

**Literature Review of Transition to
College or University for Students who are
Blind or Visually Impaired**

Prepared for the American Printing House for the Blind

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Introduction

This report describes the educational experiences of young adults with visual impairments who attend postsecondary educational institutions. It is a compilation of information from peer-reviewed journals, and an investigation of publically available databases and reports completed as a part of studies such as the National Longitudinal Transition Study-2 (NLTS2).

The purpose of this literature investigation was to explore the trends and document the challenges and successes experienced by individuals who are visually impaired or blind in attendance at a postsecondary institution and who have just exited the K-12 public education system. Once the literature was gathered, the author submitted a report to the American Printing House for the Blind (APH). APH plans to use this information in a needs assessment of products and services related to the high-school transition years. These products and services will aim to help improve upon the strengths and overcome the challenges faced by this population.

To that end, the salient points from various literature sources are listed below. Common themes and findings are described. Recommendations for products and services related to this population and based on identified themes and findings are then listed. Table 1 lists all sources reviewed, and the citations highlighted in green in Table 1 were used to develop the themes and recommendations.

Common Themes

Online Environments

When comparing the information about students who are visually impaired to current online trends, a caveat should be kept in mind. The majority of peer-reviewed articles concerning students who are visually impaired and online learning are considerably older (2008–2012) than the data reported in the *Digest of Education Statistics 2013* (Snyder & Dillow, 2015). The most recent peer-reviewed article was published in 2012 (Kelly & Wolffe), and *AccessWorld* published an article concerning Blackboard accessibility in August of 2015 (Pauls); but most information sources were published much earlier. The separation of dates could lead to the impression that students who are visually impaired are doing worse than they actually are. A span of 2–3 years between current trends overall and the research in our field is a large timespan in the world of technology and access.

The growth in online learning environments for postsecondary college and university students has increased both in the number of institutions offering at least some type of online classes and in the percentage of students enrolled in an online class. The *Digest of Education Statistics 2013* (Snyder & Dillow, 2015) reports that approximately 70% of all institutions offer some type of online learning, with more than 95% of large institutions offering online courses. Additionally the percentage of students who take some portion of their classes online is approximately 27%.

Online environments can be challenging for students who are visually impaired. In some instances, it has been documented that it takes blind users twice as long to complete learning tasks in this environment as it does sighted users; and the visually impaired users receive significantly lower scores than their sighted peers when tested on the content.

Students who are visually impaired may not have as many experiences using the Internet in general as their sighted peers. In 2009, it was found that 35–50% of students who were visually impaired used the Internet, compared to 93% of teenagers as a whole (Kelly & Wolffe, 2012).

In addition to the increased amount of time for task completion and less exposure to the Internet overall, access to information in online learning environments was mentioned in several studies. Access was limited in the general university websites, in the learning management system itself, and in the types of materials contained within the specific courses (e.g., formats such as PDF, PowerPoint, graphics, and non-described videos).

Time

A common theme among many articles was that of time, specifically the lack of it. A lack of time was identified as a barrier to college success. More time was needed to complete readings, travel around and to campus, and obtain and access material. In addition, time was listed as a barrier in online learning environments in conjunction with completing timed tests

because of the nature of using assistive technology to access the environment itself.

Social Skills

The area of social skills was listed in many of the articles, as a barrier and as an area students needed to have mastered when they attend a postsecondary institution. The skills in this area range from interacting with classmates for assistance to interacting with professors in order to advocate efficiently for disability-specific needs. In addition, the topic of feelings of isolation and thoughts of being viewed as “on the outside” were listed as areas that caused people to quit.

Use of Disabled Student Office and Services

A number of the articles discussed services provided to students with disabilities. An interesting piece of information concerning this is the use of a human aide. The NLTS2 (2005–2009) determined that 60–75% of students with visual impairments used a human aide while a study conducted on all students with disabilities found that students who used classroom assistants were 20–40% less likely to graduate (Pingry O’Neill, Markward, & French, 2012). The same article found that students who used assistive technology and notetakers were less likely to graduate as well. This was not a causal relationship, but a correlational relationship. In addition, it may be that students did not take full advantage of all the services offered to them. A July 2012 Canadian study listed the various services available and the

percentage of students who used these services (Reed & Curtis). Most services offered have an approximate 50% or less utilization rate.

