TECH-NJ 2004

Assistive Technology for People with Disabilities

CONTENTS

GAINING CONFIDENCE FOR COLLEGE: ONE PERSON'S JOURNEY

by LeDerick Horne

I finally became a student after I graduated from high school. I started my journey as a college student at Middlesex County College in the fall of 1996. I was a very intimidated 18-year-old freshman with serious doubts that I would be able to survive college-level work. By the time I got to Middlesex I had developed a real fear of schools.

School had been the place where I felt inferior, awkward, and unwanted. It was in school at the age of nine that I had realized that I had trouble with spelling, reading, and math. It was in school that I was laughed at and belittled for not being able to do the same work as my peers, and it was in school that I was placed in special education classes that left me feeling segregated from both the main-stream student body and the opportunities that a mainstreamed education make possible. Like heavy textbooks placed in a book-bag, I carried my fears of school with me to college.

Overcoming Fears

Making the transition from high school to college is difficult for every young person, but as a young person with a learning disability I remember feeling as if my whole life was on the line and that I might not be able to rise to the challenge. For most of my time in high school I had felt that I was just getting by. The closer I got to graduation, the more frightened I became at the thought of what was going to happen to me once school was over. I could hardly write a grammatically correct sentence, I had trouble reading aloud, and my ability to do math was extremely limited. I lay awake at night worrying that I would only be able to find work as a janitor or a carpenter if I was lucky.
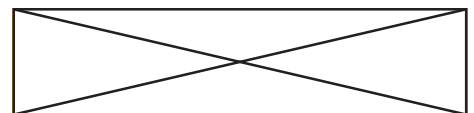
By my junior year the thought of not being able to make a living with my mind drove me into a deep depression. I questioned the value of my life and became extremely frustrated with the limited options my education had left me. I sank lower and lower and lower until I hit an emotional bottom.

It was at that point that I decided I had to at least *try* to overcome the negative perceptions that I had of my future. I decided that I would wrestle with my fears and not let them stop me from reaching my fullest potential. So, as graduation approached, I began to tell others and myself that I wanted to give college a chance.

Finding the Right Program

I enrolled at Middlesex County College based upon the advice of my high school child study team. Knowing that I had the desire to go to college and aware that my academic skills were very low, the child study team recommended that I start my collegiate education there because the college had a support program designed to offer additional help to students with documented learning disabilities. The program was called Project Connections. The child study team felt that I had a good chance of being accepted as a student because I showed a great desire to be in college and I had been mainstreamed for some classes during my senior year of high school. After filling out the application, with help from my guidance counselor and my mother, I submitted it to the

http://adaptivetech.tcnj.edu

T E C H - N J 2004

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Volume 15, Number 1

EDITORIAL

Self-knowledge   Self-advocacy

Self-knowledge and self-advocacy are the unanimous lessons of three of the articles in this issue of **TECH-NJ**. LeDerick Horne's personal story on the cover, the profile of Lauren George on page 4, and my article on the differences between receiving special education services in the Preschool - Grade 12 world and accessing "reasonable accommodations" on college campuses all reach the same conclusion: College is a definite possibility for students with disabilities; the law provides an *opportunity* for all applicants who meet qualification requirements to attend college.

However, to go beyond simply getting in the door — to *succeed* in college — students with disabilities must take the initiative to learn about themselves and to advocate for themselves. They must obtain in-depth knowledge about the nature of their disability and the kinds of strategies that support their learning, and they must learn to *speak up* and assert themselves so that they will be able to access the supports that will help them succeed. Readers can explore this topic in depth by checking out the informative resources that are listed on page 11.

In this issue of **TECH-NJ** I am also proud to highlight the work of Information Technology staff here at The College of New Jersey. Craig Blaha, Associate Director of Information Policy, Security & Web Development, and Matt Winkel, Web Designer and Usability Analyst, have begun an extraordinary initiative to make the college web site 1) accessible to people with disabilities, and 2) easy-to-navigate for all web users. Their linking together the concepts of "usability" and "accessibility" offers a logical and practical solution to the problem of hyperactive, inaccessible web page designs. A summary of the principles underlying their work is presented in the article on page 3, Web Usability Standards: Guaranteeing Access to All Users; links to their extensive web pages are provided on page 10. I hope their ideas and accomplishments will encourage other colleges and school districts to make web accessibility a priority in their technology plans.

                                                          A.G.D.

WEB ACCESSIBILITY

WEB USABILITY STANDARDS:
GUARANTEEING ACCESS TO ALL USERS

by Christina Schindler

While the internet has evolved into an amazing multimedia environment, the increasing complexity of web pages has created new barriers for people with disabilities. Have you ever been bombarded with pop-up messages and distracting animations when you open your web browser? Can you recall a feeling of exasperation when you cannot find the tiny "X" to close another bothersome pop-up? Now imagine the frustration of trying to find that "X" if you are using an assistive device such as a screen magnification program or a screen reader to access the web. As web sites add images, video clips, sound tracks, and other bells and whistles, they are creating an access headache for many people with disabilities.

An interesting development in recent years has been the coming together of web accessibility concerns with web usability issues. What is web usability? A "usable" web site increases its users' satisfaction and improves their ability to learn and remember the content of the site. A usable web site also reduces errors and leads to more effective and efficient use of the site. Research has revealed that people cannot find the information they seek on web sites about 60% of the time. This represents a waste of time, reduced productivity, increased frustration, and loss of repeat visits to web sites. Therefore, web developers have become increasingly interested in meeting web usability guidelines.

