patterns of service delivery and their implication for funding, staff development, and administrative action. Based on the surveys reviewed, additional data should be gathered on the AT needs of students with hearing loss or visual impairments, and address whether there is a need to further integrate those services with the provision of other AT services in school districts.

It is our hope that this monograph will nurture the development of new and established AT teams, by helping them recognize the challenges that are inherent to functioning effectively, and by helping them understand the issues they will likely encounter. Above all, this monograph seeks to encourage teams to keep up the good work.

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Appendix A

AT Service Delivery Questionnaire

Information provided by:	Date:
Position/title:	
Organization:	
Phone: work:	
Email:	

1. Indicate the type of service delivery your AT team provides:
 - Statewide
 - Regional (many districts within a state)
 - Large single school district (more than 500,000 students)
 - Medium single school district (serving 50 to 200 schools)
 - Small single school district (under 20,000 students or under 50 schools)
 - Rural (multiple districts that are geographically spread out)
 - Collaborative: independent agency serving a group of school districts
 - other: _____

2. How many schools are there in the district your AT team serves:
 - 1-25
 - 25-50
 - 50-100
 - 100 – 200
 - 200- 300
 - 300-400
 - 400+

3. How long has your AT team been officially delivering AT services?
 - 1-5 years
 - 6-10 years
 - 10-15 years
 - 15-20 years
 - 20+ years

4. How many staff (professional, administrative and technical/clerical) are on your AT team?
(indicate discipline and full time or part time status)

Position	# of full time staff	# of part time staff
Administrator		
Speech-Language Pathologist		
Secretarial		
Occupational Therapist		
Physical Therapist		
Special Educator		
General Educator		
Technical specialist		
Paraprofessional		

Other:		
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5. What forces initially shaped the creation of AT services in your school system?

6. Indicate the percentage of time your AT team currently spends on the following?

Student assessment for AT _____%

Consultation to staff on AT _____%

Structured/formal training to school staff _____%

7. What types of student populations does your team serve?

Birth-3

ages 3-21

AAC users

Physically disabled

Deaf/HOH

Visually impaired/blind

Learning disabilities

Other: _____

8. What are the biggest challenges in the delivery of services to high incidence populations (LD)?

9. What strategies have been most effective in providing services to LD students and staff?

10. What are the biggest challenges in the delivery of services to low incidence populations?

11. What strategies have been most effective in providing services to low incidence students and staff?

12. How do you deliver staff training? (Check all that apply)

1 to 1

small groups

large groups

on-site

centralized sites

after school

full day

distance education

summer workshops

large conferences

other: _____

13. What are some unique AT- related strategies and innovations that have worked well for your school system?

14. What issues are still unresolved for your AT team?

15. What issues are still unresolved regarding AT for your district(s)?

16. May we contact you by phone or email to discuss AT service delivery?

yes

no

Appendix _B_

Team Building Issues as Described by Survey Respondents

Team Building Issues –Large Agencies and Districts

- Recruitment, training and retention of talented, experienced and versatile AT staff
- Determining the most effective means of service delivery
- Large number of referrals relative to the size of the staff
- Meeting the needs of the large number of students with mild disabilities
- AT team is in a start up mode and not formally recognized

Team Building Issues –Small and Medium Districts

- Doing all that the team is responsible for given team size and resources
- Lack of time to do all the little things: equipment returns, mailing, loading software
- How to deliver AT services and training efficiently with limited staff
- Developing policies and procedures to define what the team is doing
- Defining the roles and responsibilities of AT team members
- Lack of AT specific job descriptions
- Insufficient team members to continually monitor student's AT use
- Lack of time to coordinate with other service providers
- Building a team when all AT team staff are part time and have additional assignments
- Lack of AT expertise to facilitate AT/AAC selection and use
- How to maintain AT expertise when technology continually changes
- Maintaining quality of AT services in light of staff turnover and student transitions
- Developing effective models of AT implementation
- Best approaches to serving students with mild disabilities
- Need to develop guidelines for documenting the need for AT
- What constitutes AT assessment
- Timely completion of AT assessments
- Parental pressure to provide technology that is not needed
- Best strategies for developing communicative competence in AAC users
- Limited collaboration between AT and IT staff
- Refining procedures related to AT services
- Minimizing paperwork related
- Where do we go from here?