Barriers

Over time, the cost of attendance and the content difficulty of coursework are two factors that contribute to students who are visually impaired leaving a postsecondary institution. The percentage at which students left for these reasons increased by 11% and 18%, respectively, according to the NLTS2 (2005–2009). A third reason students in the NLTS2 study left as time went on was because of family reasons, specifically marriage and/or children.

The issue of access is found throughout the literature. Accessibility is an issue throughout all levels of the postsecondary experience. Lack of access was listed at the individual course level, with inaccessible documents, to the university level with lack of access to websites. The lack of access did not seem to be dependent upon learning environment (i.e., face to face or online).

Lack of understanding by others about the needs of students who are visually impaired was listed in several studies. This ranged from perceived attitudes of professors, feelings of having to do “more” to belong, and negative interactions with peers such as not being invited to social events.

Successes

Students with visual impairments are graduating from postsecondary institutions. In the data released by the NLTS2, the graduation rates increased from 12% to 48% from 2005 to 2009. This is most likely a function of age, as this is a longitudinal study. The majority of participants would have been too young to graduate in 2005.

There is limited literature on what leads to the successful completion of degree requirements at a postsecondary institution for students who are visually impaired. The majority of the literature focuses on barriers that students will encounter and assumes that overcoming the barriers would lead to success. Looking at why students successfully complete college was the topic of only two documents, one an article and the other a dissertation. A third article was listed, but it was inclusive of all students with disabilities. Consistent across both the studies specific to students with visual impairments was the use of disabled student services offices and the ability to form relationships with other students who are visually impaired, other students at the university, and with professors. A second area of agreement across the study of all students with disabilities and McBroom's study (1997) was the ability to self-advocate. Students who led their own Individualized Education Program (IEP) meetings in school were more likely to graduate from a postsecondary institution. This is congruent with findings by McBroom

that students need to be assertive, advocate for themselves, and know their legal rights.

Recommendations for Products and Services

While the research gathered here is not all inclusive, it is sufficient to be considered a critical mass of information, that is, enough has been compiled to make informed recommendations. The first recommendation is for APH to develop an online course and host the technology by which to deliver it. Given the large percentage of universities that utilize the online learning environment to some extent, it is conceivable that students who are visually impaired need to learn how to function in this type of learning environment. The overarching goal should be independent learning in an asynchronous environment through the use of technology and assistive technology. The content could be as in-depth as desired or necessary. At the very least, it should teach students how to navigate an online course; download, manipulate, and upload files; communicate via e-mail to a “professor” with questions; meet deadlines; and learn independently. APH could build the content in a learning management system, and then hand over the running of the course to a student’s teacher of the visually impaired (TVI). Students could register for the course, and Federal Quota funds could be used to pay for their registration.

A second area of need based upon the available research is in the area of curriculum development. A curriculum devoted to teaching necessary

skills and topics relevant to a successful college experience is needed. This could cover the areas of a 504 Plan, working with professors, understanding disabled student services offices, time management, and social skills for young adults. While these are five distinct areas, they are very much interrelated and are appropriate to teach at the high school level so that students obtain the skills and information before they attend a postsecondary institution. Individual curriculums could be developed for each area as well, but the most benefit would come from a combined, comprehensive approach. A brief description of each area follows.

While most students who are visually impaired have had an IEP while in the K–12 setting and were entitled to specialized services, modifications, and accommodations, they will receive a much lower level of service and support in the postsecondary setting. Understanding the difference between an IEP and 504 Plan and how to develop an appropriate 504 Plan is necessary for success in the next level of educational attainment. A curriculum developed on how to write and implement a 504 Plan could meet the need in this area.

The ability to work with professors is paramount to academic success for students who are visually impaired. While many of the requests students might make to a professor would be covered in a 504 Plan, there may be some that are not and could be beneficial to a student on a temporary basis (e.g., preferential seating during certain types or times of lectures). Knowing

how and when to approach professors to discuss the details of a 504 Plan is important as well. A professor is the gatekeeper to the content of the class and has the ability to meet the true intent of a 504 Plan or just fulfill the minimum to meet the basics of the plan. Knowing how to interact with a professor to meet the intent of a 504 Plan is critical.