Because there is no such thing as a "standard" user, hardware, or navigation software, it is important that web pages be designed to support (1) all users, (2) all computer systems, and (3) all web browsers. By following web usability standards, web developers can produce web sites that support all three. Usability experts at organizations such as Bunnyfoot and the World Wide Web Consortium (W3C) have devised guidelines that enable web

**Accessible web page designed by Matt Winkel of Information Technology at The College of New Jersey.
Helpful usability and accessibility features are highlighted and labeled.**

SELF-ADVOCACY IS THE KEY TO SUCCESS FOR STUDENTS WITH DISABILITIES IN COLLEGE

by Ellen C. Farr

College graduate, fiancée, Bristol-Myers Squibb employee: these all are terms that describe Lauren George. A recent graduate of the history department at The College of New Jersey, Lauren landed a job submitting a new drug for approval from the FDA. She is also planning her wedding. One could say that she has a lot on her plate right now, but she does not seemed fazed by these major life changes. She is excited to be starting this new chapter in her life. This stands in stark contrast to her earlier experiences when going to school was a dreaded chore.

Early Frustrations

Lauren has been living with a learning disability that she was only able to name when she was a junior in high school. All through elementary, middle and most of high school, her teachers indicated that Lauren struggled to learn but never took any action to determine why. Frustration and more challenging coursework prompted Lauren and her parents to seek some answers on their own. A series of tests revealed that Lauren has attention deficit with hyperactivity disorder (ADHD) and visual and auditory processing difficulties. Reading is her number one problem. The test results meant changing high schools in the middle of her junior year because her former high school was not willing to make the necessary accommodations. This was the beginning of a new learning experience.

Discovering What Works

Lauren's new high school provided smaller class sizes and more attentive teachers. Being able to identify her problem allowed Lauren to begin to overcome the challenges she faced in school. She experimented with different strategies to help her cope with her difficulties and soon found some that worked. For example, she learned to allot more time to complete reading and writing assignments, and she rejected mental math in favor of pencil and paper. She also discovered that extended time on tests was a useful strategy.

Lauren considers her most valuable lesson at college to be learning how to self-advocate. She encourages other students with learning disabilities to take charge of their own education. Her advice to them is to contact the disability support office right away.

Lauren graduated high school, completed community college, then enrolled in The College of New Jersey. Ironically, the student who once dreaded reading elected to become a history major, which is a reading-intensive program of study. Considering her previous struggles, one would assume that Lauren would have sought assistance for accommodations at college. However, she admits that it took her a while to learn how to self-advocate.

After graduating high school, Lauren thought she would be just fine at handling her education at the community college. She took a few classes without registering with the disability support office and eventually discovered that she just could not keep up with the work. It was only then that she sought assistance.

After transferring to The College of New Jersey, Lauren somewhat sheepishly admitted, she again hesitated to ask for help. She thought she could handle the coursework on her own. Then, Lauren met Terri Yamiolkowski, coordinator of the College's Office of Differing Abilities. Through Terri, she learned about two important projects at The College of New Jersey: The Adaptive Technology Center for New Jersey Colleges and the Faculty Ambassador Project.

The Adaptive Technology Center for New Jersey Colleges, funded by the New Jersey Commission on Higher Education's Special Needs Program, assists college students who have disabilities meet the academic demands of college by providing access to appropriate technology tools. Through its lending program, Lauren was able to try two tools that helped her with her coursework: *WYNN* (www.freedomscientific.com) and *AlphaSmart* (www.alphasmart.com). *WYNN*, a scan/read program with a text-to-speech feature, is designed to assist students with reading and writing difficulties. Lauren found it especially useful when writing papers. The program would read back what she had written so she could hear her words as she read them. This bi-modal approach gave her a better idea of the construction of her paper than if she had only read it. Lauren could have also used *WYNN* to help her conquer the enormous amount of reading required of her as a history major. She could have scanned the text into *WYNN* and had it read it aloud to her. She elected not to use this feature, however, because scanning every page was too time consuming. She had five required reading texts for one history course alone! Instead, she devoted this time to carefully reading, and rereading when necessary, her assignments.

Lauren also borrowed an *AlphaSmart* from the Adaptive Technology Center. The *AlphaSmart* is a lightweight, portable word processor that allows the user to enter text, then send it to any computer or printer. She used the *AlphaSmart* outside of class to keep herself organized, particularly during meetings or study sessions. Due to its small size and long battery life, it was much easier to tote around than a laptop computer. With these tools, Lauren was better equipped to tackle her college coursework.

Educating Others

Lauren also became involved in The College of New Jersey's Faculty Ambassador Project. Funded by the U.S. Department of Education, Office of Post-Secondary Education, this three-year project emphasizes the concepts of equity and reasonable accommodations as they

college and was invited to an interview by a member of Project Connection's staff. The interview gave project staff an opportunity to see with their own eyes whether or not I had what it took to make it in college. I remember sitting in the interview thinking "not another psychologist trying to figure me out!" But, even with my less than ideal disposition, I was accepted into Project Connections.

Even before I stepped foot on campus, I understood that Middlesex was not just another school. Middlesex County College was an opportunity for me. It was an opportunity to reinvent myself, to pursue my fullest potential, and to begin developing the skills that would define my future.

My first year as a Project Connections student completely transformed me. I was assigned a counselor who helped me to understand my disability from many different perspectives. One of our first sessions together involved us reading through every Individual Education Program (IEP) report that had ever been written about me. For the first time in my life someone actually explained to me what my disability was and taught me strategies to circumvent my academic shortcomings. My confidence as a student doubled — no tripled — as I began to understand the unique way my mind worked. My counselor explained to me what accommodations were and how they would help me with my reading and spelling problems. For the first time I used books-on-tape for my textbooks, and I used word processing

software with a spell check to improve my spelling. I took most of my exams in a distraction-free testing room and was given time and a half to complete them. Testing in this way helped to remove the anxiety that I had felt when I had to take a test in the classroom with everyone else.

