

# Augmentative Communication News

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## UPFRONT

This issue continues the focus on inclusive education begun in the last issue (Volume 8, No. 5). The expanded **Governmental** section highlights recent U.S. court findings as they may relate to augmentative and alternative communication (AAC) users and other students with severe disabilities. You may want to share this section with some of the parents, administrators and professionals in your area.

The **For Consumers** section takes a step back from what "oughta be" to what often "is" and considers how to help families who must decide about inclusion. In the expanded **Clinical News** section, I discuss the ingredients essential to inclusive education: Who needs to be involved? What

kind of classroom environments support inclusion? What has helped AAC users to have successful inclusion experiences? The **Equipment** section is a chart about using technology to support inclusive education. Thanks to Caroline Musselwhite and Pati King DeBaun for sharing their creative ideas. Other **References** are on page 8. Finally, I wish to acknowledge and thank Harvey Pressman for his support and contributions to both **ACN** issues on inclusive education.

If you registered for 1995 ASHA CEUs, the CEU test is included in this mailing. If you do not receive a test, please let us know immediately. Also, before mailing back your test, be sure to read all instructions carefully.

*(continued on page 2)*

## **Governmental** **Inclusive education:** **The legal test**

Over the past several years, a series of federal district court decisions in the U.S. have teased out some of the implications of the "least restrictive environment" requirements that are built into the Individuals with Disabilities Education Act (IDEA). There have been different nuances and points of emphasis in different areas of the country, but the basic assumptions and conclusions that courts and educators throughout the United States (and other countries)<sup>1</sup> have been gravitating toward with respect to students with AAC needs are likely of greatest significance to professionals and family members.<sup>2</sup>

One consistent theme across all these cases is the firm conclusion that, like the presumption of innocence in U.S. law, there is a "presumption of the right to an inclusive education" for all children, no matter how severe their disabilities, until and unless a school district can demonstrate that placement in a regular class with appropriate support services and supplementary aids will not provide benefit for the student. Thus, the burden of proof has shifted. A school system must demonstrate the necessity for segregation before denying a student the opportunity to be included.

The IDEA specifically requires that: *(continued on page 2)*





**UPFRONT** (continued from page 1)

The conference portfolio *Measuring Outcomes: Next Steps in AAC and Assistive Technology* will include information on various dimensions of outcomes measurement (Cost, Functional Status, Quality of Life, Satisfaction), on levels of outcomes measurement (individual, program, system) and on population characteristics (children, adults with acquired disabilities, adolescents and adults with severe disabilities). We anticipate the portfolio's availability sometime in late April. A limited number of copies can be purchased by those who do not attend the conference. Let me know if you are interested. I hope 1996 brings you much happiness.

Sarah W. Blackstone, Ph.D., CCC-SP

**The legal test** (cont. from page 1)

to the maximum extent appropriate, handicapped children . . . are educated with children who are not handicapped, and that special classes, separate schooling, or other removal of handicapped children from regular educational environment occurs only when the nature or severity of the handicap is such that education in regular classes with the use of supplementary aids and services cannot be achieved satisfactorily [20 U.S.C. 1412(5)(B)].

**Making accommodations**

How has this provision been interpreted with respect to children in need of AAC services? In a case brought on behalf of "Daniel R.R." in 1989 (874 F 2nd 1036, 5th Cir., 1989), the court stated that the first step in checking compliance is to examine whether the schools have "taken steps to accommodate the handicapped child in regular education." The court explained that, since IDEA requires schools "to provide supplementary aids and services and to modify the regular education program when they mainstream handicapped children, [the schools are] in violation of the Act's express mandate to supplement and modify regular education [if they have made] no effort to take such

accommodating steps." And even if the schools are providing supplementary supports and modifications, the courts still have to examine "whether its efforts are sufficient." The Act does not, the court stressed, permit schools "to make mere token gestures to accommodate handicapped students; its requirements for modifying and supplementing regular education are broad."