A large percentage of students who are visually impaired use the campus disabled student services office. They need to know what services are offered, how to use those services, and how to advocate appropriately for services that may not be offered; this knowledge is essential to success at the postsecondary level. Again, learning this information and skills at the secondary school level is appropriate so that students can be ready to use the skills on the first day they attend college. In many instances, students may be working with this office while they are in the last stages of their secondary school years.

Social skills at the college level is an area of instruction identified in the literature as well. This curriculum area needs to be wide ranging to address not only how to participate in groups to complete academic work, but also how to be a member of the larger postsecondary community as well. Feelings of isolation and being perceived as an outsider were both listed as barriers by students who were visually impaired. A social skills curriculum developed exclusively for students in this age range could be extremely beneficial in overcoming some of these identified barriers.

Literature Synopsis

The common literature themes discussed in this document were gleaned from various sources, the vast majority of which were government data sources or peer-reviewed journals. It is a portion of all the articles and sources reviewed relative to the topic area. To be included in the synopsis, the source of information had to include some finding related to postsecondary attendance by individuals who were visually impaired. Once the sources were gathered, they were examined for common themes.

NLTS2 Data Tables, 2005-2009, www.nlts2.org

The NLTS2 gathered information on a nationally representative sample of youth with disabilities while in high school, and collected data from them during their young adult years. This longitudinal study followed students beginning at ages 13–16, in at least the 7th grade on December 1, 2000, through December 1, 2009, at which point the participants were 21–25 years old. In 2003, 95% of students with a visual impairment had a goal to attend a 2- or 4-year college.

- **2005, Wave 3, ages 18–21**
 - 98.5% graduated with a regular high school diploma.
 - If they had enrolled in a postsecondary institution, 0% had left without completing.
 - 12% received a postsecondary diploma, certificate, or license.
 - 71% who enrolled in a postsecondary institution started within 6 months of graduation from high school.
 - 58% received services from disability services office (DSO):

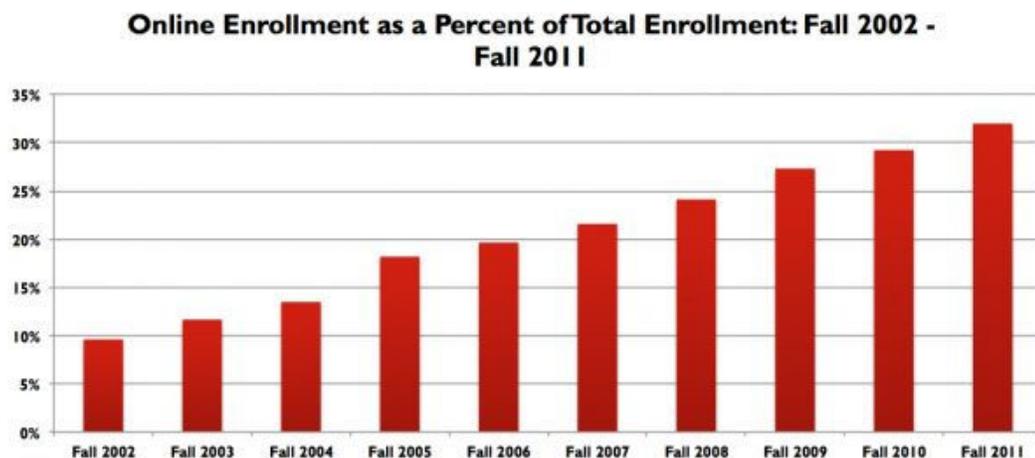
- Accommodations used: 78% testing accommodations, 74% human aide, 33% materials/technology, 33% out of class supports
- **2007, Wave 4, ages 20–23**
 - 71% who enrolled in a postsecondary institution started within 6 months of graduation from high school.
 - 36% received a postsecondary diploma, certificate, or license.
 - If dropped out, reason given:
 - 8% cost, 2% poor grades, 15% didn't like, 14% work, 21% changed schools
 - 60% received services from DSO:
 - 78% testing accommodations, 60% materials/technology, 60% human aide, 34% out of class support
- **2009, Wave 5, ages 22–25**
 - 78% started within 3 months of graduating high school; additional 15% started within 1 year.
 - 48% received a postsecondary diploma, certificate, or license.
 - If dropped out, reason given:
 - 19% cost, 20% poor grades, 13% family (married, children), 17% changed schools
 - 65% received services from DSO (highest disability category by 15%):
 - 93% testing accommodations, 67% Human aide, 66% materials/technology, 47% physical adaption to classroom, 35% independent living supports