Supports Make a Difference

Project Connections also had an amazing adaptive technology lab. There were software programs that could translate my voice into text, and even machines that could scan any page of text and read it aloud. I remember feeling that with all the support from the Project Connection's

staff and with access to their adaptive technology lab, there would be very little I could not learn.

By the end of my first year of college I was excelling in all of my classes. I had learned how to write proper sentences,

essays, and research papers. I also began writing and performing spoken word poetry throughout the tri-state area (Editor's note: see page 6 for a sample of the author's poetry). Despite my earlier experiences, math became a discipline that I was pretty proficient in, so I started thinking about declaring myself a math major.

The best part of all my successes as a college student was that I was doing the same work, in the same classes, with the same professors as everyone else on campus. The stigma of "Special Ed" was gone and I was learning how to stand up for myself in the classroom. I got to the point that I could tell my professors exactly what kind of accommodations I needed to be successful in their classes.

I stayed at Middlesex for five years until I had enough credits to transfer to a four-year college. I eventually decided to transfer to New Jersey City University (NJCU) to finish my undergraduate studies in mathematics. NJCU was an ideal institution for me because it was a relatively small school with an excellent support program for students with learning disabilities called Project Mentor. Project Mentor offered me much of the same support that I had found at Middlesex, but by the time I got to NJCU I had developed to the point that the only regular help I needed was a second pair of eyes to proof-read my written assignments. I spent two years at NJCU and graduated with honors in the spring of 2003 with a B.A. in Mathematics and a minor in Fine Art.
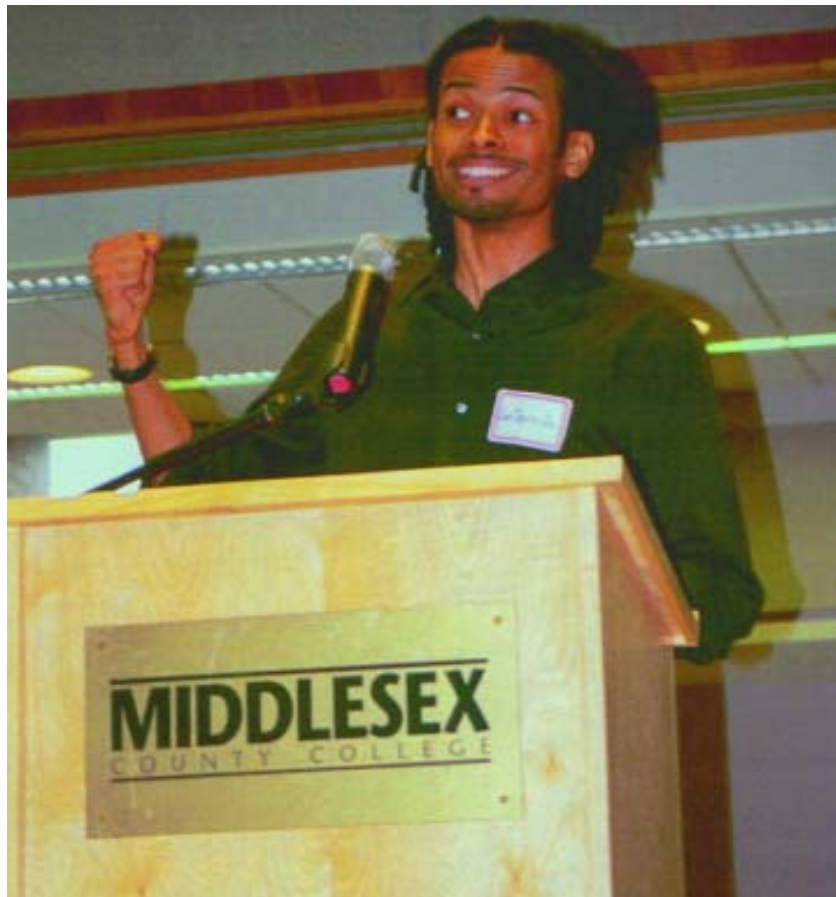
LeDerick Horne returns to Middlesex County College to offer support to current students.

Confidence for College
(continued from page 5)

Valuable Advice

In conclusion, I would like to give some advice to all the students who are reading this article and preparing to make that very intimidating transition from high school to college. The first thing I need to tell all of you is **Know Your IEP**. Having a clear understanding of your learning disability is the first step to advocating for yourself and gaining control over your life. You need to know how your particular strengths and weaknesses affect your ability to learn. So make sure you have a copy of your IEP and take the time to read it. If you need help understanding any part of it, ask your teachers, guidance counselors, or child study team members to explain it to you.

Second, **if you are thinking about going to college you have to prepare for it**. Take as many mainstream classes as you possibly can. The experience you get in those classes will help you handle the work you will have to do in college. You may have to fight with your child study team, but it is a fight worth having. It is important to remember that your education is **your** education. Taking control of the classes you take is one of the first steps in taking control of your life.

We are all different in some way, shape or form, and the sooner you can understand your differences and embrace them, the better off you will be.

Third, **make sure you go to a school that is right for you**. You will waste a lot of time and money if you do not do your homework before deciding on a college. Different schools will offer you different experiences, environments, and supports. It is important that you have a clear understanding of what you will need to be successful and find a school that will meet those needs. I am a person who likes small schools where you can have more contact with your professors and get extra help if you need it. I also like having the support of a program for students with learning disabilities. Some of you may work better in big schools with less support for your disability, but it is important to know what you need **before** you decide on a school.

And the last thing I have to say to all the students out there is **There Is Nothing Wrong With You!** I remember growing up in special education classes and thinking that I was crazy, stupid, and worthless. Our population is filled with extremely intelligent and artistic people who happen to process information differently than the "average" person. We are all different in some way, shape or form, and the sooner you can understand your differences and embrace them, the better off you will be.

