AAC, Employment, and Independent Living: A Success Story

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Abstract: It has been well documented that individuals with significant physical disabilities augmentative and alternative communication (AAC) face considerable challenges in finding and maintaining employment. This article documents the experiences of one individual, Anthony Arnold, a young man who uses a PathfinderTM for communication and a power wheelchair for mobility. In his own words, Anthony shares his experiences growing up in North Dakota and the progression of factors that education contributed to his development. communication factors, including access to technology, opportunities to practice independence, and the collaboration of professionals and family members, came together with Anthony's internal strengths to produce positive outcomes in employment and independent living.

Keywords: Augmentative communication, Employment, Disabilities, Independent living

Advances in technology coupled with legislative and policy changes during the past three decades have made employment a realistic goal for many individuals with disabilities. Nonetheless, in 2003 fewer than 40% of adults with disabilities between 16 and 64 years of age reported being employed (Stern & Brault, 2005). Even more discouraging, it has been estimated that fewer than 15% of individuals with physical and communication disabilities who use

augmentative and alternative communication (AAC) are employed (Bryen, Carey, & Cohen, 2005).

Employment Challenges for Individuals Who Use AAC

In the past decade, several research studies have explored employment issues for individuals who use AAC. In a 1996 study, researchers surveyed 25 adults who used AAC and who were employed in community-based jobs (Light, Stoltz, & McNaughton, 1996). The survey participants identified financial benefits, interactions with co-workers, and improved self-esteem among the positive impacts of employment. In addition, the financial benefits of employment provide individuals with greater autonomy and control over their lives (McNaughton & Bryen, 2002). Being employed impacts how individuals feel about themselves and how they are regarded by their neighbors and community (Blackorby & Wagner, 1996; Odom & Upthegrove, 1997). The benefits of employment for individuals with significant disabilities who use AAC are clear; yet, the road to employment is not.

Researchers have identified several factors that contribute to the bleak employment outcomes for individuals who use AAC. These factors include physical access barriers to workplace tools and environments, transportation problems, and personal care

issues (Inge, Strobel, Wehman, Todd, & Targett, 2000; Light et al., 1996). Physical and communication disabilities place limitations on the ability of individuals to perform specific employment duties, thereby limiting the range of potential job categories, and, in turn, making it more difficult to find a good match between the individual's skills and employers' needs (McNaughton, Light, & Gulla, 2003). In addition, employers who are unfamiliar with augmentative communication may not provide applicants with an adequate opportunity to demonstrate their skills and abilities (Bryen, Carey, & Cohen, 2005). For reason. networking this has recommended as a particularly valuable tool for individuals who use AAC, yet individuals who use AAC may have fewer network contacts than others (Carey, Potts, Bryen, & Shankar, 2004).

Literacy difficulties among individuals who have severe speech and physical impairments have been well documented (Koppenhaver & Yoder, 1992; Smith, 2005); many individuals who use AAC have not developed the literacy and problem-solving skills that employers are seeking (Bryen et al., 2005; McNaughton & Bryen, 2002). While growing up, individuals with significant disabilities receive little encouragement to explore job options; consequently, they often have not planned adequately for employment nor developed career aspirations (Odom & Upthegrove, 1997). A lack of prior job experience coupled with limited social experience may interfere with an individual's ability to fit into the workplace environment. Researchers have reported that some individuals who use AAC lack an understanding of workplace norms and have difficulty adapting to workplace culture (McNaughton et al., 2003).

Although many AAC users do not reach their full potential with regard to employment and independent living, a few success stories exist. The next section of this article explores the experiences of one individual with significant disabilities who uses AAC and who has overcome the barriers to employment described previously. It is hoped that sharing this story will stimulate ideas and strategies that can help other individuals who use AAC achieve their full potential and help families, teachers, and advocates for AAC users support them in their quest for employment and independent living.

