EXHIBIT 83

Report of the Advisory Commission on Accessible Instructional Materials in Postsecondary Education for Students with Disabilities

December 6, 2011

The Advisory Commission on Accessible Instructional Materials in Postsecondary Education for Students with Disabilities (the Commission) was established by the Higher Education Opportunity Act of 2008 (the Act). In accordance with that statute, this independent Commission has brought together government leaders, representatives from the publishing industry, individuals with print disabilities, representatives from two-year and four-year institutions of higher education, and leaders in the accessible technology field. The Act also specifically requires that the Secretary of Education appoint representatives from three offices of the Department as members. As with many independent advisory committees of this nature, the Commission is subject to the Federal Advisory Committee Act which, among other things, helps ensure the independent nature of the body and requires that the Department not exercise "inappropriate influence" over the advice and recommendations in its report. Consistent with this provision, neither this report, nor the recommendations it contains, have been cleared or approved by the Secretary of Education, the U.S. Department of Education, nor the Administration, and, as such, the views expressed in this report should not be regarded as those of the Secretary, the Department, or the Administration. The report represents the collaborative work and recommendations of the individual members of the Commission and of the Commission as a whole.

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Acknowledgements

The Commission wishes to thank the numerous individuals whose hard work, dedication and insight into the topic of accessible instructional materials for postsecondary students with disabilities allowed the Commission to prepare this historic report in just fourteen months.

The Commission would like to thank all of the stakeholders who testified before the Commission at the three public hearing sessions. The public comments that we heard from postsecondary students, university personnel, parents and industry experts were invaluable to our ability to study the experiences of postsecondary students with disabilities, determine innovative practices and identify challenges that still exist. This information enabled us to prepare a report that truly reflects the postsecondary landscape of AIM and to make recommendations that we hope will improve the postsecondary experience for all students with disabilities.

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Finally, the Commission would like to sincerely thank its Designated Federal Official and Executive Director, David Berthiaume, for his leadership and commitment to our mission.

Executive Summary

The Advisory Commission on Accessible Instructional Materials in Postsecondary Education for Students with Disabilities (the Commission) was authorized under the Higher Education Opportunity Act of 2008 (HEOA) to address and seek remedies for the challenges encountered by students with print disabilities enrolled in postsecondary institutions (see Appendix C).

This report is based on the shared experiences and perspectives of the 19 stakeholder representatives who make up the Commission. These Commissioners speak with one voice in stating that barriers that would deny students with disabilities their rights to full and complete access to their educational experience are unacceptable in a society that values achievement through education.

After much research, testimony, and intense discussion, the Commission has prepared this report to provide insights into the array of barriers that often confront postsecondary students with disabilities. Among these barriers are instructional materials, technologies and operating systems which, in some circumstances, are transitory and, with effort, correctable. In other situations, however, challenges presented to making these necessary items accessible are more significant due to the limited resources of campus disability resource/service (DR/S) offices, the increasing complexity and modalities of emerging instructional materials and the delivery systems employed to utilize these materials. It is critical that these and other obstacles be removed.

The Commission understands that the collaborative efforts of the companies and individuals involved in the production of instructional materials and their delivery systems, disability advocates, institutions of higher education and students with disabilities themselves can—together—be powerful enough to overcome barriers to educational opportunity.

Further, the Commission believes that the solution to current and future challenges lies in the establishment of a vibrant market of thoughtfully developed instructional tools that are designed from the outset to meet the needs of the broadest possible range of students, including those with disabilities.

Congress charged the Commission with several important functions, including making recommendations to Congress and to the Secretary of Education. The Commission acknowledges that the current accessible instructional materials (AIM) landscape involves a variety of competing forces, many of which are in motion and some of which are in conflict. It can be seen

as an intersection of converging perspectives and practices. This intersection could incite a meaningful paradigm shift regarding the way accessibility in the postsecondary environment is embraced and implemented. Indeed, change could be profound over the next few years as the world of print—with its long-standing practices, policies and market dynamics—increasingly gives way to digital communication. With respect to AIM, the Commission believes that the impact of these innovations ultimately will be dramatic. We also acknowledge that change takes time, and that in the context of higher education in particular, the evolution of perspectives and organizational practices will not be immediate.

The complex infrastructure of creating, locating and acquiring AIM has changed since HEOA legislation was written and enacted in 2008. At the time of HEOA legislation, the AIM arena was focused almost entirely on creating alternate formats. Today, it is shifting towards a more market-based, digital response that, in some cases, obviates the need for alternate formats. Currently, market-based and licensed alternate format distribution models such as CourseSmart and the AccessText Network exist that were only envisioned when the HEOA was drafted. For the most commonly used postsecondary textbooks, DR/S offices can now rapidly acquire publisher files or permission to scan books, determine whether another school has already created an alternate format that is available for licensing, and determine whether they or individual students can acquire digital versions from digital retailers. Throughout its study, the Commission viewed media-rich products from a number of digital materials and software vendors that evinced a strong commitment to accessibility. The Commission's challenge has been to describe how leveraging these new possibilities can dramatically improve the delivery of AIM, immediately and over time.