LeDerick Horne is a guest contributor to this issue of **TECH-NJ**.

I got it like that.
(For the ones that add to life)

by LeDerick Horne

I've got soul.
I've got soul like
James Brown
sliding across a Chicago stage
in a blue sequin jumpsuit,
hair all a perm,
singing, spinning,
and being overcome by the funk
until, **BANG!!**
he is rejuvenated
by the rhythm

I've got rhythm.
I've got rhythm like
Ella Fitzgerald and Rahzel
wrapped up into one large
 "make the music with your
mouth"
hip-hop
    beat-box
        be-bop
            scat-daddy
machine,
installed in some
Village basement club
producing love
for the crowd

I've got love.
I've got love like
Malcolm X standing
behind the podium
at the Audubon Ballroom
staring out at a sea of black faces
and understanding,
understanding that
when liberation is your goal
you have to be willing to sacrifice
your own life

I've got life.
I've got life like
Anna Lavada Horne
staring deep
into the eyes
of her husband,
her son,
and her grandson
and knowing,
that although she was born
in a state of oppression,
a state of being
southern, black, and female
her life has made a difference,
it has made a difference
to all she has known
and loved

And I've got that love,
that rhythm,
and that soul
all rolled
up in my life,
and *man* ain't it nice
that I got it like that.

designers to develop pages that are accessible to all users. These guidelines are not strict black-and-white standards since every web site has a unique target audience and purpose; but rather, they offer general principles that web site designers can apply to their specific pages. The principles are presented below to offer a basic yet thorough overview of usability standards for accessible web design.

Quick, Informative and Easy to Use

Speed is the most critical factor in usability. Users demand fast downloads; if a page does not load in less than 10 seconds, research shows that users will move onto another web site. Large graphics and plug-in players such as *Flash* (www.macromedia.com) greatly impact download speed. On the one hand, these multimedia enhancements can augment a web page, but on the other hand, they also deter users by infringing upon download speed.

A web presence should not simply reproduce a document for the sake of having a web page. Rather, a web site should be concise and should produce content meant specifically for the internet. When a user enters a web site, the site's purpose and its intended audience should be clearly stated on the homepage. All content should fit on the screen without the user having to scroll. One widely accepted format that offers a remedy to scrolling is to present an overview at the top of the page that links to details below or on separate pages. Additionally, usability standards call for a date stamp on all content pages to ensure the user of current information. Intuitive and consistent navigation structure allows access to material in an efficient fashion. Designers have many different choices, including drop-down menus and side link bars, but regardless of design, it is imperative to keep navigation structure simple and easy to use and learn.

Since links are the heart of a navigation structure, when links become dead, user frustration often occurs. This has affectionately been deemed "linkrot," so keep links alive, especially external links, by testing them often. Links should also not be read as "click here" buttons. For people who are using screen readers to access the web because they cannot see, "click here" means absolutely nothing; instead, use contextual text links. Similarly, having pictures serve as links is a poor choice, because they do not change when selected and they are not viewable by people using screen readers, text-only versions, or versions with the images turned off.

Other positive navigational features of note include search functions to facilitate rapid retrieval of information; the escape or "back" button that allows users to return to the previous screen, and "breadcrumb trails" that provide a visual route of surfing through a web presence (see sample accessible web page on page 3).

A high quality web site means all users and devices will have the ability to access information on your site by whatever access method they use. Usability should be the driving force to guarantee equal access to all users.

PDF Files

Web content has grown to include downloadable elements such as audio, video, and *Adobe* PDF files and forms. While accessibility standards call for both audio and video files to have text equivalents, until recently PDF files/forms have been an accessibility nightmare, since they are essentially an image. The introduction of *Adobe Acrobat 6.0 Professional* (www.adobe.com) now provides web designers with various tools to make PDF files and forms more accessible to all users. *Acrobat 6.0* reads *Adobe* PDF files aloud using standard operating system text-to-speech programs, while *Adobe PDF Forms Access* makes fillable PDF forms accessible to those with vision impairments.

Aesthetically Pleasing

While web pages can showcase digital imaging and graphic design artwork, the graphics should not detract from the intended purpose of the page. Too often complex backgrounds (like "wallpaper") or large pictures seem to take forever to download and dominate a web presence. It is critical that a web site be visually appealing but not gaudy or overdone. Use page space and images effectively. If surfers have to scan through multiple images to find the text, they will become frustrated and will leave the site. Finally, to meet accessibility standards, all images need to be accompanied by an "alt tag" that provides a text description of the image for users who are utilizing a screen reader, have images turned off, or are surfing through a text-only view (see sample web page on page 3).

High contrast color, especially between simple backgrounds and font colors, is a critical usability standard. Furthermore for users who are color blind, text and graphics need to be understandable when viewed without color. Be sure to limit fonts for a more simple visual appeal, and use familiar fonts to insure their availability on a user's computer. Finally, shy away from animated text since it can be very frustrating to both users with visual impairments and standard users.

Content Layout

Aligning text to the left allows users to read more quickly and comfortably, thus affording emphasis to text that is centered or right justified. Additionally, text should only be capitalized where appropriate since it takes a user 10% longer to read all capital letters. Finally, web designers need to remember that web pages serve a completely different purpose than books. Web pages need to be created for scanability, not readability; thus bulleted and numbered lists should be incorporated often and repeatedly.