A Success Story

The individual whose experiences are shared in this article is third author, Anthony Arnold. Anthony has athetoid cerebral palsy that affects all extremities; he has little or no functional use of unaided speech. He uses a power wheelchair and an AAC system to meet his mobility and communication needs. He accesses his AAC device with single-finger direct selection. The second author met Anthony when she was visiting Camp Courage in Maple Lake, Minnesota. At the time Anthony was a participant in "Teen Camp," a recreational camping program for teens with disabilities, primarily physical and speech impairments. She encouraged Anthony to apply to a program sponsored by the Disabilities, Opportunities, Internetworking, and Technology (DO-IT) Center. DO-IT Scholars is an award-winning program (DO-IT, 2006) that helps students with a wide disabilities of transition postsecondary education and employment through use of technology as an empowering (DO-IT, 2005; Kim-Rupnow Burgstahler, 2004). Once he was accepted, the first two authors came to know Anthony through his participation in DO-IT Scholars activities, which include summer programs on university campus, technology mentoring, college preparation, and workbased learning experiences. DO-IT is housed at the University of Washington in Seattle and is primarily supported by the National Science Foundation, the State of Washington, and the U.S. Department of Education.

At the time of the writing of this article, Anthony had been employed for more than five years and lived in his own apartment. Because he had achieved a level of success uncommon for AAC users, the authors thought Anthony's experiences might provide insights that would benefit other individuals who use AAC, their families, and the professionals who work with them. An email conversation began that explored Anthony's experiences growing up and his transition to employment and adult living. Some of the information that Anthony provided came from material he had previously written and presented (Arnold, n.d.).

Much of this story is told in Anthony's own words. As conversations unfolded, the first two authors identified several broad topics to provide organizational structure to Anthony's story; those topics include employment, communication, family and school experiences, and independent living. Both external factors (e.g., technology access) and internal characteristics (e.g., career aspirations) are discussed.

Employment

Anthony lives in North Dakota and works for the Prentke Romich Company (PRC), a developer and manufacturer of AAC systems and other assistive technology (AT) devices.

At the Prentke Romich Company, I'm currently a Remote Troubleshooter in the Technical Service Department during the nighttime and weekend hours, and I'm able to do this directly from my home in Grand Forks with the use of my telephone, computer, and Internet. I provide technical support for six models of communication devices. I serve all 50

states and sometimes get calls from Canada. The other Remote Troubleshooter and I have had great success. People usually enjoy talking to people who actually use the communication devices on a daily basis.... I'm also often involved in product testing, usually six months before official releases. This something I enjoy being part of. It gets exciting ... whenever something new is ready to get tested.... My other job at the Prentke Romich Company is as a Per Diem Representative for Eastern North Dakota and Western Minnesota. I offer presentations, demonstrations, and trainings, which is something I enjoy doing. I personally like working with younger children and give them hope for the future.

Early Work-Based Learning Experiences

Getting an AAC user's foot in the door, or, in this case, "getting your wheel in the door" (McNaughton, Light, & Arnold, 2002), can present challenges. We asked Anthony about his employment history and how he was able to get his wheel in the door at PRC. He told us that he found his first job while he was still in high school.

My work experience started the summer right before I attended the DO-IT Summer Study in 1994. I was so encouraged by being accepted to DO-IT that I felt like I could do anything and accomplish it. I was determined to find a job for the summer, so my parents decided to give me a ride to Job Services, and let me do my own advocating. Because of my disability, I qualified for a summer job-training program for youth. There I attended classes on interviewing skills and how to hold down a job.

Afterwards they placed me in a job at a computer store, doing data entry... I was at the computer store nearly 2 years, where I picked up some amazing technical skills, some of which I'm still using today at PRC.

After graduating from high school, Anthony enrolled in college at the University of North Dakota for a few semesters "until I realized that college wasn't for me at that time." Soon after leaving college he returned to Job Services and found a temporary job cataloging books at the University of North Dakota library. In addition, Anthony volunteered at local non-profit agencies, including the Options Independent Living Center in East Grand Forks. Anthony's success in the DO-IT Scholars Program (DO-IT, 2005) also provided opportunities that contributed to his self-confidence and broadened his range of experiences. For example, at the 1995 Closing the Gap Conference on technology for people with disabilities, he was a co-presenter with the director of DO-IT, teaching an audience of special education teachers how they could use the Internet to conduct research for themselves, as well as to enhance the academic programs of their students.

Goals and Aspirations

By this time Anthony was an exceptionally skilled augmentative communicator and had many ideas about how the technology could be improved to better meet his needs and the needs of other individuals who rely on AAC systems. Anthony decided to write to the President of the PRC with some of his suggestions and to express his desire to work in the AAC field.