Digest of Education Statistics 2013, 2015

Institute of Education Sciences, T. D. Snyder, & S. A. Dillow

- Approximately 27% of students take some type of online class (Table 311.15).
- 70.7% of currently active, degree granting institutions open to the public have some distance offerings.
 - More than 95% of institutions with 5,000 or more total students reported distance offerings.
 - 83.6% for institutions with between 1,000 and 4,999 students
 - 47.5% of those with less than 1,000 total students
- Babson Group

Figure 1. Online Enrollment as a Percent of Total Enrollment:
Fall 2002 – Fall 2011



Journal of Visual Impairment & Blindness (JVIB), May–June 1997

Making the Grade: College Students With Visual Impairments

L. W. McBroom

102 college students were questioned about skills that should be focused on in high school. They gave answers in the following areas:

- Transportation options and O&M skills were necessary for a student's success in college. These skills should be learned and practiced before the student enters college.
- Contact offices of services for students with disabilities and vocational rehabilitation and other disability agencies to determine what services are available and how the services match their needs. If essential services are not provided by a college, applicants will have to locate services elsewhere or choose another school.
- Talking with peers was extremely valuable because the information would come from people with visual impairments who were actually attending college. By talking with professors, students could solve immediate problems and avoid problems in the future.
- Using a variety of techniques, such as taking notes in braille, using readers for last-minute assignments, audiotaping classes, and condensing relevant information. They also noted that different reading media and accessible computers should be used in high school, so by the time students enter college, they will have perfected the techniques.
- Were forceful in stating that students with visual impairments must advocate for themselves, be assertive, and be aware of their legal rights. They understood that many supports provided to high school students are not provided for college students.

- Learn how to convey openly what your needs as a blind student are (and aren't), so people can appropriately help you.
- Develop good study habits in high school

JVIB, July 2012

Experiences of Students With Visual Impairments in Canadian Higher Education

M. Reed & K. Curtis

70 students

- 71% of the students who commented (or 58 students) stated that they received no advice or discouraging advice in high school about higher education.
- Academic Barriers identified by:
 - Staff**
 - Lack of timely access to materials 27
 - Poor attitudes of professors 16
 - Difficulties with adaptive technology 13
 - Inadequate preparation 9
 - Students**
 - Reading 53
 - The learning environment 43
 - Work in groups 27
 - Time to complete work 16
- Percentage of staff indicating that accommodations are available and percentage of students in the study who used each accommodation.

<u>Accommodation</u>	<u>Available Staff reported %</u>	<u>Students used %</u>
Adaptive technologist	67.3	51.4

Adaptive technology	89.1	85.7
Braille text options	72.7	24.3
Campus orientation	74.5	44.3
Computer notetaking	70.9	45.7
Disability counselor	89.1	71.4
Education/personal assist.	45.5	24.3
E-text, taped, text on CD	89.1	77.1
Exam accommodation	96.4	85.7
Note sharer	90.9	52.9
Orientation and mobility	45.5	45.7
Private tutor	54.5	27.1
Reader	72.7	35.7
Special librarian assist	60.0	37.1
Special seating	76.4	21.4
Taping lectures	74.5	55.7

JVIB, March 1999

Visually Impaired Students' Perceptions of Their Social integration in College

J. S. Hodges & M. J. Keller

Social integration theory (Tinto's 1987 model), 6 participants, seniors in college, 3.0 or greater GPA

- The inability to drive was a major problem for all the participants
 - hampered their time efficiency
 - lessened opportunities for social involvement
 - limited where they could live
 - transportation was limited and often unavailable during evenings and weekends when many social activities took place
- Uncomfortable or misunderstood interactions with peers