The Commission heard testimony from more than 50 witnesses about the persisting needs of individuals with disabilities (both students and faculty) and those who provide support to these individuals at the postsecondary level. The Commission heard testimony from many stakeholder groups, including textbook publishers, software developers, faculty, advocacy groups, technology experts, government agencies and others. Most of these groups are working to develop more effective, balanced solutions to address the intricate challenge of ensuring that students with disabilities receive accessible instructional materials in a timely, cost effective manner.

The Commission also heard testimony from students with disabilities, D/RS providers and faculty that conveyed a variety of concerns pertaining to AIM in the postsecondary environment that still exist. This testimony revealed that some students with

disabilities have experienced a variety of challenges, including blocked access to educational opportunities and matriculation failure resulting from inaccessible learning materials and/or their delivery systems. Testimony also indicated that DR/S and other university personnel often must engage in labor-intensive practices to provide AIM for students with disabilities. Each of the Commission's five in-person meetings thus reflected that while there are a variety of emerging improved practices in the area of AIM, there is still persistent unmet need.

Despite profound differences in opinion on how change should occur, Commission members have achieved consensus on a number of fundamental issues. Commission members agree that a potentially viable accessible digital marketplace is emerging in some areas, but there is not agreement that this progress is occurring within all components of the instructional materials enterprise. While textbook publishers and a number of e-text vendors are moving to incorporate accessibility into their products, some developers of web applications, social media and productivity software used to support postsecondary instructional practice are less pro-active.

To facilitate the incorporation of accessibility features in technologies used in postsecondary settings, the Commission's recommendations urge Congress to take action on a number of key issues. Such issues include, but are not limited to, a) establishing a process for creating uniform accessibility guidelines for industry and consumers, b) revisiting the components of existing copyright exception, c) assessing AIM's relationship to current research and instructional materials access taking into account the rights of content owners and d) re-emphasizing the importance of compliance with civil rights laws for institutions of higher education so that the needs of students with disabilities are more adequately addressed by postsecondary educational institutions.

Further, the Commission urges Congress to establish mechanisms for assessing the market progress that all Commission members hope will occur to support additional means of incentivizing content developers to incorporate accessibility during product design and to reinforce the necessity for open source instructional materials to be held to the same standards for access as other materials. The Commission has provided a series of specific recommendations for promoting these outcomes.

The Commission believes that the identification of need for, acquisition of, and use of accessible instructional materials are the administrative responsibility of every higher education institution, not simply the task of DR/S offices. To expand this

understanding and to facilitate procurement processes and to support personnel in becoming far more sensitive to and knowledgeable about accessible instructional materials, the Commission has crafted a set of capacity-building recommendations for postsecondary personnel and students.

Finally, the Commission believes strongly in the capabilities of well-designed and innovative models as a mechanism for promoting effective change. Therefore it has developed recommendations for model demonstration projects that promote the effective use of AIM in the postsecondary environment through training and innovation. The Commission posits that solutions developed for students with disabilities have the potential to incite innovative practices that will improve postsecondary education for *all* postsecondary students.

Introduction

The provision of Accessible Instructional Materials (AIM) to students with disabilities at the postsecondary level has been impacted by issues associated with the complex interactions between civil rights and copyright law, as well as an evolving market and rapidly emerging technology. To address the multi-faceted challenges associated with these issues, the Advisory Commission on Accessible Instructional Materials in Postsecondary Education for Students with Disabilities (the Commission) was established under the Higher Education Opportunity Act of 2008 (HEOA).[1] The HEOA directed the Commission to—

> conduct a comprehensive study, to—(i) assess the barriers and systemic issues that may affect, and technical solutions available that may improve, the timely delivery and quality of accessible instructional materials for postsecondary students with print disabilities, as well as the effective use of such materials by faculty and staff; and (ii) make recommendations related to the development of a comprehensive approach to improve the opportunities for postsecondary students with print disabilities to access instructional materials in specialized formats in a timeframe comparable to the availability of instructional materials for postsecondary nondisabled students.[2]

The Commission has examined these issues and presents its findings and recommendations in the following report.

Postsecondary Student Population

As of 2006, there were 6,536 postsecondary institutions receiving Title IV (student financial assistance) funds, with 21 million students enrolled.[3] Of these institutions, 2,707 were

four-year; 2,226 were two-year; and 1,767 were less than two-year.[4] This number includes both full-time and part-time students in undergraduate, graduate and technical-degree programs, and is projected to increase steadily in the coming years. Postsecondary enrollment has increased approximately 34% since 1995 and is expected to increase another 17% by 2019.[5]

According to a 2009 United States Government Accountability Office (GAO) report, there were approximately 19.2 million students enrolled in two-and four-year postsecondary institutions in 2008 and 2.1 million (10.8%) of these students had some disability.[6] There are researchers who believe that this number may be low due to the trend of students with non-apparent disabilities—learning, attention-deficit, mental health and other conditions—choosing not to disclose their disabilities to their respective institutions.[7] Some professionals familiar with the issue believe that students with disabilities may avoid disclosure due to the perceived stigma, the adoption of successful learning strategies, their unfamiliarity with available supports and services, or for numerous other reasons, according to the Association of Higher Education and Disability (AHEAD) *Journal of Postsecondary Education and Disability*.[8]