When I was in the DO-IT Scholars Program, I had a long list of things I felt needed to be improved and/or incorporated into AAC technologies. I ended up sending my ideas to Barry Romich for possible consideration, and saying that I wanted to be possibly employed or involved at the Prentke Romich Company in the future. I wrote a nice letter introducing myself and stating my suggestions and interests... I spent a couple of years communicating with Barry and several other people in the field.

One thing I would suggest [to other AAC users] is that you state your wishes in a positive manner instead of coming on strong and demanding things. Individuals like Barry Romich want to help ... but don't have time to listen to rude requests and are likely not to respond to them either. I must have written a very positive letter because I'm now employed at the Prentke Romich Company.

Researchers have reported that many individuals who have significant disabilities fail to set high goals for themselves and/or to plan for employment; pessimism about job prospects may limit their career aspirations (Odom & Upthegrove, 1997). In contrast, Anthony developed career goals and aspirations early on.

As seventh grade rolled around.... this when Ι began seriously considering working at either the Prentke Romich Company somewhere else where I could help people communicate. Throughout my middle school and high school years, I remember continuously talking about this goal and boring people with talking about what I wanted to do in the future.

However, I did have a teacher who loved saying, "Anthony, stop dreaming, you will never work at the

Prentke Romich Company." And ... this year I celebrated my fifth anniversary there, so I'm proud to say, "I taught the teacher something." I did meet up with her once at a conference where I was representing the company, and I received the best apology I have ever experienced. She thanked me for teaching her what's actually possible for people with disabilities.

Anthony reported that his family played a significant role in encouraging his communication, determination, and career goals.

Communication Development

By the time Anthony wrote to Barry Romich at PRC, he had been using AAC systems for over a decade; however, when he was a young child there were few AAC resources available. Nonetheless, even before he received his first communication board, Anthony was a creative communicator.

Once I was sitting home with my parents, and I noticed that the first snow fall of the season was happening. Just like any other kid, I was excited and wanted to tell my parents, but I had no means of saying, "Look, look, it's snowing outside!" So I decided if I could point to the refrigerator and then to the outside window, I just might get that point across. As you can imagine, I drove my parents crazy with trying to figure out what I wanted to say until they looked outside themselves and saw that it was snowing. You can imagine how proud they were to realize that I knew how to communicate. Now, looking back on it, you might say communication has always been a priority for me. So it isn't surprising

that I have made this a major part of my adulthood to serve others with communication disabilities.

Home and Pre-School Experiences

Anthony was born in a rural area of North Dakota. Between his first and second birthdays his parents drove hundreds of miles each week to take him to therapy appointments. Soon after his second birthday, his family decided to relocate to Grand Forks where more resources were available for Anthony's education and rehabilitation. In Grand Forks, Anthony began attending an inclusive preschool program at the University of the North Dakota.

I have to remind you this was 1979, so IDEA [Education for all Handicapped Children Act of 1975, reauthorized as Individuals with Disabilities Education Act of 1990] and inclusion were fairly new concepts. This preschool was almost like their test drive of the new system, and they were integrating special education students and regular-ed students all within preschool one class environment. It was nicely put together, and I feel that everybody involved had a positive experience.

It was soon after Anthony's communication about the early winter snowfall that he received his first communication board.

My parents and therapists began noticing that I had the ability to communicate just a single point like "I want to eat" or "I need help," so they decided to work together and develop some means of communication. We ended up using six pictures taped on a clipboard, which was a great beginning step headed in the right direction, which is something I recommend for

other children today. You don't want something that overwhelms them at first, and you can always expand with time.

After the preschool at the University of North Dakota, Anthony was enrolled in a public school program where he had access to school district resources and support personnel. Anthony qualified for special education services as a result of the educational challenges presented by his physical and communication impairments.

After I left preschool at the University of North Dakota, I was enrolled in the Grand Forks Public Schools for another preschool program, where I had access to a teacher, paraprofessional, a speech-language pathologist and an occupational therapist, who were a great addition to parents and my rehabilitation team. They all worked nicely together. It was then that we developed a communication board with more symbols, and we added the alphabet and numbers to it.... Another thing my parents felt strongly about was to try to make my communication boards as user friendly as possible, because they wanted others to communicate with me as well.... By the time I left preschool, I was putting together 10-12 word sentences, including every part of speech. Being communication board user, I required somebody to always read what I wanted to say, and I used to frustrate people trying to read and remember what I was saying because my finger would move so quickly. Sure, I frustrated people by pointing so quickly, but they never stopped communicating with me just because of frustration. If they would have

stopped wanting to communicate with me, they would probably have jeopardized my determination to communicate.