**Determining benefits**

The court next set forth the requirement that schools examine whether the child with the handicap will benefit from regular education, while underscoring the importance of not placing too much emphasis on academic achievement. "Academic achievement;" the court reiterated,

. . . is not the only purpose of mainstreaming. Integrating a handicapped child into a non-handicapped environment may be beneficial in and of itself. Thus, our inquiry must extend beyond the educational benefits that the child may receive. . . For example, a child may be able to absorb only a minimal amount of the regular education program, but may benefit from the language models that his non-handicapped peers provide for him. In such a case, the benefit that the child receives from mainstreaming may

tip the balance in favor of mainstreaming, even if the child cannot flourish academically (1049).

The court took this argument one step further, striking another blow for what school people call "heterogeneous grouping."

. . . some handicapped children may not be able to master as much of the regular education curriculum, . . . This does not mean, however, that those handicapped children. . . are not receiving all of the benefit that their handicapping condition will permit. If the child's individual needs make mainstreaming appropriate, we cannot deny the child access to regular education simply because his education achievement lags behind that of his classmates (1047).

**Denying access**

The court recognized specifically that regular education placement may not be appropriate if the child is "so disruptive" that other students' education is "significantly impaired" or if the child requires "so much of the instructor's attention that the instructor will have to ignore the other students' needs"(1047). However, the court also insisted that a teacher's assistant must be considered to lessen the burden on the teacher.

In the Greer case (950 F.2nd 688, 11th Cir. 1991), the court considered whether a school district was obligated to place a child with Down syndrome who "functioned like a moderately mentally handicapped child . . . with significant deficits in language and articulation skills" in a regular class with non-handicapped students at her neighborhood school. School officials wanted to place "Christy" in a segregated setting because: (a) they felt she required more attention than other children in the regular kindergarten class, (b) she was not keeping up with the curriculum, (c) she "required" repeated rehearsal and practice of

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basic skills in an individualized setting, (d) the school psychologist felt that, while she might make some progress in a regular class, she would make more progress in a special education class and (e) the special education administrator believed that Christy could not make progress in the regular class but could make progress in a self-contained segregated class, because, as she stated. "It was very clear that Christy's cognitive functioning level. . . is a severe impairment."

#### Allowing access

Despite the arguments of the school system described above, the court found that the school district violated the integration requirements of the IDEA (and the regulations which interpret section 1412) for a variety of reasons, including: (a) The IDEA "mandates that a handicapped child be educated in the regular classroom unless such education cannot be achieved satisfactorily with the use of supplemental aids and services," (b) "A determination by the school district that a handicapped child will make academic progress more quickly in a self-contained special education environment may not justify educating the child in that environment if the child would receive considerable non-academic benefit, such as language and role modeling, from association with his or her non-handicapped peers" and (c) "A handicapped child who merely requires more teacher attention than most other children is not likely to be so disruptive as to significantly impair the education of other children. In weighing this factor, the school district must keep in mind its obligation to consider supplemental aids and services that could accommodate a handicapped child's need for additional attention."

The 1993 Oberti case (Third Circuit) confirmed these findings and spelled out where the burden of proof resided. It stated that IDEA's strong preference in favor of mainstreaming would be turned on its head if parents had to prove that their child was worthy of being included, rather than the school district having to justify a decision to exclude the child from the regular classroom.<sup>3</sup>

The Third Circuit court underscored the use of supplementary aids and services as the key to resolving any tension between IDEA's presumption in favor of regular placement and providing an individualized program tailored to the specific needs of each disabled child. The court also found that "many of the special education techniques used in the segregated class could be successfully imported into a regular classroom" and that the regular teacher could be trained to apply these techniques.

In the 1994 Holland case (Ninth Circuit), the court backed the findings of the previous courts cited above and also relied more specifically on evidence that the eleven-year-old girl involved in the case:

- "derived significant non-academic benefits from regular placements, particularly in her social and communication skills,"
- "had developed greater self-confidence and independence," and
- was "excited and enthusiastic about school."

#### In a nutshell . . .

As in the other cases, the court defined four separate factors which are appropriate to apply in determining if a child with a disability can be satisfactorily educated in a regular class with supplementary aids and services:

1. The educational or academic benefits for the child in the

regular class as compared to the benefits of a special education classroom. (These estimates should include the benefits of all appropriate supplementary aids and services in both settings.)