What We Don't See

Source code is the driving language behind all web page design, but it is hidden underneath the actual web page. The coding dictates exactly what we see on the screen and drastically affects accessibility

THERE ARE NO IEP'S IN COLLEGE

by Amy G. Dell

The laws affecting college students with disabilities and the process of obtaining assistive technology in college are completely different from the K-12 world. The Individuals with Disabilities Education Act (IDEA) is not in effect in higher education. Colleges have no legal responsibility to identify students with disabilities or involve parents in decision making. Parents are often surprised to learn that there are no IEP's in college.

Rather, in higher education the relevant law is a civil rights law – it protects people with disabilities from discrimination in admission to college and participation in college activities. The two federal laws that provide this protection are Section 504 of the Rehabilitation Act (originally passed in 1973, with subse-quent reauthorizations), and the Americans with Disabilities Act (ADA) (passed in 1990). The ADA states: "No otherwise qualified individual with a disability shall, solely by reason of such disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of a public entity, or be subjected to discrimination by any such entity."

In other words, a disability cannot be grounds for excluding a person from a college, an academic program, a class, a residence hall, or a college activity, if the person is qualified.

Reasonable Accommodations

Under Section 504 and the ADA, colleges must provide – at no cost to the student — "reasonable accommodations" to make their programs accessible to students with disabilities. Examples are scheduling a class in a first floor classroom to accommodate a student who uses a wheelchair, providing sign language interpreters for a student who is deaf, and arranging for extended time on tests for a student who has learning disabilities. In many cases providing an effective assistive technology tool is considered a "reasonable accommodation." Section 504 and the ADA use the term "auxiliary aids and services" to refer to devices and services that make programs and materials available to people with disabilities.

For example, auxiliary aids and services for a student who is hard of hearing may include the use of an assistive listening system because this device will offer the student an equal opportunity to learn from a lecture. Auxiliary aids for a student who is blind and a Braille reader may include a Braille printer and Braille translation software so that the student will have an equal opportunity to produce written assignments. For a student who has visual impairments, providing screen magnification software would provide access to the college's library's services and to computers for reading, writing, and research. For students who struggle with reading and writing, providing text-to-speech programs (e.g., talking word processing software and/or scan/read systems) for class assignments and testing may be an effective auxiliary aid.

Of particular relevance to the topic of assistive technology is that although colleges are required to provide auxiliary aids and services, they are not required to provide the most sophisticated technology available. It is acceptable for a college to provide a different technology product from the one which the student had requested. For example, the college may provide a different brand of screen reading software than the one originally requested.

Procedures for Obtaining Assistive Technology in College

In higher education the responsibility for documenting a disability and requesting accommodations falls on the *student*, not the educational institution. The college is not required to find or assess students who have disabilities. If a student chooses to keep his/her disability a secret, that is his/her prerogative, and the college is not required to provide any accommo-dation. The chart below summarizes the obligations of colleges and students with disabilities under the ADA.

What is particularly important to note is that the student must specifically *request* a piece of assistive technology as an accommodation if s/he believes it will

College and Student Obligations Under the Americans with Disabilities Act (ADA)	
College Obligations Under the ADA	**Student Obligations Under the ADA**
Ensure that qualified applicants and students have access to the college's programs	Self-identify that s/he has a disability (following the specific college's stated policies and procedures) Provide appropriate documentation of the disability
Provide reasonable accommodations for the student's documented disabilities	Request specific accommodation(s)
Demonstrate a good faith effort to provide the student with meaningful access	Follow the agreed-upon procedures for using the accommodations

provide access to the curriculum and an equal opportunity to demonstrate his/her knowledge. The accommodation must be clearly linked to the student's particular needs.

Legal and Procedural Differences Between the ADA and IDEA

Learning that the IDEA does not apply to higher education and that college students have a much greater responsibility if they are to receive accommodations (and parents have a greatly reduced role) is often a shock for students and their parents. Unlike the IDEA, which, under its "zero reject" policy, guarantees an education to all school-aged children, regardless of ability, the ADA protects only those individuals who meet the stated qualifications of a college or program. The phrase "otherwise qualified" in the ADA means that only those people who are able to meet the technical and academic qualifications for entry into a school, program, or activity are protected by the ADA. This means that although colleges are required to make what are called minor academic adjustments, they are *not* required to make substantial modifications to their curricula or course requirements. A good example of how this differs from the P-12 world is that although a reasonable accommodation may be extended time on tests and/or a distraction-free environment for testing,

Comparison of the Requirements and Procedures of the Americans with Disabilities Act (ADA) and the Individuals with Disabilities Education Act (IDEA)		
	IDEA (K-12)	**ADA (College)**
Rights guaranteed by the law	Free, appropriate, public education (FAPE)	Prohibits discrimination on the basis of disability
Who is covered	Every child; Concept of Zero Reject	Students who are "otherwise qualified"
Identification and evaluation of students disabilities	District is responsible for identifying students with disabilities, evaluating them, and covering the costs.	College has no such responsibility. Students must self-identify and provide appropriate documentation. If an evaluation is needed, the expense is the student's responsibility.
Determining services	Individualized Education Plan (IEP) developed by team Curriculum modifications and special programs are common.	Reasonable accommodations, including auxiliary aids and services, must be requested by student. Academic adjustments that equalize opportunity for participation are required; Substantial modifications to curriculum and lowering standards are not required.
Personal devices and services such as wheelchairs, hearing aids, and personal care attendants	Provided by district if determined to be necessary (and included in IEP)	Colleges are not required to provide these.
Role of parents	Parents must be included in decision-making	College students are over 18 and are considered adults. No parent consultation is required.
Appeals process	Right to due process as spelled out in the law	College grievance procedure, then file a complaint with USDOE Office of Civil Rights

Web Access

if certain protocols are not followed. These design guidlines should be followed to ensure usability for all surfers:

- ⇑ Refrain from using tables; instead opt for style sheets to provide consistency throughout a site.
- ⇑ Do not use pop up windows; they only annoy and frustrate users.
- ⇑ Do not use frames to structure pages; they provide numerous problems for users and search engines.
- ⇑ Use animation to enhance a page but do not overuse it; remember to make your animation accessible with alt tags.
- ⇑ Plug-ins such as *Flash* provide an enriched multi-sensory experience, but users need to have the plug-in installed to view it, so always provide an alternate form that does not require the plug-in.