Unsympathetic attitudes on the part of faculty and administration can make some students with disabilities feel left out and lacking social supports, especially in the first year, when the provision of auxiliary aids and services can be most important to students' success.[9,10]

Students with a range of disabilities enroll in postsecondary institutions. The 2011 National Center for Education Statistics (NCES) survey data and the 2011 AHEAD survey data report similar distributions of disability types represented by students enrolled in postsecondary institutions.[11,12] (Note that the percentages below represent disability types *within* the 10.8% of students with disabilities reported in postsecondary settings.)

Disability distributions: postsecondary student population

Disability Type	***AHEAD %***	***NCES %***
Learning Disabilities	28.16%	31%
ADD or ADHD	20.21%	18%
Psychological condition	15.59%	15%
Health impairment	9.25%	11%
Mobility impairment	6.20%	7%
Hard of hearing or Deaf	3.25%	4%
Traumatic Brain Injury	2.79%	2%

I think that the thing that this group has to think about is that everything you see and use today will be obsolete and irrelevant five years from now. And when setting guidelines and directives for companies like ours that move at a very quick pace with respect to technology development, you have to remember that we don't believe that the textbook as it exists today will be a meaningful tool by the end of this decade.

CEO of Inkling (2011, July 12)

Sources of AIM

At this point, I'm not sure I will be getting a degree, primarily because I came in 2008 and now if I were to actually try to get a degree, I would be there until 2016, and I have other stuff I need to do. As I said, I started a software company about two years ago and that's been doing quite well and I need to spend my time on that and wasting time on getting a degree that I should have had now, you know, it's not really in the cards.

Student with a visual impairment (2011, February 24)

Commercial Sources

Vision impairment	2.61%	3%
Intellectual disabilities	2.40%	3%
Temporary impairment	2.01%	N/A
Autism	1.94%	2%
Speech/language impairment	0.72%	1%
Deaf-blind	0.09%	N/A
Other	4.79%	3%

Retention and graduation rates for all students with disabilities are improving, but are still disheartening. Students with disabilities at four-year institutions currently have a 34.8%graduation rate, well below the 51.2% for the general student population.[13,14] The graduation rate of 29.4 percent for students with disabilities enrolled in two-year programs is equally low. Students enrolled in vocational or technical programs fare better, with 54.6% completing their courses of study or certifications. With appropriate accommodations, however, students with disabilities have the opportunity to flourish and to perform as well as their non-disabled peers.[15,16]

Alternate-format materials may be obtained from four primary sources. First, students may purchase accessible materials from publishers or digital retailers. Second, the AccessText Network facilitates the provision of e-text versions of print textbooks and related materials from participating publishers upon request from postsecondary institutions' DR/S offices. Third, DR/S offices and students who qualify under the Section 121 copyright exception (Chafee Amendment) may seek previously-published works in accessible formats from national authorized entities like the American Printing House for the Blind's LOUIS database, Bookshare and Learning Ally. These authorized entities operate under the Section 121 copyright exception and provide one or more specialized alternate formats, including braille, large print and, in the case of the latter two, accessible e-text and audio versions. Fourth, students' own postsecondary institutions may be capable of adapting instructional materials for accessibility on an ad hoc basis to meet student needs in a timely manner.

The number of curriculum publishers and other content developers offering accessible digital versions of their print materials has increased in recent years. Large learning technology companies, such as C-engage, Elsevier, McGraw-Hill, Pearson and Wiley are providing versions of their

The Access Text Network operates by publisher participation, and we've got some of the largest publishers participating—92% of the textbook publishing marketplace. The distribution formats that we're looking at are DAISY, MP3s, DOCs and PDFs to provide to campuses.

Project Director, Access Text Network (2011, February 24)

A Publisher-Licensed Solution

educational materials with accessibility features. Other companies, including CourseSmart (a cooperative digital venture of several major publishers), VitalSource (Ingram Digital) and CafeScribe (Follett) are currently offering digital versions of instructional materials on a variety of technology platforms. New sources are regularly entering the market (e.g., Inkling, AcademicPub, Kno). While some are currently more accessible than others, most, if not all, are understood to be working to become conformant with prevailing standards (Section 508 and/or WCAG 2.0).

The companies referenced above provide access to multiple thousands of titles and several highlight their application of accessibility standards, most commonly Section 508 compliance. The proprietary "e-reader" software provided by these distributors is expected to be accessible within the coming months and is designed to maintain the security of content without compromising accessibility. None of these accessible market options were in place just two years ago.