2. The non-academic benefits of integration with non-disabled children. (These estimates may not be ignored or minimized.)
3. The effect of the presence of the handicapped child on the teacher and other children in the regular classroom. (These estimates should include the benefits to the other children.)
4. The costs of supplementary aids and services. (Even if the cost of appropriate supplemental aids and services would be incrementally more expensive than educating the child in a self-contained special education classroom, the school district may have to place the child in a regular education class, unless it is "so great that it would significantly impact upon the education of other children in the district.")

#### What does this mean to the provider of AAC services?

In the short run, it suggests that we may need to bone up quickly on skills that will help regular classroom teachers incorporate AAC users in their classrooms successfully. In the long run, it suggests we need to develop skills that enable us to work alongside regular classroom teachers and support students to use technology and strategies that foster learning, participation and functional communication in regular classrooms. In addition, we need to consider that bringing technology into regular classrooms, as well as our expertise in communication, language, literacy, and special software and hardware, may enhance the learning experiences of all the children, including those with AAC needs.



## For Consumers

### Supporting parents & family members

Most parents understand that inclusion will not necessarily make their already complicated lives any simpler. One writes:

Inclusion is not easy or simple. It is fraught with all the many challenges we had been warned about. . . What keeps us going is the absolute knowledge that our daughter, and others like her, deserve the right to become valid and valued members of the community. . . Our goals for Sydney's inclusion are far more realistic now than they were at the beginning. Our family is facing the real world and trying to put together the many pieces that go into preparing any child for an independent and fruitful adult life.<sup>4</sup>

Sydney's mother understands that the ultimate rationale for inclusive education is quite simple: Life is not a dress rehearsal. Think for a moment. Were you prepared for kindergarten? college? your first job? marriage? raising children? growing older? your current employment situation? Probably not. We all learn on the job. We learn by doing, watching, imitating others, being mentored, getting feedback, making mistakes and persevering. We learn from being with others who know things we don't know.

Another parent reflects on her daughter's experience in a segregated setting:

Rachel wasted her first year of school in a special day class for "speech-and-language-impaired" children. Her classmates had the same language difficulties as Rachel; some had behavior problems, too. All six were boys. She didn't learn the language of play because she never heard it."<sup>5</sup>

Rachel's experience underscores what the available research plainly demonstrates. Most education programs that segregate

children with disabilities in order to prepare them for a more inclusive setting sometime in the future, fail. In reality, the research tells us, the transition rarely occurs.<sup>6</sup>

The current state of special education in the United States is characterized by outcomes that truly are disturbing: (a) differential certification, categorization and placement of racial and language minority students; (b) high drop out rates, low graduation rates; (c) post-secondary graduation rates less than half of general education graduates; (d) the highest unemployment rate of any population subgroup (two-third of persons with disabilities are not working) and (e) limited community integration for adults with disabilities.<sup>7</sup> There is no reason to think that outcomes for students from other countries in segregated settings are any better.

#### Parent's decisions aren't easy

We all know of exceptions to the failures of segregated schooling. Some special classes, special programs and special schools have special teachers who do an excellent job of providing core educational experiences for students with AAC needs. Students who use AAC need opportunities to meet and learn from each other. However, good educational practices happen in regular classrooms too, and children who use AAC can and do meet each other in other contexts. Today, many children with AAC needs still remain in special classes or special

schools because families (and others) assume a child may not have access to: (a) professionals with expertise; (b) the right equipment; (c) the necessary supports and supplementary aids which are (illegally) not made sufficiently available in the inclusive setting; (d) other children who have similar challenges and (e) other students who need to learn similar things (*i.e.*, symbols, devices, strategies.) A particular child may be said to be too medically fragile, too cognitively delayed, or too disruptive. Parents may feel their child isn't safe in regular education. Also, some students lack an effective advocate; and that makes it too easy for administrators and staff to ignore their right to inclusion.