- Most interaction with classmates, rather than with other students on campus
- The strongest contributor to social involvement that the participants perceived was personal initiative
 - Participants reported taking the lead in initiating these interactions
- Participants advised potential students to initiate involvement with people or groups, rather than wait for others to approach them
- Recommendations
 - Increase Social Skills in High School
 - Clubs
 - Extracurricular activities
 - Buddy groups
 - Know how to work with others in groups as college classmates were main social group
 - In College
 - Live close enough to campus to get there independently
 - Join clubs related to academic interests
 - Peer mentoring in college or between high school and college

JVIB, October–November 2012

Internet Use by Transition-Aged Youths With Visual Impairments in the United States: Assessing the Impact of Postsecondary Predictors

S. M. Kelly & K. E. Wolffe

- Percentage of transition-aged youths who used the Internet, by wave.
NOT a significant increase
- | Wave | Percentage |
|------|------------|
| 3 | 35% |
| 4 | 44% |

5 49%

- In a September 2009 survey, the Pew researchers found that 93% of American teenagers were using the Internet (91% of boys and 94% of girls)—95% of the 14–17-year-old group and 88% of the 12–13-year-old group (Pew Internet Project, 2011).
- Those who attended postsecondary education or training were 5.32 times more likely to communicate with others online than were youths who did not.
 - This finding demonstrates the critical importance of youths with visual impairments being involved in postsecondary school to increase their likelihood of having the necessary technology-related skills to use the Internet regularly in today's high-technology climate.

JVIB, May–June, 1997

Steps to Success in College for Students With Visual Impairments

D. Vancil

Author developed transition curriculum described:

- Daily Living skills
 - Laundry, paying bills, organization skills
- Readers
- O&M skills
- Assertive, self-advocacy skills

Journal of Postsecondary Education and Disability, January 2012

Predictors of Graduation Among College Students With Disabilities

L. N. Pingry O’Neill, M. J. Markward, & J. P. French

- More likely to graduate when qualified for: (times more likely to graduate)
 - Alternative format 1.8
 - Distraction reduced testing 4.2
 - Flexible assignments and test dates 2.5
 - Learning strategies 2.4
- Less likely to graduate by 20–40% when qualify for
 - Assistive technology
 - Classroom assistant
 - Note taker services

Canadian Journal of Information and Library Sciences, February 2004

Digitally Enhanced? An Examination of Information Behaviours of Visually Impaired Post-secondary Students

K. Saumure & L. M. Given

Six students / qualitative (interviews and survey)

Factors that had a negative impact

- Time constraints in getting material and accessing available material
- Lack of independence in accessing some materials
- Lack of a support network/understanding of others as to needs

JVIB, September 2009

Accessibility of e-Learning and Computer and Information Technologies for Students With Visual Impairments in Postsecondary Education

C. S. Fichten, J. V. Asuncion, M. Barile, V. Ferraro, & J. Wolforth

143 low vision, 29 blind students in Canadian college. Types of assistive technology used, views on 18 different types of e-materials

Types of Technology Used

- Students who are totally blind (Percentage %)
 - Software that reads what is on the screen 96
 - Scanning and optical character recognition 88
 - Refreshable braille display 71
 - Software that improves the quality of writing (e.g., grammar and spell check, colors, and highlighting) 42
 - Alternative mouse (e.g., track ball and mouse keys) 8
- Students with low vision
 - Software that enlarges what is on the screen (e.g., magnification and zoom) 70
 - Software that improves the quality of writing (e.g., grammar and spell check, colors, and highlighting) 55
 - Software that reads what is on the screen 50
 - Large-screen monitor 46
 - Scanning and optical character recognition 34
 - Alternative mouse (e.g., track ball and mouse keys) 10
 - Dictation software 8
 - Adapted keyboard (e.g., large keys and an on-screen keyboard) 6
 - Refreshable braille display 4

Areas Where Needs Not Met

- Low vision:

- The availability of adaptive computer technologies in both specialized and general-use computer labs
- Use of e-learning for testing (e.g., online quizzes)
- School's technology-loan program
- Blind:
 - All the areas mention by low vision group, and
 - When taking distance education courses
 - When seeking informal help related to information and communication technologies at school
 - When attempting to access the library's computer systems
 - When their instructors used e-learning materials