Elementary and High School Experiences

In elementary school Anthony was included in general education classes, but spent time in the special education resource room as well. Like many individuals who use AAC, Anthony struggled with literacy.

I usually say that I had the best of both worlds instead of just one. I know that people tend to like and insist on having children included, which is great, but, besides my physical disability, I have some learning disabilities as well. So by going to the resource room I was able to focus on some of the harder subjects for me, like reading and spelling.

Fortunately, Anthony encountered teachers who recognized his potential and were persistent in their support of his literacy development.

My resource room teacher was very determined in teaching me how to read — come hell or high water! Writing and reading are the most important things you can teach a student with disabilities, especially when you're hoping for other future successes. Sure, it's hard work at times, but in the end it's probably the most rewarding.

During this time I was using a communication board with over 150 symbols.... We began to realize it would be nearly impossible to add more symbols on to my communication board and still

maintain my independent use of it, so we had to start looking at other alternatives that would provide what we wanted. This again called for everybody's input, including the physical therapist's and the occupational therapist's.

High-Tech AAC Systems

In October of 1985 one of Anthony's speechlanguage pathologists attended the Closing the Gap Conference in Minneapolis. It was there that she saw a voice output communication device for the first time.

She saw a TouchTalkerTM by the Prentke Romich Company that had the ability of storing vocabulary words under sequences, and it also had a computer-generated voice. moment she saw this, she said to herself, "I have the perfect candidate for this!" So she gathered the information and brought it back to present to my teachers, therapists, my parents, and me. We all thought that this was something we should really consider, so we decided to drive down to Sioux Falls, South Dakota. I think that everybody who went down there would do it again, because we were very pleased with what we saw. We decided to arrange a trial period with PRC. Something that I like about the majority of the companies today is that they allow trial periods before purchase. I believe that we were allowed to keep the device for 6 weeks. The trial use of the equipment was a great success, so we ended up deciding to purchase. Purchasing a communication device back in 1985 was almost like investing in the stock market, you didn't know what you would get in return. Back then insurance companies and school

districts weren't chipping in, so it fell back upon my parents to pay, which they did and I'm sure they would again if called upon.

I received my TouchTalkerTM in December of my second grade year, and I recall that was like the happiest day of my childhood by being given a voice I could independently use without needing somebody to read my communication board.

When I received my TouchTalkerTM in 2nd grade, I was one of the first in North Dakota ... to actually receive a communication device of any kind. There was basically nothing to go by, so it was like "the blind leading the blind."

Back then, there were no preprogrammed vocabulary packages like there are today. We had to program our own, which again called for input from everybody on my team to figure out what needed to be programmed. My two speech-language pathologists worked well together.... It's always good to form working relationships with everybody because sometimes they might have ideas that you haven't thought about.

It took a couple of years before my vocabulary was totally built up in my TouchTalkerTM. During this time, my parents expected me to take and use my TouchTalkerTM everywhere I happened to go and need a voice. My parents began to notice a big improvement in communicating with me. One time we were driving somewhere and realized it was the very first trip when my mom didn't need to get up to read my communication board. Everybody was

happy I could hold a conversation with them while they were driving. During this time, I formed more friendships at school because I had a way to communicate with other kids. We often talked on the phone and made plans, which was something my parents encouraged.

Anthony continued to use his TouchTalkerTM for several years. The TouchTalkerTM was followed by a LiberatorTM, which incorporated additional features including a notebook, calculator, and print capability as well as some computer access and environmental control. Anthony continued to use his LiberatorTM until he was hired by PRC.

I was hired by PRC right at the time of the introduction of the PathfinderTM, and they had some bugs to still figure out, so I was offered one to help work the problems out.

Professional Communication

Anthony now uses a Pathfinder PlusTM for communication. He worked on product testing for the Pathfinder PlusTM at PRC before its release to the public.

I must say these past five years working for the Prentke Romich Company have been some of the most powerful and best years of my life.... Since T started remote troubleshooting, I feel that we have gotten some great and positive feedback from customers that we have helped, especially parents of young beginning children to use communication device and other assistive technology. I know that when they hang up after talking and being helped by me, they have a better outlook on their child's future, and

probably begin working much harder to help them get more accomplished than they did before. To me, that's the biggest reward.