While some professionals and families continue to be skeptical about the ability of children who require AAC to get the same quality of educational experiences in an integrated setting, the courts (and a growing number of families, professionals and consumer advocates) are insisting that children should not have to sacrifice the obvious benefits of inclusive education to get the support they need to achieve their goals.

#### What can professionals do to support families?

Some AAC service providers will have to operate within segregated settings for some time to come. However, in a growing number of instances, we will be called upon to support families who are struggling to help their

### Table I. Resources for Parents

#### DON'T KNOW WHAT TO TELL PARENTS ABOUT INCLUSION?

Two good sources of information for parents are PACER and PEAK.

PACER (Parent Advocacy Coalition for Education Rights) distributes materials on *Least restrictive environment, Purposeful integration and Circles of friends*. PACER Center Inc., 4826 Chicago Avenue South, Minneapolis, MN 55417-1098. (612) 827-2966.

PEAK (Parent Education for Assistance for Kids) offers brief handout materials on a wide variety of subjects, including: *Pointers for successful integration, Do you have doubts about integrating your child?* and *What integration means and what it doesn't*. PEAK, 6055 Lehman Drive, Suite 101, Colorado Springs, CO 80909. (719) 531-9400.

children succeed in inclusive educational environments. Without the AAC community's support, inclusion won't be a viable option.

Over the past two decades I have known, and worked with, many families (and professionals) who have fought for the kind of inclusion that works. The names change, but the energy, commitment and frustration levels stay the same. Without a high degree of parent involvement and advocacy, most school districts do not seem to be able to sustain the motivation to change. AAC professionals, along with other educators, need to develop effective strategies to support parents and other family members. According to the PEAK Parent Center (see


Table I) and others, professionals can use the following strategies to facilitate family involvement:

- Listen to and respect family values and priorities.
- Support families and students in their efforts to become involved in extracurricular activities.
- Facilitate communication between families and teachers.
- Model collaboration with family.
- Involve parents in workshops, training, seminars & support groups by helping them attend.
- Connect one family to another.
- Connect families to school & community organizations (e.g., PTA.)
- Make sure the classroom teacher includes parents.<sup>8</sup>

#### What can parents do?

Events such as open houses, school performances, recreation

and sports events, field trips and classroom parties can build family-to-family connections and develop a focus on shared interests rather than differences. Also, flexible meeting times and locations, transportation support and child care during meetings can dramatically increase a family's involvement.

Regular communication between home and school—written reports, telephone calls, e-mail, visits and notebooks—further connect the school and home. Parents can also remind teachers that invitations to family members to provide training, share information or lend their special skills and talents to the school community may result in rich learning opportunities for all students and make a teacher's job easier. 



## Clinical News

### Helping

Some kind of help is the kind of help that helping is all about, and some kind of help is the kind of help we all can do without.<sup>9</sup>

The kind of help regular education teachers say they do not need is support personnel:

- addressing goals not identified or shared by the team.
- trying to help in ways that are not relevant to the classroom program
- providing help that disrupts classroom routine.
- giving help that is overly technical and specialized.
- pulling the child out to provide specialized services.

#### The right kind of help

How do support personnel go about helping a child who uses AAC to participate in a regular classroom? Two resources specific to students who use AAC are:

- *Including students with severe disabilities in schools: Fostering communication, interaction, and participation.*<sup>10</sup> This is an excellent

book that describes strategies for developing programs, modifying the curriculum and doing communication assessments and interventions in inclusive settings.

- The chapter "Educational integration of AAC users" in *Augmentative and Alternative Communication: Management of severe communication disorders in children and adults* describes a very useful approach to inclusion referred to as the Participation Model.<sup>11</sup>


#### First steps

The first step to helping is watching, listening and learning about the classroom. Of course, not all classrooms (or classroom teachers) are created equal. Among the things to watch for are:

- How interaction occurs between children who use AAC, their teachers, peers and support personnel.
- The teacher's instructional strategies.
- The space assigned to students who use AAC and their equipment and materials.