E-learning portion of study

33 participants, 28 low vision, 5 blind

Types and Percentage of Problems Experienced

- Inaccessibility of websites or course management systems
 - Totally blind: 100
 - Low vision: 16
- Inaccessibility of course notes or materials in PDF
 - Totally blind: 40
 - Low vision: 16
- Inaccessibility of course notes or materials
 - Totally blind: 20
 - Low vision: 28
- Lack of needed adaptive technology
 - Totally blind: 20
 - Low vision: 12
- Students' lack of knowledge of how to use e-learning materials
 - Totally blind: 20
 - Low vision: 8

- Time limits of online examinations or assignments
 - Totally blind: 20
 - Low vision: 4
- Inaccessibility of PowerPoint or data projection during lectures
 - Totally blind: 20
 - Low vision: 4
- Technical difficulties
 - Totally blind: 0
 - Low vision: 12
- Lack of technology or software required for home access
 - Totally blind: 0
 - Low vision: 12
- Inaccessibility of audio or video material
 - Totally blind: 0
 - Low vision: 8
- Lack of interaction between students and instructors
 - Totally blind: 0
 - Low vision: 8
- Inaccessibility of course notes or materials in PowerPoint
 - Totally blind: 0
 - Low vision: 8

Types and Percentage of Solutions to Problems

- Unresolved
 - Totally blind: 40
 - Low vision: 52
- Obtained alternative formats
 - Totally blind: 20
 - Low vision: 16
- Devoted more time or effort

- Totally blind: 20
- Low vision: 16
- Non-e-learning solution
 - Totally blind: 20
 - Low vision: 16
- Instructor provided assistance
 - Totally blind: 20
 - Low vision: 8
- Student obtained or used technology or software
 - Totally blind: 20
 - Low vision: 8
- Disability service provider provided assistance
 - Totally blind: 20
 - Low vision: 0
- Friends or classmates provided assistance
 - Totally blind: 20
 - Low vision: 0
- e-learning specialist, technician, or staff member provided assistance
 - Totally blind: 20
 - Low vision: 0
- Obtained or used adaptive technology or software
 - Totally blind: 0
 - Low vision: 16

JVIB, September 2011

High School Teachers' Perspectives on Supporting Students With Visual
 Impairments Toward Higher Education: Access, Barriers, and Success
 M. Reed & K. Curtis

66 teachers and 2 educational assistants from Canada; Survey questions looked at Recruitment, Accommodations, and Barriers

- 72% suggested that students need to be better prepared for college or university by
 - Providing trips to institutions of higher education
 - Early access to accommodations
 - O&M training
 - Time to meet university instructors
 - Information on academic requirements
 - Information about available accommodations
 - Better communication from postsecondary institutions
 - Students need peer support to avoid social isolation
 - Students need social skills training, including training in self-advocacy, confidence, social graces, and independence
- Barriers
 - 41% suggested that the students lack self-esteem and confidence because they are dependent on others and are not encouraged
 - 38% commented that fear sometimes keeps students from applying to colleges or universities
 - Unknown, lack of knowledge of supports
 - Parents' fear of letting go
 - Fear of an unfamiliar environment that could be isolating
 - 34% stated that many students with visual impairments had lower academic standings than their peers without disabilities because extra time was needed for these students to produce equivalent work
 - 48% reported that students often had a poor understanding of peer-related social skills

- When to interject opinions
- Lacked information about socially acceptable behavior
- Engage in behaviors, such as rocking

Dissertation, 2013

Completing College: A Longitudinal Examination of Potential Antecedents of Success in Post-Secondary Education for Students With Disabilities

E. Achola

- Students who assume leadership roles in their IEP meetings have higher post-secondary education completion rates than those who were present at the meetings but did not participate.
- Students who participated in work-study or paid employment were 75 times more likely to report completing post-secondary education compared to those who did not.