Independent Living

In addition to his communication device, the AT that has most impacted Anthony's independence and quality of life is his power wheelchair, an Invacare® Ranger. He reports that he received his first power chair at the same time as his first voice output AAC system.

I was introduced to my first power chair (that was the 3-wheel scooter type) the very same month as my TouchTalkerTM ... which is something my parents and therapists would have differently, probably done separating the two a few months apart, because I was too overwhelmed in excitement instead of focusing on the learning and the new responsibility of both. I must say that both my power chair and my communication device are the center core to my independence, but I feel that the education and rehabilitation that went along with the communication device and power chair were a greater element than these two material items. Communication devices and power chairs are like lumber, and when lumber is delivered, it doesn't mean your house instantly gets built. The lumber is just the material you need to build with.

Self-Advocacy

As part of the DO-IT Summer Study program Anthony met other highly motivated teenagers with disabilities and lived on the University of Washington campus for one or two weeks, for two consecutive summers. His DO-IT Summer Study experiences coupled with his attendance at Camp Courage helped him develop skills for living away from his family, working with personal care attendants, and advocating for himself.

At Camp Courage they have a welltrained staff to provide personal care attendant service, which is good for both parent and camper to realize that separation is possible and needed. My first year of attending camp, I was very home sick... The first summer I remember only receiving one shower the entire week, and I'm somebody who prefers a shower every morning. Then my second year there I requested my normal shower routine. They had no problem with doing that and I was a much happier camper with my daily showers. I think they wanted me to learn how to advocate for myself instead of just following their lead. When I attended DO-IT, I was much better at communicating my needs/wants to attendants.

In the DO-IT Summer Study Program Anthony lived in a dormitory on the University of Washington campus and had his first experience supervising an attendant and managing his personal care needs on his own. That experience provided him with practice that proved valuable when he later moved out of his parents' home into his own apartment. Through DO-IT, Anthony also made friends with other teenagers with disabilities who had goals for careers and independence similar to his own. He continued to develop self-advocacy skills as he communicated with peers and mentors via the Internet, year round.

Developing Leadership and Technology Skills

Anthony's experiences with DO-IT strengthened his technology skills and

introduced him to online research and communications tools. As part of the DO-IT Scholars Program, Anthony participated in online discussions with other DO-IT Scholars and Mentors while he was still in high school. Today he is a Mentor to younger DO-IT Scholars and continues to participate in online discussions.

Technology, support from others, and his own determination have enabled Anthony to lead an independent life.

I use my PathfinderTM for my communication needs, my power chair for my mobility needs, a computer to help me with writing and stuff for work, a speakerphone to help me speak over the phone using my PathfinderTM, and an Infrared Receiver plugged into my computer to receive data from my PathfinderTM so I can use my programmed vocabulary and word prediction to generate writings like this e-mail.

When I was at Prentke Romich in June I got my cell phone integrated into my PathfinderTM, which lets me place and receive calls directly from my unit and has increased my level of independence and security dramatically.

I'm very independent (surprisingly), with a personal care attendant coming in an hour in the morning, and then she comes back at noon and feeds me lunch. At suppertime, I usually go over to my parent's house and eat with them, or sometimes they bring supper over to my house, especially on evenings I work because I'm too busy with technical calls. Other than that, I'm pretty much by myself, something I like because I get to focus on my interests.

Anthony has his own website (Arnold, n.d.) and spends time keeping it updated. He enjoys learning about technology, and surfing and chatting on the Internet. He is also a hockey fan and attends games at the Ralph Engelstad Arena in Grand Forks. He has a modified bicycle that he enjoys taking on long rides. He also serves on the board of directors of the Options Independent Living Center in East Grand Forks, where he volunteered after he left college. Anthony continues to take on new challenges and set new goals for himself.

The success that I have had helping customers has really encouraged me to try different things.... I decided to join a gym for weight lifting, which surprised everybody. I now can lift 10 pounds and use a machine called NuStep® without problems. I can balance myself for transfers, so nobody has to help me move anymore.

I'm also thinking about trying college again now that I know I can do something if I truly work at it. If I do that, I would love to become a rehabilitation engineer.... I feel that could open up more doors for people in the long run. My point here is if we can give an individual a job or something they love to do, not only that area of their life improves, but other areas improve as well.