The AccessText Network (ATN) was established in 2008 at the Alternative Media Access Center at the Georgia Institute of Technology. ATN is a web-based resource that enables its 1,500 postsecondary members to connect with publishers to obtain digital versions of or permissions to create alternate formats of specified instructional materials for documented students with print disabilities. ATN's participating publishers currently include major postsecondary publishers who together cover more than 250 subsidiary publisher imprints (brands); via ATN they provide access to more than 230,000 title records. As of October 2011, ATN has fulfilled 70,000 requests. In most instances, ATN has been able provide DR/S offices with requested digital files far faster than has traditionally been the case, with 42% fulfilled within a single day and 71% fulfilled in four days or less. Requesting electronic files from member publishers is free to all postsecondary institutions.

Publishers participating in ATN can readily allow ATN's registered users to share files that have been processed for student use. This facility can shorten the lag time between file request and receipt by allowing one member postsecondary institution access to an accessible version created by . In August 2011, ATN launched a federated search capability called the Accessible Textbook Finder (ATF). ATF searches the online catalogs of multiple sources of accessible instructional materials and provides the results in a combined format. The

Bookshare just passed 120,000 titles, and that's really what you might think of as books in addition to periodicals. We're adding between 2,000–5,000 books every month. We have over 130 publisher partners, 100 of those in the U.S. That includes 18 University presses.

Bookshare Vice President (2011, July 11)

Accessible Media Producers (AMPs)

Over the past three years, Learning Ally has delivered over 1 million copies [of digital books] from our libraries to students who are qualified. We have about 65,000 titles in our library. The vast majority, about 70% of them, are textbooks. We specialize in the STEM books, the science, technology, engineering and math books, because that really lends itself to the descriptive human voice. A good percentage of those are postsecondary titles.

Chief Program Officer, Learning Ally (2011, February 25)

ATF search currently includes six participating accessible media producers (AMPs) and libraries. When a user selects a specific item from the consolidated search results, they can then follow a link to obtain the desired material under the terms of that participating source. Additional sources are planned for addition during the beta phase. Currently, ATF search partners include AccessText Network, Alternative Media Access Center, , CourseSmart, Ingram, Learning Ally, , and Project Gutenberg.

For DR/S providers who may not be ATN members, the Association of American Publishers (AAP) offers the Publisher Look-Up Service at http://www.publisherlookup.org/ which provides postsecondary providers with publisher contact information.

AMPs that are federally supported entities, including the NLS of the Library of Congress, the American Printing House for the Blind (APH), Bookshare, and Learning Ally transform print works into student-ready digital versions. All AMPs operate within the constraints of the Section 121 copyright exception (Chafee Amendment), which allows them to provide specialized format materials—braille, digital text, audio, and large print—to individuals with qualifying disabilities. Many postsecondary institutions take advantage of these resources directly and support or provide memberships for students who qualify for these services. However, many students who are eligible under civil rights law for accommodations in postsecondary settings may not qualify under the existing copyright exception.

The National Library Service (NLS) of the Library of Congress supports the framework of a nationally coordinated system for the provision of alternate-format materials. APH manages LOUIS, an online catalog of approximately 363,000 K–12, postsecondary, and trade titles available in braille, large print, e-text and audio from nearly 200 contributing agencies. The purpose of LOUIS is to minimize duplication of effort and to facilitate the acquisition of specialized-format materials. State-level vocational rehabilitation offices and state braille commissions respond to local requests for braille and other alternate formats.

Bookshare's 125,000 accessible e-text titles are all available in both DAISY e-text and digital braille formats for direct downloading by DR/S offices and by blind postsecondary students. Bookshare does not provide hard copy braille versions of books, but users can create hard copy braille versions of this content if they choose to or may utilize them on various hardware devices with refreshable braille displays. More than 50,000 of these titles come directly from publishers under

voluntary licensing agreements, and these can be transformed to accessible e-text and/or digital braille files. Bookshare DAISY books can be converted into synthetic speech, audio, large print and/or braille using software supplied by Bookshare and other assistive technology vendors. Postsecondary students have downloaded more than 80,000 different accessible e-texts titles from Bookshare. The total number of downloaded files for such students currently exceeds 300,000 books and periodicals.

Learning Ally (formerly Recording for the Blind & Dyslexic) offers students access to their digitally-recorded (human-voice narrated) 69,000-title textbook and trade book library. Learning Ally's titles are designed to work with assistive technologies (both hardware and software) and with consumer portable media devices. Learning Ally also creates accessible content for a wide range of commercial clients and public sector organizations in the form of quality accessible digital audio media and solutions in braille, large print and electronic text.