Most support personnel find it difficult to adapt and modify curriculum (and materials) or other-

wise influence the classroom experience for students who use AAC when the teacher lectures most of the day and expects individuals in the class to sit quietly and listen. Inclusion is far more likely to be successful in classrooms where teachers use instructional strategies and classroom practices that are effective for all students, including:<sup>12</sup>

1. **Cooperative learning.** According to many teachers, cooperative learning is the single most important instructional strategy supporting inclusive education. Cooperative learning means that groups of students work together to complete an assignment or solve a problem. Because everyone is responsible for specific tasks, students who use AAC (and others with special needs and diverse learning styles) can participate in meaningful ways. Teachers play the role of "guide on the side" rather than "sage on the stage."<sup>13-14</sup>
2. **"Hands-on" learning.** Experiential-based learning helps most students. Teachers often find that using concrete materials and setting up experiences designed to teach processes or concepts help children learn and remember (especially in science and math). (continued on page 6) 



**Helping** (continued from page 5)

**3. Thematic and multidisciplinary curricula.** When teachers identify themes and combine materials from several curricular areas into one unit, students with different strengths (and weaknesses) can work together. Likewise, when teachers, parents and support staff come together and bring their diverse expertise and interests to a class, learning opportunities are enhanced for all.

**4. Whole language instruction.** Children with disabilities, particularly those with severe communication impairments, desperately need to develop literacy skills. Current information about how children learn to read and write supports using a combined whole language and skills-based approach to teaching literacy. [Note: A 1996 issue of *ACN* will provide an update on literacy in AAC. Let me know if you have anything to share.]

**5. Curricular modifications.** Most students with severe communication impairment (SCI) in regular education classrooms require curriculum adaptations. At the very least, work loads often need to be decreased because it takes extra time to complete tasks. When students have multiple disabilities, including cognitive impairments, pre-occupational experiences in school and community settings are valuable inclusion experiences for achieving individual goals.<sup>15</sup>

Teachers report that adapting curricular materials for a child who uses AAC can help other students. In early grades, for example, teachers say that graphic symbols, manual signs, communication displays, and devices support other children in the class and make learning more fun for everyone.

**6. Use of instructional technology.** Computers are instructional and recreational tools that benefit the entire class. (See **Equipment** section in vol. 8, no. 5 and on page 8 of this issue.)

**The right kind of people**

The three critical elements to successful inclusive education are: (1) the teachers and other school personnel from general and special education, (2) comprehensive staff development programs and

(3) flexible time for teams to meet and plan together.<sup>16</sup>

Unfortunately, few universities are preparing regular and special education teachers, speech-language pathologists, or anyone else for that matter to deliver services in inclusive environments. Therefore, professionals and paraprofessionals generally have to adjust to their new roles on the job. This is not easy. It requires additional training and peer coaching. Below is a description of key personnel and their changing roles:

■ **Regular education teachers.**

Today's teachers are being asked to improve student outcomes, deal with a diversity of learning styles and incorporate technology and curricular changes into their classroom routines. Many feel they have too many students, too little support and resources and not enough time. Therefore, teaching a child who uses AAC can seem overwhelming. The kind of help a teacher needs includes: (a) finding ways for the student to participate in class activities; (b) understanding the student's AAC techniques, strategies and devices; (c) knowing how to facilitate interaction during class; (d) understanding how to help the student achieve his/her academic, social and behavioral goals; (e) using assistive technology as an instructional tool and (f) having people who help by adapting the curriculum and classroom materials so the child really can participate.

■ **Special educators.** Special educators are being called from self-contained classrooms to support children in regular education classrooms. Few are prepared. For one thing, most are unfamiliar with regular education curriculum. Yet, these transformed special educators are asked to be the architects and engineers of inclusion and to build bridges across shifting barriers. Training is necessary but available in only a few schools of education and through continuing education workshops. The role of *inclusion facilitator*

(also referred to as inclusion specialist or support teacher) is critical to the success of inclusive education.<sup>17</sup> It includes: (a) adapting curriculum; (b) offering strategies that increase participation and opportunities in all classroom activities; (c) supervising instructional assistants/student aides; (d) making sure IEPs are carried out; (e) collaborating with other professionals who support the student; (f) developing participation plans; and (g) advocating for fully inclusive school communities.<sup>18</sup>

■ **Support personnel.** Speech-language pathologists, occupational therapists, physical therapists, hearing and vision specialists, rehabilitation engineers also are being coaxed out of their clinics and cubby holes into classrooms. AAC team specialists supporting children in regular education bring their knowledge of symbols, devices, access techniques and computers. We are being asked to transform technology into the tools that increase a child's participation in the curriculum and provide access to class activities. All must remember that neither technology nor communication are the end goals. Both are means to the desired outcomes, which are, among other things, for children to participate, learn and make friends.