Equipment Issues as Described by Survey Respondents

Equipment Issues–Large Agencies and Districts

- Maintenance and insurance for AT equipment
- Transition of equipment school to home, and across grades and schools
- Strategies for obtaining AT devices for students after they graduate

Equipment Issues–Small and Medium Districts

- When should long term loans become the school's responsibility
- Keeping track of software for students who change classrooms or schools
- Keeping an equipment inventory

Building Local Capacity Issues as Described by Survey Respondents

Building Local Capacity Issues–Large Agencies and Districts

- Getting the message about AT to all schools
- Communicating AT information down to the IEP team level
- Getting staff to “buy-in” to using AT with students
- Teams not referring students who might benefit from AT
- The need for districts to ensure that IEP teams carry out AT consideration at IEP meetings
- Getting districts to take ownership for AT decision making
- The need for schools to understand that AT is not a ‘stand-alone” service and that AT needs to be incorporated across the day
- Lack of time for school teams to learn, plan, implement and evaluate curriculum integrated AT strategies
- Making sure that related services staff (SLPs and OTs) have access to authoring software since they also develop adapted materials

Building Local Capacity Issues–Small and Medium Districts

- How best to inform all teachers about AT
- Lack of awareness about AT and available resources on the part of general educators
- Making sure that IEP teams really consider AT annually at IEP meetings
- Reluctance of general educators to take ownership of students with special needs and provide AT accommodations
- Getting teachers and families to follow through on AT plans
- Getting staff to consistently use AT
- Working cooperatively with school-based tech support staff
- Getting new schools to purchase AT for classrooms
- Best ways to share information with teachers
- Effective ways of involving parents
- Moving to more IEP team based decision that are based on identifiable needs
- The perceived amount of time AT requires from IEP team members
- Ensuring that schools know there is an AT team
- Increasing visibility of AT/AAC
- How to avoid becoming just a larger and larger department providing more and more services without school level ownership of AT issues

Training Issues as Described by Survey Respondents

Training Issues–Large Agencies and Districts

- How to reach all the staff who need training
- Best way to provide training to staff with limited release time
- The need to provide training that will have the greatest impact

Training Issues-Medium and Small Districts

- Identifying training needs
- Staff turnover and keeping up with training needs
- The need for continuous staff development
- Need for comprehensive professional development plans
- Lack of time for staff to learn new technology
- Release time for AT training
- Getting staff to attend training workshops after school

Evaluating Effectiveness Issues as Described by Survey Respondents

Evaluating Effectiveness–Large Agencies and Districts

- Monitoring and measuring outcomes for AT services
- The demands of AT follow up to many schools
- Large geographic areas make follow up difficult

Evaluating Effectiveness–Medium and Small Districts

- Effectively following up on students using AT
- Accountability linking use of devices to student progress
- Documenting trial periods
- Data collection

Funding Issues as Described by Survey Respondents

Funding Issues–Large Agencies and Districts

- Sufficient AT team personnel and resources to be effective
- Insufficient funds for AT equipment in the budget
- Determining who pays for what
- Maintaining sufficient training resources
- Increasing student populations without similar increases in resources for AT

Funding Issues–Medium and Small Districts

- Insufficient staffing for team
- Lack of time and resources to provide effective training to staff
- Providing compensation to staff attending after hours training
- Funding for AT devices
- Lack of resources for AT Team staff to attend professional development workshops
- Need for a line item budget for AT
- Who’s budget does AT come out of?

Administrative Support Issues as Described by Survey Respondents

Administrative Support–Large Agencies and Districts

- Administrators who still believe that AT is expensive and unnecessary and block the provision of it
- Convincing administrators that AT is more than just computers

Administrative Support–Medium and Small Districts

- Limited interest in AT on the part of administration
- Need for a long-term strategic plan for AT
- Refining policies related to AT services
- Aligning district procedures with changes in site-based management in light of AT service delivery
- Policy that defines when schools are responsible for purchasing
- AT needs to be embedded in the district’s technology plan
- Policy on providing AT to private schools

Appendix C

Self Assessment for AT Teams

Strongly Agree

Strongly Disagree

1 2 3 4

5

Clear Expectations

AT team members and administrators hold shared expectations for what should be accomplished

Context

AT team members understand and appreciate why they are working as a team rather than as individuals.
AT team members expect their skills to grow and develop as a result of working on the team.
The AT team's role and purpose is understood by others in the school.

Commitment

AT team members want to participate on the team.
AT team members feel the team's mission is important.

Competence

AT team members feel that the appropriate people are participating on the team.
AT team members have the skill, knowledge, and capability needed to accomplish their purpose.
AT team members have access to resources and training.

Charter

The school administration has clearly identified the team's authority to make recommendations, implement plans, and garner cooperation from others?
The AT team has created a vision and strategies to accomplish its purpose.

Control

AT team members have enough support and latitude to feel that they can accomplish needed tasks.
AT team members clearly understand their boundaries.

Collaboration

AT team members understand and use specific group processes, especially for decision making.

AT team members work together effectively.

The AT team has established group norms for things like conflict resolution and consensus reaching.

Communication

AT team members communicate clearly and honestly with each other in a timely fashion.

Important issues are discussed.

Diverse opinions are welcomed and invited.

Consequences

AT team members feel responsible and accountable for team achievements.

Success are viewed and celebrated as team

Accomplishments, not individual accomplishments.

Areas that need improvement:**Steps to take:**