State and Local AIM Production

Nearly every postsecondary institution has evolved strategies, protocols and resources for acquiring or creating AIM for students with disabilities. As referenced above, braille is sought from a collection of local, regional and national sites, or created on an *ad hoc* basis as needed utilizing state vocational rehabilitation or state commissions as a source for blind contractors and specialists. The national AMPs and ATN are additional resources for braille, e-text and audio, but a significant portion of required AIM is still produced on individual campuses and by system-wide production centers in a one-off and as-needed manner depending on student needs. For example, the Alternate Text Production Center (ATPC) of the California Community College system reports that for the 2010–2011 academic year there were 2,609,224 enrolled students in the community college system at 112 campuses. The ATPC produced 6,474 e-texts and 135 braille/tactile graphics materials during that time period.[17]

It should be noted that in the postsecondary marketplace, many original print works are revised on a three- to four-year cycle, on average, which can result in workload challenges for resource-strapped state and local AIM production centers.[18]

Legal Parameters

Institutions of higher education (IHEs) must comply with Section 504 of the Rehabilitation Act of 1973 (Section 504) and the Americans with Disabilities Act (ADA), which prohibit discrimination on the basis of disability. Under these laws, IHEs, in providing an aid, benefit, or service, may not afford a qualified person with a disability an opportunity to participate in or benefit from the aid, benefit, or service that is not equal to that afforded others.[19] To ensure that qualified students with

disabilities are not denied the benefits of their postsecondary educational program, IHEs are required under Section 504 and the ADA to provide academic adjustments, including auxiliary aids and services when necessary, to prevent discrimination. Such aids and services may include taped texts, audio recordings, brailled materials and displays, screen reader software, magnification software, large print materials and access to electronic and information technology.[20]

The provision of AIM to students with disabilities at the postsecondary level is also governed by the legal parameters of copyright law. Copyright serves as "an engine of free expression" and establishes the economic incentive to create and disseminate ideas by creating a marketable right to the use of one's own expression.[21,22] Two fundamental aspects of the U.S. copyright system are ensuring that authors and publishers can control and profit from their creative efforts.[23] The U.S. copyright system is economic by design and is a major building block of both U.S. domestic trade and the world economy. The protections provided by copyright law expand the knowledge base and, at the same time, support the creative industries, including the millions of people engaged in the production, marketing and distribution of creative works (see Appendix D).[24]

The Chafee Amendment, a 1996 amendment to the U.S. Copyright Act, codifies an exception to copyright law for purposes of serving blind or other persons with disabilities.[25] It sets forth the kind of copying that is permissible for free and without permission of the copyright owner, as well as the legal conditions and the beneficiaries of the exception. In general, the Chafee Amendment allows certain entities to convert non-dramatic literary works into specialized formats—defined as braille, audio, digital text and, as added in 2004, large print—for exclusive use by blind or other persons with disabilities. These conversions can only be made by "authorized entities" as defined in the amendment, and may only be distributed to individuals with qualifying disabilities.

It should be noted that the beneficiary population of the Chafee Amendment is narrower than the population of students who may be determined to require alternative formats to print under civil rights statutes. In the HEOA, Congress defined the term "student with a print disability" as including (but not limited to) those individuals who would be found eligible under this copyright amendment:

> DEFINITION OF STUDENT WITH A PRINT DISABILITY.
> In this sub-part, the term 'student with a print disability' means a student with a disability who experiences

> barriers to accessing instructional material in nonspecialized formats, including an individual described in section 121(d)(2) of title 17, United States Code [i.e., the Chafee Amendment].[26]

Another copyright exception that is relevant to the AIM discussion is Section 107, commonly known as "Fair Use."[27] This doctrine is explained in greater detail in Chapter 1.

I know the mandate for the Commission was to look principally at print material, but the definition of textbook has changed. If you don't look at multimedia, you will be doing all of us a terrible disservice.

Postsecondary ADA Coordinator (2011, July 12)

Additionally, the triennial rule-making provisions of section 1201 of the Copyright Act may be relevant.[28] Section 1201 was enacted in 1998 as one part of a copyright amendment known as the Digital Millennium Copyright Act (DMCA).[29] It allows the Librarian of Congress, upon the recommendation of the Register of Copyrights, to exempt certain classes of works from the prohibition against circumvention of technological measures that control access to copyrighted works, when that circumvention is undertaken for certain non-infringing uses (e.g., to enable certain e-text controls).[30] This process and some of the exemptions of recent rule-makings are summarized in Chapter 1 of this report and in more detail in Appendix D. (A new rule-making period under section 1201 is currently under way; public comments are due December 1, 2011.[31]

The Benefits and Challenges of Technology

The provision of AIM—most commonly in the form of digital text, refreshable braille generated from a digital text, embossed (paper) braille, tactile graphics, audio, or large print—and of access to content in general, is also significantly challenged by the emerging importance of digital technologies. In addition, online course registration, delivery and assessment; online databases, course chat rooms and message systems; open educational resources and web pages created by faculty; media-rich "textbooks" embedded in popular course management systems; computer-based exams used for entrance to or in order to complete a course, a major, or a certificate program all involve digital technologies. This complex, evolving and promise-filled landscape presents an opportunity for postsecondary institutions to implement educational practices that meet the needs of students who aspire to higher learning and improve access for students with disabilities. However, the presence of inaccessible technology-based products and services within the postsecondary environment can create unintended and nearly impenetrable barriers, while the availability of products and services that can be accessed by all students, including those with disabilities, can open new doors.