It is an amazing feeling knowing what I have accomplished thanks to the right education, right rehabilitation, right staff and most importantly the right parents.

Discussion

Many factors – both internal and external – came together to support Anthony's successful transition to employment and

independent living. The external factors include (a) advances in technology opportunities to have access to technology, (b) a family that supported his goals for independent living and a career, (c) a strong professional support network, (d) opportunities to practice independence away from home, and (e) opportunities to interact with peers who had goals and aspirations similar to his own. Internal characteristics Anthony's persistence, attitude, self-determination, and hard work. Inherent traits and external supports converged to produce successful outcomes with respect to employment and independent living.

My desire to communicate ... I would say, came internally. But keep in mind that no communication device was introduced to me until age 8, so I always had to depend on somebody to read my communication board, and, frankly, if nobody had shown interest in reading my board, my desire to communicate would have disappeared. I have seen cases where this has happened, where the device only gets used at school and therapy, but when it gets home it's placed on the shelf and isn't used there or in any other environment. Due to this the children suffer in both their education and independence, and their ability to carry on a conversation isn't fully developed.

While growing up, Anthony had the good fortune to meet with educators and professionals who were supportive collaborators; but even when he encountered individuals who were not supportive--as in the case of the teacher who discouraged his career ambitions--he reacted with neither anger nor discouragement. Anthony reported that his teacher's negative comments served to strengthen his determination to prove her wrong. When he encountered that teacher years later he welcomed the opportunity to reverse their roles and educate the teacher.

AT, computer applications, and Internet access were external factors that together played a critical role in Anthony's success; they were necessary components, but were not sufficient of themselves. As Anthony stated, technology provides the building material, but human interaction is required to transform that material into a solid structure. The collaboration of parents, teachers, rehabilitation professionals, and program personnel provided Anthony with many opportunities; and Anthony made good use of the opportunities provided. The interaction between an individual and his or her support Anthony's community reciprocal. strengthened determination likely commitment of those who supported him, just as their efforts and commitment strengthened Anthony's resolve.

Another important factor in Anthony's employment success was the career field he chose to pursue. As noted earlier, when an individual has significant disabilities, it can be difficult to find a good match between the individual's skills and employers' needs. Anthony chose to pursue employment in the field that most valued his specific strengths and skills. By seeking employment in the augmentative communication field, Anthony transformed his AAC experience into a career asset. His choice of career field connected Anthony with an employer who understood disability issues and was supportive of his accommodation needs. Nonetheless, it was Anthony's AAC expertise and strong selfadvocacy skills that enabled him to secure employment in this field.

Anthony's story provides an example of independent living and employment outcomes that are possible for individuals who use AAC. The authors hope that Anthony's story

will stimulate ideas and strategies for other AAC users, their families, teachers, and support personnel as well as encourage others to report on the experiences of successful individuals who use AAC. Qualitative and quantitative research is needed to identify critical factors that lead to positive academic, career, and independent living outcomes for individuals who use AAC.

Outcomes and Benefits

Anthony was able to overcome the obstacles to employment that have been reported in the literature for individuals who rely on AAC. As a child, he received AT that was appropriate for his communication and mobility needs. With family and professional support he became skilled at using that technology. Growing up, Anthony was included in general education classrooms and participated in the broader community; he had the opportunity to develop appropriate social skills and he became a capable communicator.

Anthony worked hard to achieve academic and problem-solving skills he needed to become a successful, independent adult. He continued to develop self-advocacy and technology skills through participation in recreation and transition programs. He was eager to work and sought out job-training resources and opportunities while he was still in high school. After he left college he volunteered at nonprofit organizations and gained additional experience interacting in workplace environments. Anthony developed career aspirations early on and chose a field where he would be able to utilize his skills and strengths and where his communication methods and accommodation needs would be acknowledged and supported. He was proactive in creating a pathway into his chosen field. By developing the technology skills that allowed him to work effectively from home, he avoided the transportation and access challenges that often interfere with

employment for individuals with significant disabilities.

Anthony is a determined individual who has made effective use of the opportunities that have come his way and has never let the obstacles he encountered interfere with his progress or with the quality of his life. In the DO-IT Scholars Program at the University of Washington, we often say that access plus attitude is key to academic and career success. Anthony Arnold embodies this principle.