■ **Use of paraprofessionals/classroom aides.** Many children who use AAC require that a trained adult be in the classroom. In some cases, the assistant must attend to basic needs (toileting, feeding and so on) as well as facilitate interaction, set up materials, encourage independence and assist the classroom teacher with other students. How these individuals perceive their role and how much support they receive from other team members can determine a child's success. The reality is they are often dedicated, underpaid workers who may, without training, perceive their role as "doing for" rather than assisting the child and their natural supports/class-

mates to do the job for themselves.<sup>19</sup>

- **Use of classmates as tutors and "buddies."** The role of cross-age tutor, peer tutor or peer buddy provides wonderful learning opportunities that benefit all children. Studies have shown that these experiences positively affect attitudes of children without disabilities in long lasting ways.<sup>20</sup>

### What works?

Regular education classrooms are complex situations. Therefore, supporting a child who uses AAC often requires a "take it one step-at-a-time" approach. Some effective strategies are complex; other solutions are quite simple. Four examples follow:

**Example 1.** Diana is a third grader with cerebral palsy and severe communication impairment who had just begun an inclusive education experience. At one of the first team meetings, her classroom teacher said, "The students and I understand that there are lots of things Diana can not do. We want you to tell us what she can do."

The team realized their error. They were so focused on solving problems caused by her disabilities, they had failed to emphasize her abilities. Within moments, they generated a list. Example 1 was posted in the classroom. The teacher later reported that students who had treated her as a younger child because she was in a wheelchair and drooled now interacted with her like a peer. A similar idea from a physical therapist is to make a small photograph album of "can do" pictures. Each page can have a photo of the child walking, climbing stairs, playing in the playground, sitting at the computer, and so on. By adding words and symbols (e.g., ask me about my favorite program,)" the "can do" book can also serve as a conversation book.

Example 1. Diana Can . . .	
Raise her hand	Ask questions
Read at a first grade level	Do things on her own
Use caps and punctuation	Use the computer to write stories
Write her name	Laugh and tell jokes.
Tells you if she needs to go to the bathroom	Cut paper with special scissors if someone holds the paper


**Example 2.** A speech-language pathologist noticed it was difficult for Joe, a child in a sixth grade classroom with Down syndrome and motor impairment, to concentrate on his teacher. He had lots of "stuff" (AAC device, computer with educational software and low tech boards and books) and adequate support. One of the reasons for his difficulty was that support personnel keep distracting him, *i.e.*, they tended to talk to him or fool with his equipment when the teacher was talking. A classroom aide said, "Adults understand rules. Let's make some rules for the folks that work with him." Example 2 is his list of rules. It helped.

Example 2. Joe's rules for supporters. . . Thanks!
<b>Rule #1.</b> No talking to me when I'm working or when the teacher is teaching.
<b>Rule #2.</b> Be sure I can see the teacher and materials.
<b>Rule #3.</b> Don't fool with my equipment or search through my bag during instructional time.
<b>Rule #4.</b> Don't repeat what the teacher just said or interpret what the teacher says.
<b>Rule #5.</b> Don't correct my work. Let me make my own corrections unless the teacher says otherwise.
<b>Rule #6.</b> Provide me with positive, not negative, feedback.
<b>Rule #7.</b> Turn all my equipment on at the start of each day. Organize the low tech supplies.
<b>Rule #8.</b> Organize assignments at my work station and then let me do them myself or with my peer buddy.