As technology continues to change the instructional materials landscape and increases the variety of available course materials, digital media has become more commonplace. The

preeminence of print remains, but it is likely to diminish as the use of rich media increases even more. A medium that provides access for one student may be a barrier to another. For example, a student who is blind might prefer to receive course content in a digital text format that could be subsequently rendered in refreshable or embossed braille, audio, or as enlarged text, but a student who is deaf would likely prefer a visual format. In short, there is no one media type that meets the accessibility needs of all students.

The Commission unanimously agrees that instructional materials should be accessible to postsecondary students with print disabilities on the open market at the same time and at the same cost as they are for other students, with the recognition that certain low-incidence, highly specialized, or limited-run materials may not be as readily available.

The Potential of Universal Design

The Commission proceeds from the premise that individuals with print disabilities must have equal opportunity and discrimination-free access to full participation and success in postsecondary education. Unfortunately, for many years, the specialized formats needed by such individuals were expensive and labor intensive to produce (e.g., embossed braille versions, recorded books). As such, they were distinct from materials sold in mainstream markets. Put simply, accessible versions of textbooks were available only from specialized sources. Today, as the focus of instructional materials shifts from hard copy textbooks to digital books, learning software, computer presentations created by instructors and other digital formats, it becomes theoretically possible that, in some instances, the format required for accessibility purposes might be the same as, or substantially similar to, the format distributed to mainstream markets. At the present time, however, some digital materials that hold the most promise for equal access are often partially or completely inaccessible to students with disabilities.

As the CEO, when I'm asked by my Board, 'why are you spending engineering resources on accessibility, that can't reach but 1% of the market?' I respond, 'it's 100% of the market because I can't serve higher education properly without serving everyone equally, or at least to the best of my ability as equally as possible.'

CEO of Inkling
(2011, July 12)

The mainstream and specialized markets have the potential of converging, with accessibility being included from the design phase of digital materials through to the final product. This would be a positive development that should be encouraged in every possible way, including through federal funding, investments in technology, the establishment of functional guidelines and the development of best practices for the creation of universally-designed instructional materials. As a general rule, the Commission notes that achieving accessibility in the marketplace is the best way to ensure that the greatest diversity of content reaches the greatest number of individuals with disabilities in postsecondary settings.

However, the Commission also recognizes that fully accessible instructional materials cannot always be produced through regular publishing/development processes. Some works, such as embossed braille or tactile graphics, require significant added production costs to achieve accessibility. Further, these works may only serve limited markets of users—for example, certain publications that serve braille or tactile graphics users. In the case of these high-cost and/or low-incidence works, the Commission thinks it is unlikely that the open market will provide a meaningful solution, even over time. The Commission expects that the users of these works will continue to require the support of the federal government, as well as the services of specialized organizations and authorized entities that currently operate on a not-for-profit basis under the Section 121 copyright exception and DR/S and other service organizations.

When evaluating the potential for a "market model" the perspective must always be about the future. The key question is, "What will the consumer want and be willing and able to buy that publishers and distributors will be able to produce, sell, and distribute in sufficient quantity to recover their costs and generate a return commensurate with the financial and other risks they will be taking?"

AAP presentation to Commission (February 22, 2011)

All publishers will face challenges when contemplating the production of high-quality accessible formats for out-of-print works and works of interest only to very narrow niche markets. This will be a greater challenge for small publishers and university presses. However, some of these smaller producers may benefit from creative licenses with specialized format producers or with colleges and universities for the creation of enhanced accessible content that can be sold under license or returned to the original publisher for sale to new customers.

Against this evolving backdrop, the marketplace is expanding and many larger publishers are migrating to "born digital" multimedia educational products (products produced specifically for use in a digital-only format) and have demonstrated a growing commitment to building accessibility directly into products to serve marketplace demands.

The Commission reached consensus in defining the challenges that needed to be addressed. These include—

Operational Challenges

- Improving and assuring timeliness for the effective delivery of AIM
- Eliminating redundancy in production of AIM
- Assuring that students receive high-quality AIM
- Effective and timely meeting of AIM requirements for low-incidence formats, e.g., braille and tactile graphics and
- Meeting AIM requirements for challenging types of content, e.g., science, engineering, technology and mathematics (STEM), foreign languages and music

Institutional Challenges

- Addressing the significant lack of hard, quantitative data about the many aspects of the AIM challenge: Inadequate data about (a) students' needs, (b) available AIM, (c) usage of AIM
- Engaging all levels of postsecondary institutions in AIM delivery and overall accessibility issues
- Assuring that postsecondary disability staff are sufficiently trained in relevant technologies to (a) support the AIM needs of students with disabilities and (b) interact effectively with sources of AIM
- Assuring that instructional materials produced by faculty and other non-market content area professionals incorporate the same required accessibility features as commercial products, and
- Providing AIM to students who need materials but do not request them