Usability Checklists

To help facilitate the design of accessible and usable web sites, web usability checklists and check engines have been developed by leading usability experts. Use these resources to test and retest your web sites' usability. Remember, a high quality web site means all users and devices will have the ability to access information on your site by whatever access method they use. Usability should be the driving force behind web design to guarantee equal access to *all* forms of electronic media for *all* users.

Making Adobe Accessible

Information from Adobe:
http://access.adobe.com

Information from The College of New Jersey:
Building Accessible PDF Forms
www.tcnj.edu/~it/usability/index.html

Resources on Accessibility and Usability

Web Usability Overview
The College of New Jersey's Information Technology Department's Web Site
www.tcnj.edu/~it/usability/index.html

Web Accessibility Overview
The College of New Jersey's Information Technology Department's Web Site
www.tcnj.edu/~it/accessibility/index.html

Web Usability Checklist
www.tcnj.edu/~it/usability/checklist.html

Bobby
Free service to test the accessibility of web pages
http://bobby.watchfire.com/bobby/html/en/index.jsp

Bunnyfoot
The leading usability and accessibility consultancy in the UK
www.bunnyfoot.com

W3C – World Wide Web Consortium
Founded in 1994 to develop common protocols and standards that promote the Web's evolution and ensure its interoperability.
www.w3.org

Human Factors International
A user-centered design company whose mission is to improve the interactions that people have with computers. Offers a training program to individuals who want to become Certified Usability Analysts.
www.humanfactors.com

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Editor's Note: Special thanks to Matt Winkel of The College of New Jersey's Information Technology Department for help in preparing this article.

Self-Advocacy

pertain to college students with disabilities. The goal is to increase the achievement of college students with disabilities through the use of assistive technology and the involvement of faculty mentors. This is accomplished by educating faculty, staff and students on the role of assistive technology as a reasonable accommodation at the post-secondary level.

Lauren became a student ambassador for the project and learned what she considers her most valuable lesson at college: how to self-advocate. Lauren indicates that learning to self-advocate is "the most important quality you can build for yourself. If you can convey difficulties for yourself no matter what they are, then it is easier to prove that you are competent to perform the same tasks as everyone else." Being involved in the project helped her regain confidence in approaching professors and utilizing the resources that are available to college students with disabilities

Lauren encourages other students with learning disabilities to take charge of their own education. Her advice to them is to contact the disability support office right away. She admits she usually learns her lesson after one mistake and regrets that it took her so long to accept that she needed accommodations. With enhanced coping strategies and knowledge of available tools, Lauren is looking forward to beginning her career. She is not sure of all that is ahead of her, but she is planning on attending graduate school. And this time, she says, she will be sure to ask for help at the beginning of her graduate career.

Ellen Farr is an alumna of The College of New Jersey (M.S. in Educational Technology) and the Project Coordinator of the Teacher Effectiveness Grant.

No IEP's in College

the law does *not* require colleges to modify the *contents* of an exam. Another example is that colleges are not obligated to provide students with disabilities more intensive tutoring services than they provide to non-disabled students. The chart on page 9 summarizes the major differences between the requirements and procedures of the IDEA and the ADA.

Importance of Transition Planning in High School

In order to access and use technology tools effectively in college, students with disabilities must be adequately prepared in high school. The differences between the protections and procedures of the IDEA and the ADA described above make transition planning in high school especially important for students in special education who want to go on to college. Transition plans for students with disabilities who want to attend college must include the teaching of appropriate assistive technology skills *and* self-advocacy skills so that when they get to college, students will be able to assume the increased responsibilities associated with accessing accommodations.

Amy G. Dell is a professor in the Department of Special Education, Language and Literacy at The College of New Jersey and editor-in-chief of **TECH-NJ**.

Did you know that?

10,300 undergraduates in New Jersey self-identified as having a disability.

70% were enrolled at community colleges.

30% were enrolled at 4-year colleges and universities.

Source: New Jersey Commission on Higher Education's Special Needs Program Fall 2002 survey.

Students with Disabilities in Higher Education: Resources on Legal Issues

Postsecondary Education and Transition for Students with Learning Disabilities - Second Edition
by Loring C. Brinckerhoff, Joan M. McGuire, and Stan F. Shaw, Pro Ed, 2001.

The second edition of this book has been updated and expanded to include chapters on transition planning from high school to college; determining eligibility for services and testing accommodations; policy development; accommodation provision; service delivery options for college students with ADHD; and the latest advances in assistive technology. The chapter on legal issues provides a comprehensive summary on the differences among the IDEA, Section 504, and the Americans with Disabilities Act (ADA).

A CD-ROM included with the book has an appendix which contains nearly one hundred entries with examples of policies, procedures, and web sites that describe an array of resources. Program record keeping and data collection forms can be downloaded for reference and use.

Faculty Disability Services Handbook
by Salome Heyward, JD
Available from: Salome Heyward & Associates - www.salomeheyward.com

Ms. Heyward is the leading national legal expert in disability compliance in higher education. She is the author of *Disability & Higher Education* and *The ADA and Graduate and Professional Schools*. She also authored the Council on Law in Higher Education's *2002 Disability Compliance Brochure*.

This publication explains the role of the disability services staff, delineates the accommodation process, and summarizes recent decisions of the Office of Civil Rights and court cases. It lists "rules of the road" to follow when determining whether a student is otherwise qualified or whether a student is eligible for accommodations.