Dissertation, 2009

Undergraduate Educational Experiences: The Academic Success of College Students With Blindness and Visual Impairments

R. Scott

- Success Factors
 - Use of disabled student services offices and services
 - Positive peer relationships in helping these students succeed academically, particularly when instructors' time with individual students may be limited because of class size
 - Receiving financial assistance was also viewed as significant to these college students with blindness or visual impairment
 - Mentoring programs
 - Emotional support from parents

- Developing networks within their disciplines
- Challenges
 - Being far from home
 - Isolation
 - Perceived expectations that were placed upon them in addition to those placed on other students
 - Felt they were part of a system that expected they do more in order to have equal access
 - Physical environment of their institutions
 - Negative interactions with peers as another factor that limited their academic success
 - Not invited to social events
 - Viewed as “other”

AccessWorld, August 2015

The Blackboard Online Coursework and Learning Environment: Accessibility Reports From Two College Students and One Instructor

J. Pauls

- Blackboard was definitely accessible to blind users.
- All three required assistance from our institutions in using various aspects of Blackboard.
- Be prepared to spend some time learning the service.
- Both had a good grasp of JAWS, but also said that needed accommodations when using Blackboard to do typical tasks (i.e. taking tests)
- Specific documentation regarding the use of the Blackboard service with a screen reader would be a good thing.

JVIB, February 2008**E-Learning and Blindness: A Comparative Study of the Quality of an E-Learning Experience**

S. Evans & G. Douglas

- 20 participants, 10 sighted, 10 blind JAWS users 16–27
- Studied topic unrelated to all of them, sports injuries
- Participants who were blind took twice as long to complete the learning task as did the sighted participants.
- Participants who were blind said that accessing the learning materials took some mental effort (using the screen-reading software), and the sighted participants did not have this additional overhead.
- The sighted group had a higher average score than did the blind group, and this difference was statistically significant.
- Participants who were blind did not differ from the sighted participants in how difficult or enjoyable they perceived the task to be.

Table 1: Articles and Studies Reviewed

The following table lists all articles and studies taken into consideration in the development of this report. Documents highlighted in green were included in the report.

Transition Literature Review			
Source	Publication Date, Author	Title	Notes
<i>JVIB</i>	May–June 1997 Barton	Growing up with Jed: Parents’ experiences raising an adolescent son who is blind	Parents description, some college-age experiences listed
<i>JVIB</i>	May–June 1997 McBroom	Making the Grade: College Students With Visual Impairments	102 college students, describe where high school skills should focus, basic qualitative
<i>JVIB</i>	May–June 1997 Vancil	Steps to Success in College for Students With Visual Impairments	Description of author-developed curriculum to address transition needs
<i>JVIB</i>	August 2005 Kirchner & Smith	Transition to What? Education and Employment Outcomes for Visually Impaired Youths After High School	Description of some NLTS2 outcomes
<i>JVIB</i>	July 2012 Reed & Curtis	Experiences of Students With Visual Impairments in Canadian Higher Education	Barriers identified, 70 students, Canadian universities
<i>JVIB</i>	March 1999 Hodges & Keller	Visually Impaired Students' Perceptions of Their Social Integration in College	Six person qualitative study. Survey/interview of social integration at college. Based on Tinto's model of social integration

<i>JVIB</i>	May 2010 McDonnall	The Employment and Postsecondary Educational Status of Transition-Age Youths With Visual Impairments	NLTS2 description
<i>JVIB</i>	April 2002 Roy & MacKay	Self-Perception and Locus of Control in Visually Impaired College Students With Different Types of Vision Loss	Looked at locus of control in 16 College students in Scottish and English universities
<i>JVIB</i>	October–November 2012 Kelly & Wolffe	Internet Use by Transition-Aged Youths with Visual Impairments in the United States: Assessing the Impact of Postsecondary Predictors	Those who attended postsecondary 5 times more likely to use Internet than those who did not attend
<i>JVIB</i>	December 2001 Nagle	Transition to Employment and Community Life for Youths With Visual Impairments: Current Status and Future Directions	Some results from the first NLTS
<i>JVIB</i>	December 2013 Brown, Brown, & Glaser	Improved Transition Outcomes for Students With Visual Impairments Through Interagency Collaboration	Describes an interagency program, no results listed
<i>Journal of Postsecondary Education and Disability</i>	January 2012 Pingry O'Neill, Markward, & French	Predictors of Graduation Among College Students With Disabilities	Review of records of 1,289 inactive files of students with disability. Used IEO model and looked for predictors of graduation. Visually impaired students not separated out. Odds ratio of student services determined.
<i>Canadian Journal of Information and Library Science</i>	February 2004 Saumure & Given	Digitally Enhanced? An Examination of the Information Behaviours of Visually Impaired Post-Secondary Students	Six participants first 2 years of college, survey/interview