Production Challenges

- Engaging small publishers and other content owners in AIM delivery
- Improving the timeliness, quality and consistency of content production without driving up cost
- Establishing and implementing functional accessibility standards for new, digital-only instructional materials and for digital versions of print materials
- Establishing and implementing functional accessibility standards for software applications to ensure that software is accessible in the digital-delivery environment
- Assuring that producers/providers of non-textbook content used by students with print disabilities meet the same AIM requirements for accessibility and timeliness as textbook content
- Assuring that AIM principles are embedded in the design and implementation of new forms of educational software being developed
- Encouraging manufacturers of authoring software and other suppliers to make helpful modifications regarding accessibility

Policy and Legal Challenges

- Evaluating the application and effects of the Chafee Amendment in the postsecondary context during the past 15 years, including research regarding the physical and neurological basis of specific learning disabilities
- Stimulating market demand for AIM to foster a concomitant increase in supply
- Effectively measuring progress and responding with modified strategies if progress is determined to be inadequate

The following sections provide definitions for commonly used terms and abbreviations; a list of the Commission's recommendations; an overview of existing higher education environments and the instructional materials required by students with disabilities; the systems for purchasing, creating, or otherwise acquiring these materials; and the challenges faced by students, postsecondary education personnel and curriculum publishers.

Terms and Abbreviations

The worlds of postsecondary education, publishing and product development, disability and technology are each rife with abbreviations; together they create a confusing lexicon. Abbreviations familiar to one segment of stakeholders are often unknown to the others. In all circumstances, when commonly abbreviated terms or references are employed, they are paired with the full text they represent in their initial appearance in the text. In addition, an abbreviation glossary is included in the appendices to help with additional instances of abbreviation.

Other terms have proven to be more fundamental to understanding the scope and emphasis of both the report narrative and the Commission's recommendations:

Academic Adjustments: Modifications to academic requirements as are necessary to ensure that such requirements do not discriminate, or have the effect of discriminating, on the basis of disability against a qualified applicant or student with a disability. Modifications may include changes in the length of time permitted for the completion of degree requirements, substitution of specific courses required for the completion of degree requirements, and adaptation of the manner in which specific courses are conducted.[32]

Auxiliary Aids and Services: Auxiliary aids and services include—

(1) Qualified interpreters on-site or through video remote interpreting (VRI) services; note takers; real-time computer-aided transcription services; written materials; exchange of written notes; telephone handset amplifiers; assistive listening devices; assistive listening systems; telephones compatible with hearing aids; closed caption decoders; open and closed captioning, including real-time captioning; voice, text and video-based telecommunications products and systems, including text telephones (TTYs), videophones and captioned telephones, or equally effective telecommunications devices; videotext displays; accessible electronic and information

technology; or other effective methods of making aurally delivered information available to individuals who are deaf or hard of hearing
(2) Qualified readers; taped texts; audio recordings; brailled materials and displays; screen reader software; magnification software; optical readers; secondary auditory programs (SAP); large print materials; accessible electronic and information technology; or other effective methods of making visually delivered materials available to individuals who are blind or have low vision
(3) Acquisition or modification of equipment or devices, and
(4) Other similar services and actions[33]

Disability: With respect to an individual, the term "disability" means (a) a physical or mental impairment that substantially limits one or more of the major life activities of such individual; (b) a record of such an impairment; or (c) being regarded as having such an impairment. A person must meet the requirements of at least one of these three criteria to be an individual with a disability under the ADA and Section 504.[34]

Instructional Materials: Instructional materials are the curricular content (printed and digital books, journals, course packs, articles, music, tests, videos, instructor-created PDFs and PowerPoint documents, web pages, etc.), as well as the technologies required (hardware, firmware, software and applications) for the manipulation, annotation and dissemination of content. This definition also includes any other required instructional software and applications used to facilitate the teaching and learning process, including learning software, courseware/learning management systems, digital "learning objects," library databases, and others.[35]

Low-Incidence/High Cost: Disabilities such as visual impairments, deaf-blindness, significant physical disabilities, deafness/hard of hearing and traumatic brain injury are examples of "low-incidence" disabilities. Cost factors associated with the provision of academic-related services and materials to students with low-incidence disabilities (extrapolated from K–12 special education data sources) indicate costs ranging from four times to one hundred times the costs associated with the provision of similar academic services to non-disabled students.[36]

Qualified Student with a Disability: In the postsecondary context, a qualified student with a disability is an individual with a disability who, with or without reasonable modifications to rules, policies, or practices; the removal of architectural, communication, or transportation barriers; or the provision of auxiliary aids and services meets the essential eligibility

requirements for the receipt of services or the participation in programs or activities provided by the applicable educational institution.[37]

Rich Media: This term is often used to describe media (text, audio, video, animation, etc.) that includes interactivity, including dynamic prompt and response components that may be embedded in any of the listed media types.

Universal Design: A concept or philosophy for designing and delivering products and services that are usable by people with the widest possible range of functional capabilities, which include products and services that are directly accessible (without requiring assistive technologies) and products and services that are interoperable with assistive technologies.[38]

Recommendations

Listed below are the Commission's recommendations, numbered as they appear in subsequent chapters of this Report.