Students with Disabilities Preparing for Postsecondary Education: Know Your Rights and Responsibilities.
U.S. Department of Education Office for Civil Rights, 2002.
http://www.ed.gov/about/offices/list/ocr/transition.html

The HEATH Resource Center of The George Washington University, Graduate School of Education and Human Development, is the national clearinghouse on postsecondary education for individuals with disabilities. The clearinghouse serves as an information exchange about educational support services, policies, procedures, adaptations, and opportunities at American campuses, vocational-technical schools, and other postsecondary training entities.

HEATH resource papers, fact sheets, guides, and directories focus on topics such as accessibility, career development, classroom and laboratory adaptations, financial aid, independent living, transition resources, training and postsecondary education, vocational education, and rehabilitation.
http://www.heath.gwu.edu

NEW PRODUCTS

TestTalker

Freedom Scientific (publisher of *WYNN* scan/read software) has released a software product designed to help individuals experience more success with test taking, worksheet completion, and electronic form completion. *TestTalker* uses the same bi-modal approach as *WYNN* – simultaneously highlighting words as they are spoken aloud. Essentially, *TestTalker* provides a talking, computerized version of a test, worksheet or other form that can be completed electronically.

TestTalker is unique because it contains two modules - a Teacher Edition for creating tests and a Student Edition for taking tests. The Teacher Edition allows teachers to either scan in or open computer created tests and configure them so students can complete the tests electronically. The Student Edition reads the test aloud and enables students to answer the questions on the computer. The completed documents can then be printed for assessment. The program supports True/False, Multiple Choice, Fill-in, and Extended Answers.

TestTalker is an invaluable accommodation tool that maintains the integrity of the written test by not modifying content. By providing electronic versions of tests, worksheets and forms, the program enables students with learning disabilities to experience greater success in their academic endeavors.

Price: $399 (single copy)
For additional details and price information visit the web site at www.freedomscientific.com.

Premier Assistive Technology

Premier Assistive Technology has developed a suite of Windows-compatible products that addresses "reading and information transfer" needs for individuals with visual and mobility challenges. Individuals with learning disabilities, literacy challenges and English as a second language can also benefit from these products.

The suite of products includes the following 17 products and technologies: *Scan & Read Lite©, Scan & Read Pro©, Text-to-Audio©, Talking Word Processor©, Text Cloner©, Text Cloner Pro©, Talking Calculator©, Scan and View©, Complete Reading System©, Universal Reader©, OFF Limits© The Talking Web Browser, PDF Magic©, The Ultimate Talking Dictionary©, Predictor Pro© Word Prediction, The Talking Checkbook, E-Library* and *E-Text Reader*.

These low cost products are designed with simplicity in mind and feature both easy setup and "one-button" control for many key functions.

Grant Opportunity:

Premier Assistive Technology has established a grant program to help bridge the gap between education budgets and the economic demands of serving the needs and requirements of special education programs. This grant program will help to act as a catalyst to solidify special education/assistive technology programs. Qualifying applicants will receive products and support at no cost during the grant period.

For more information on products and to obtain a grant application, visit the web site at www.readingmadeeasy.com

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New from Recording for the Blind and Dyslexic

Last year Recording for the Blind and Dyslexic introduced their digital audio books. The products listed below offer different options for accessing the digital audio books.

Portable CD Players

The *Telex Scholar* ($249) and the *Victor Vibe* ($219) are portable CD players that read DAISY-compatible audiobooks. They provide CD navigation functions and playback features. These portable players are recommended for students and adults in grades 7 and up as a way to easily transport their players between school, work and home.

The *Telex Scholar* and the *Victor Vibe* offer the following features:

- Daisy 2.02/Daisy 2.0 playback
- Commercial CD and MP3 playback
- Numeric keypad
- Button navigation by page, chapter or section
- Bookmarking feature

- Voice speed-up/slow down
- Audio voicing of key functions and number entry
- Fast forward/rewind
- LCD screen display for viewing disc details

Portable Recorder

The *Plextalk PTR1* from Plextor ($895) is a portable recorder that lets users who are blind play back and record in Music CD, MP3 and Daisy 2.0/2.02 formats. Digital libraries can be created from live recordings, analog cassettes and internet downloads.

Features:

- 90 recordable hours
- CD-R/RW disc system with optional removable flash card
- Key describer announce key functions
- Voice guidance
- Built-in monitor speaker and microphone

- Calendar and on/off timer
- Voice calculator and notepad
- Internal flash ROM upgrade via USB
- Expandable PC Memory Card slot (Type II)
- SCMS (Serial Copy Management System) compliant

Software Playback Systems

eClipseReader ($84.95) and *Victor Reader Soft* ($109) are the latest additions to the digital books software product line. These are full-featured software packages designed to play RFB&D's AudioPlus CD books on a desktop or laptop computer. They are specially designed with the blind and visually impaired community in mind and have a well-designed user interface for individuals with learning disabilities. Appropriate for classroom reading labs or for home use, the *eClipseReader* and *Victor Reader Soft* are geared toward students at the middle school level and up.

Features include:

- Programmed to play RFB&D's AudioPlus books
- Navigation by page, chapter or section
- Compatible with screen readers
- Daisy 2.02 playback supported
- Multi-user management system

- Voice speed-up/slow down
- Bookmarking capability: unlimited
- Customizable user interface
- Drop down menus or keyboard shortcuts
- Built-in text to speech (for bookmarks and text notes)

For more information about these and other products/services offered by Recording for the Blind and Dyslexic visit their web site at www.rfbd.org.

NEWS FROM NJ REGIONAL CENTERS

The eight Regional Centers that are funded by the New Jersey Commission on Higher Education served over 1,000 students with disabilities last year. This column highlights their activities and accomplishments.