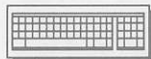
**Example 3.** Teachers always want to know what they should

do to help the student be successful in class. Example 3 is a list of six hints for teachers. The list serves as a focus for inclusion specialist and classroom teacher discussions. See also example 4.

Example 3. Six hints for teachers
1. Adjust quantity of work.
2. Decide what portions not to do.
3. Give assignments/instructions directly.
4. Assign peers to work with the child.
5. Tell support staff what is needed re: setting up for activities.
6. Increase opportunities to participate in group discussions (e.g., ask multiple choice questions, tell student to give first letters and let peer guess; give her a question ahead of time, give her time to construct the message, getting back to her.

**Example 4.** Regular classroom teachers often ask how they can include students who use AAC in class discussions. This is of particular concern when a student is not literate, because key vocabulary won't always be available. Also, the pace of most group activities deter teachers from waiting for students who communicate slowly. To help, inclusion specialists generated the list in Example 4, which can be modified to fit an individual student's needs. 

Example 4. Twelve steps to interaction
1. Encourage a peer to ask questions that facilitate interaction.
2. Be active. Deduce, guess and clarify.
3. Expand upon message.
4. Play the role of interpreter.
5. Help the student be creative.
6. Encourage the use of gestures.
7. If the student can sign, encourage them to use signs.
8. If symbols aren't available, use 20 questions.
9. Ask one question at a time.
10. Give the student extra time to respond and come back to him/her later.
11. Tell other students to allow extra time.
12. Use, and encourage the student to use, facial expressions and eye gaze.



**Equipment  
Using technology**

Technology can provide access to curriculum, allow students with special needs to engage in cooperative learning activities and

participate in daily lessons with peers. Table II has some creative ideas for using educational software developed for students in regular education, special software and AAC devices to support inclusion. These activities

represent a variety of age levels and curriculum areas.

For more ideas refer to *Emergent Literacy Success: Merging Technology and Whole Language* by Musselwhite and DeBaun. Available in the Fall of 1996 from Creative Communicating and Southeast Augmentative Communication Conference.

**Table II. Using technology to support inclusive education**

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<b>Activity</b>	<b>Writing (story construction);</b> Preschool+	<b>Independent reading at</b> <b>computer; Kindergarten+</b>	<b>Report writing (e.g., Science);</b> Peer/small group; Grade 2+	<b>Device as "Spinner"</b> Group; Kindergarten+
<b>Tools</b>	Macintosh/IBM Kidworks (DAV)	Simple stories on IBM, Macintosh, Apple II	IntelliKeys + Overlay Maker + IntelliTalk (IT); or Key Largo + Ke:nx + Write Out Loud (DJ)	Linear scan devices (e.g., AlphaTalker, DigiVox, Macaw, MessageMate)
<b>Technology Adaptations</b>	Click It (IT); Ke:nx (DJ)	Use student's device to independently read story	Create overlays to generate reports after hands-on activities	Enter messages, then select highest scan rate
<b>Instructional Adaptations</b>	Create a restricted set of 9 symbols by importing Board- maker symbols, KidPix stamps, etc. into My Words box. Sign in with name of story. Scan symbols (ClickIt or Ke:nx)	Choose stories that can be read using story-specific displays; thus stories may need very restricted total number of different words; Turn down computer volume for independence.	Peers perform experiment; student uses Macintosh and tools to write report. For example, Penny/Pencil/Toothpick . . . FLOATS?/DOES NOT FLOAT?	(1) Random selection of students names for turntaking (2) Spelling words, doing math facts for study partners (3) Story starters.
<b>Manu- facturers</b>	DAV - Davidson & Assoc. - (800)545-7677; (310) 793-0603 IT - IntelliTools - (800) 899-6687; (415) 382-5950 fax. DJ - Don Johnston, Inc. -(800) 999-4660; (708) 526-2682 fax		AlphaTalker-Prentke Romich (800)262-1900 (216) 263-4829 fax DigiVox - Sentient Systems (800)344-1778 (412)381-5241 (fax) MessageMate - Words+, Inc. -(800)869-8521;(805)266-8969(f) Macaw - Zygo Industries, Inc. (800)234-6006;(503)684-6006 (f)	

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