<i>JVIB</i>	September 2009 Fichten, Asuncion, Barile, Ferraro, & Wolforth	Accessibility of e-Learning and Computer and Information Technologies for Students With Visual Impairments in Postsecondary Education	143 low vision, 29 blind in Canadian college. Types of assistive technology used, views on 18 different types of e- materials
<i>JVIB</i>	September 2011 Reed & Curtis	High School Teachers' Perspectives on Supporting Students With Visual Impairments Toward Higher Education: Access, Barriers, and Success	66 teachers and 2 educational assistants from Canada. Survey questions. Looked at Recruitment, Accommodations, and Barriers
<i>Journal of Symbols & Sandplay Therapy</i>	June 2014 Maeng & Jang	The Effects of Sandplay Therapy on the Anxiety, Self-esteem, and Sociality of College Students With Blindness	26 college students in Korea, Sample and control groups, sandplay reduced anxiety, increased self-esteem and sociality
<i>JVIB</i>	December 2009 Papadopoulous & Koutsoklenis	Reading Media Used by Higher- Education Students and Graduates With Visual Impairments in Greece	Descriptive study of reading medium of blind/visually impaired college attendees in Greece
Dissertation (Virginia Commonwealth University)	2013 Achola	<i>Completing College: A Longitudinal Examination of Potential Antecedents of Success in Post- Secondary Education for Students With Disabilities</i>	NLTS2 review, not specific to visual impairment. Regression analysis of postsecondary exits and variables related to completion of postsecondary degree
<i>Creative Education</i>	September 2014 de Carvalho, da Silva, Fenandes, Pagliuca	Health Education for the Blind: Evaluation of Accessibility of an Inclusive Online Course	Accessibility and usability of a previously developed online education course about breast cancer, accessible to 2 blind women and focused on early detection.

<i>Change</i>	January–February 2014 Lee	Students With Disabilities: Opportunities and Challenges for Colleges and Universities	Description of lawsuits against universities concerning inaccessible e- readers
Dissertation (North Carolina State University)	2009 Scott	<i>Undergraduate Educational Experiences: The Academic Success of College Students with Blindness and Visual Impairments</i>	Qualitative study of how 15 students with blindness and visual impairments experienced their engagement in undergraduate studies at four 4-year universities and perceived their success. Tinto's theory
<i>The Chronicle of Higher Education</i>	December 2010 Parry	Colleges Lock Out Blind Students Online	Newspaper style story
<i>The Chronicle of Higher Education</i>	November 2010 Parry	Penn State Accused of Discriminating Against Blind Students	Newspaper style story
<i>The Chronicle of Higher Education</i>	November 2011 Rice	How a Professor Gave a Blind Student a New Outlook on Science	Newspaper style story
<i>The Chronicle of Higher Education</i>	September 2014 Shachmut	A New Obstacle for Students With Disabilities	Newspaper style commentary
<i>The Chronicle of Higher Education</i>	January 2011 Sofaer	An Easy Fix Makes Program Accessible to the Blind	Newspaper style letter to the editor
<i>First Monday</i>	September 2015 Chen, Sanderson, Kessel, & Królak	Hueristic Evaluations of the Accessibility of Learning Management Systems (LMSs) as Authoring Tools for Teachers	Looked at 3 LMSs for accessibility for teachers providing content
<i>AccessWorld</i>	August 2015 Pauls	The Blackboard Online Coursework and Learning Environment: Accessibility Reports From Two College Students and One Instructor	Two current students provide opinions on Blackboard use

<i>JVIB</i>	February 2008 Evans & Douglas	E-learning and Blindness: A Comparative Study of the Quality of an E-Learning Experience	Canadian study, 20 participants, 10 sighted, 10 blind, both took same online course and were tested on content
<i>USA Today</i>	September 2015 Abinum	Students who are Blind Face Greater Social Challenges on Campus	32.3% high school diploma or GED, 29% some college, 11.9% bachelors degree or higher, 26.7 less then high school graduation - UNABLE to VERIFY INFORMATION. NFB was listed as the source

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