References

- Arnold, A. (n.d.). Welcome to my website. Grand Forks, ND: Author. Retrieved July 9, 2006, from http://anthonyarnold.net
- Blackorby J., & Wagner, M. (1996). Longitudinal post-school outcomes of youth with disabilities: Findings from the National Longitudinal Transition Study. *Exceptional Children*, 62, 399-414.
- Bryen, D. N., Carey, A., & Cohen, K. (2005). So you want to work?: Some lessons learned from five years of work with the RERC. In S. Osgood, R. V. Conti, & Z. Sloane (Eds.). Proceedings of the Biennial Pittsburgh Employment Conference for Augmented Communicators (pp. 17-24). Pittsburgh, PA: Shout Press.
- Bryen, D. N., Cohen, K. J., & Carey, A., (2004). Augmentative communication employment training and supports (ACETS): Some employment-related outcomes. *Journal of Rehabilitation*, 70(1), 10-18.
- Bryen, D. N., Slesaransky, G., & Baker, D. B. (1995). Augmentative communication and empowerment supports: A look at outcomes. *Augmentative and Alternative Communication*, 11, 79-88.
- Carey, A. C., Potts, B. B., Bryen, D. N., & Shankar, J. (2004). Networking towards employment: Experiences of people who use augmentative and

- alternative communication. Research & Practice for Persons with Severe Disabilities, 29(1), 40-52.
- Cohen, K., Bryen, D., & Carey, A. (2003).

 Augmentative communication employment training and supports (ACETS). Augmentative and Alternative Communication, 19, 199-206.
- Disabilities, Opportunities, Internetworking & Technology. (2005). DO-IT Scholars: A program to prepare high school students with disabilities for college and challenging careers.

 Seattle: University of Washington. Retrieved July 9, 2006, from http://www.washington.edu/doit/Brochures/Programs/scholars.html
- Disabilities, Opportunities, Internetworking & Technology. (2006). DO-IT Awards. Seattle: University of Washington. Retrieved July 9, 2006, from http://www.washington.edu/doit/Award/
- Education for All Handicapped Children Act of 1975, 20 U. S. C. § 1400 et seq.
- Individuals with Disabilities Education Act (IDEA) of 1990, 20 U. S. C. § 1400 et seq.
- Inge, K. J., Strobel, W., Wehman, P., Todd, J., & Targett, P. (2000). Vocational outcomes for persons with severe physical disabilities: Design and implementation of workplace supports. *NeuroRehabilitation*, 15, 175-187.
- Kim-Rupnow, W. S., & Burgstahler, S. (2004). Perceptions of students with disabilities regarding the value of technology-based support activities on postsecondary education and employment. *Journal of Special Education Technology*, 19(2), 43-56.
- Koppenhaver, D. A., & Yoder, D. E. (1992). Literacy issues in persons with severe speech and physical impairments. In R. Gaylord-Ross (Ed.), *Issues and research in special education* (Vol. 2, pp. 156-201). New York: Teachers College Press.

- Light, J., Stoltz, B., & McNaughton, D. (1996). Community-based employment: Experiences of adults who use AAC. Augmentative and Alternative Communication, 12, 215-228.
- McNaughton, D., & Bryen, D. (2002). Enhancing participation in employment through AAC technologies. *Assistive Technology, 14*(1), 58-70.
- McNaughton, D., Light, J., & Arnold, K. (2002). "Getting your wheel in the door": Successful full-time employment experiences of individuals with cerebral palsy who use augmentative and alternative communication. Augmentative and Alternative Communication, 18, 59-76.
- McNaughton, D., Light, J., & Gulla, S. (2003). Opening up a 'whole new world': Employer and co-worker perspectives on working with individuals who use augmentative and alternative communication. *Augmentative and Alternative Communication*, 19, 235-253.
- Odom, C. A., & Upthegrove, M. (1997). Moving toward employment using AAC: Case study. *Augmentative and Alternative Communication*, 13, 258-262.
- Smith, M. M. (2005). Literacy and augmentative and alternative communication. Burlington, MA: Elsevier.
- Stern, S., & Brault, M. (2005). Disability data from the American community survey: A brief examination of the effects of a question redesign in 2003. Retrieved June 6, 2006, from http://www.census.gov/hhes/www/disability/ACS disability.

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