The Adaptive Technology Center for New Jersey Colleges at The College of New Jersey: The Adaptive Technology Center is working to increase collaboration and support among disability service providers at institutions of higher education throughout New Jersey with the following activities: updating the NJ Higher Education Disability Support Directory, posting the directory online, and developing and hosting the New Jersey Disability Support Services Listserv.

Camden County College: The Mid-Atlantic Postsecondary Center for Deaf & Hard of Hearing was featured on the front page of the national journal *Disability Compliance in Higher Education* in an article titled "How to Develop a Successful Note-taking Center." The article, which featured the note-taking program developed at Camden County College, is available free on the PEPNet web site: www.pepnet.org. PEPNet, the Postsecondary Education Programs Network, is a national collaboration of four Regional Postsecondary Education Centers for Individuals who are Deaf and Hard of Hearing.

Bergen County College: To kick off Disability Awareness Week in late February, Bergen County College mounted a production of Mark Medoff's play, *Children of a Lesser God*. The lead role of Sarah was played by Meral Aydin, a student of the Center for Collegiate Deaf Education; several other cast members are also CCDE students. Two of the performances were sign-language interpreted for the deaf.

Cumberland County College: Cumberland County College also featured a production of *Children of a Lesser God* this winter, and several Project Assist students served as sign language interpreters for the play.

New Jersey City University: In November, Project Mentor sponsored its 11th Annual Mini-Conference on Higher Education Opportunities for Students with Learning Disabilities. This turned out to be NJCU's most successful conference to date – over 250 people attended, including many area high school students. Most exciting, the keynote speaker was LeDerick Horne, a recent graduate of NJCU and Project Mentor, an alumna of Project Connections at Middlesex County College, and the author of the cover story in this issue of **TECH-NJ**.

Middlesex County College: Project Connections Annual Transition Workshop for High School Providers was a huge success in October, with over 120 guidance counselors, transition coordinators, child study team personnel, and high school teachers in attendance. On March 8, the project sponsored its Annual Disability Awareness Day which featured a presentation by LeDerick Horne, an alum of Project Connections (and NJCU and the author of the cover story in this issue of **TECH-NJ**).

Fairleigh Dickinson University: The Regional Center at FDU successfully launched its Newark Mentoring Project with the Science and Technology High School in Newark. In collaboration with the high school's transition coordinator, FDU is working to develop learning disabled high school students' interest in science and technology by bringing them on campus on Saturdays for study skills workshops and hands-on, inquiry-based activities with science and engineering faculty.

Ocean County College: Project Academic Skills Support has sponsored several successful workshops for faculty, staff, and transition personnel: A Fall Breakfast for High School Educators; a Faculty Development Workshop that featured the national expert, Loring Brinckerhoff; and a presentation by Laurie DiGalbo, Bureau of Rehabilitation Services, State of Connecticut, on issues in serving college students with psychiatric disabilities.

Ocean County College was selected by the State of New Jersey, Department of Education, Office of Specialized Populations for an on-site review regarding compliance with applicable federal laws. The evaluation team visited the campus to not only inspect all buildings and facilities for accessibility, but also to interview administrators, faculty, and students regarding accessibility of all programs. The visiting team found that the college was not only in full compliance with all federal laws, but that the Disability Resource Center/ P.A.S.S. Program was an exemplary program that should be replicated at other colleges.

I recommend the following program/product for consideration for inclusion in a future issue of TECH-NJ: **Part A**

Name of Program/Product: _____

Brief Description: _____

_____

Contact Person: _____

School/Company: _____

Street: _____

City: _____ **State:** _____ **Zip Code:** _____

Phone Number: _____

E-Mail Address: _____

My Name/Phone Number/E-mail Address: _____

TECH-NJ
The Department of Special Education, Language and Literacy
The College of New Jersey
P. O. Box 7718
Ewing, New Jersey 08628-0718

(FOLD HERE)   **Part C**

If you know anyone who would be interested in receiving a copy of TECH-NJ, please fill in below.

Name: _____

Street: _____

City: _____ **State:** _____ **Zip Code:** _____

Name: _____

Street: _____

City: _____ **State:** _____ **Zip Code:** _____

Center for Assistive Technology & Inclusive Education Studies
(CATIES)
at The College of New Jersey

CATIES is a research and service initiative of The College of New Jersey's School of Education. It is dedicated to improving the educational experiences of children with disabilities by linking faculty and staff expertise with the needs of New Jersey's educational community.

Funded Initiatives: With funding and support from the New Jersey Commission on Higher Education, the U.S. Department of Education, and The College of New Jersey, CATIES is working to realize its goal of enhancing the educational experiences of children with disabilities. Six projects are currently operating under CATIES:

- Adaptive Technology Center for NJ
- Faculty Ambassador Grant
- Deaf-Blind-Family & Community Educational Supports (DB-FACES)
- Teacher Effectiveness
- Teacher Quality & Capacity
- TECH-NJ (Technology, Educators, and CHildren with Disabilities – NJ)

Professional and Technical Assistance Services: CATIES serves the educational community by providing professional development and technical assistance. Its staff specializes in conducting hands-on workshops and providing technical assistance on using instructional and assistive technology to enhance teaching and learning, transitioning from high school, and for implementing strategies to support inclusive education practices. CATIES also conducts assistive technology evaluations on children with disabilities to determine which technology tools will help a child access the curriculum and succeed in school. In addition, CATIES performs functional behavior assessments based on positive behavior support practices.

For more information about CATIES projects please visit the CATIES web site at http://caties.tcnj.edu

CATIES is a Registered New Jersey Professional Development Provider.

THE COLLEGE OF NEW JERSEY

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