Chapter 1—Legal and Policy

The Access Board

1. Congress should authorize the United States Access Board to establish guidelines for accessible instructional materials that will be used by government, in the private sector, and in postsecondary academic settings.

Section 121 of the Copyright Act (Chafee Amendment)

2. Congress should review the scope, effectiveness and function of the Copyright Act as amended (Section 121, the Chafee Amendment) to determine whether it or any of its key component elements, as well as its implementation through applicable regulations, need to be updated to adequately address the needs of individuals with print disabilities, including those enrolled in postsecondary education.

Disability Documentation

3. The Commission recommends that the Department of Education and the Department of Justice consider whether to provide additional guidance on legal requirements concerning postsecondary institutions' policies and procedures regarding documentation of disability under Title II and Title III of the ADA and according to Section 504, to reduce the barriers currently presented by some institutions' requirements for documentation of disability.

Chapter 2—Market Solutions

Market Capacity

4. If the postsecondary marketplace—producers of instructional materials and delivery systems and institutions

of higher education—does not adequately provide AIM for students with print disabilities, Congress should consider appropriate legislation to better address these shortcomings.

Market Incentives

5. Congress should consider incentives to accelerate innovation in accessibility by publishers and producers of course materials, hardware and software by offering support and incentives for the production, sale and consumption of accessible instructional materials and delivery systems.

Licensing

6. Congress should consider means to encourage authors, publishers, producers and other content providers to collaborate with a range of organizations, including postsecondary institutions and alternate media producers, in developing cost-effective licensing models for the production and delivery of AIM.

Chapter 3—Technology

No National Format or Centralized Repository

7. The Commission does not recommend a single file format solution similar to the (K–12) National Instructional Materials Accessibility Standard (NIMAS) nor a single centralized clearinghouse, file sharing network, or national repository similar to the National Instructional Materials Access Center (NIMAC). The Commission recommends that postsecondary students with print disabilities would be best served by explicit support for a wide variety and range of different options and suppliers.

Metadata

8. The Commission recommends that publishers, distributors, content producers and AMPs facilitate the distribution of new AIM products by including accessibility metadata used for marketing and discovery. Also, standards organizations are encouraged to incorporate and further develop accessibility specifications in their domains based on a common list of accessibility-focused metadata.

Federated Search

9. The Commission supports the development of federated search capabilities that enable individual students and DR/S offices to make a single online search to locate existing accessible resources.

Accessibility Support in Authoring Tools

10. The Commission recommends that producers of courseware management systems, web development software, content authoring software, word processors and layout programs, among others, be encouraged to create

accessibility wizards and prompts that launch validation processes to inspect materials for accessibility as they are created and before they are distributed to students.

Digital Rights Management

11. The Commission recommends that content producers, producers of software applications, supporting device manufacturers, producers of digital content, providers and producers of software applications and their Digital Rights Management (DRM) suppliers should ensure that accessible versions of both materials and delivery systems using DRM are made available without harming publishers' established and emerging distribution channels.

Chapter 4—Capacity Building

Faculty/Staff Awareness and Capacity Building

12. The Commission recommends that federally sponsored projects and programs encourage and support systemic faculty and staff professional development with respect to selection, production and delivery of high-quality AIM to meet the needs of students with disabilities in postsecondary settings.

Cross-Agency Collaboration

13. The Commission recommends that the Department of Education re-establish an intra-agency working group on postsecondary students with disabilities and also create a cross-agency working group to provide a more unified and consistent approach to federal initiatives regarding the provision of AIM at postsecondary institutions.

Low-Incidence/High Cost Materials

14. The Commission recommends that the federal government support the creation and sharing of both embossed and digital braille as well as tactile graphics materials in postsecondary settings, particularly for STEM, foreign language and music.

Captioning

15. The Commission recommends that producers of instructional materials for the postsecondary education market (including postsecondary institutions themselves) that incorporate synchronized audio and visual formats (VHS tapes, DVDs/CDs, video, web video, etc.) should provide closed captions or subtitles for the Deaf/hard of hearing (SDH).

Chapter 5—Demonstration Projects

Campus-Wide Exemplar Project

16. The Commission recommends that Congress appropriate funds to the Department of Education for the development of a discretionary priority to fund model demonstration projects designed to identify, validate and disseminate project results regarding best practices in the

provision of AIM as part of a project candidate's campus-wide delivery system for auxiliary aids and services. The purpose of the demonstration projects will be to develop best practice models for implementing AIM and its delivery systems campus-wide.

Science, Technology, Engineering, Mathematics (STEM)

17. The Commission recommends that Congress appropriate funds to the Department of Education to support faculty professional development demonstration projects to develop and validate effective practices in the creation and provision of universally designed instructional materials in STEM courses and laboratory classes.

Access to Accessible Instructional Materials

18. The Commission recommends that the Department of Education fund postsecondary demonstration projects that model how to improve the quality, efficiency and timeliness of the acquisition and provision of AIM in postsecondary education and reduce duplication of effort in accordance with Section 773 of the HEOA.

Chapter 1—Legal and Policy

Summary

The following pages are meant to provide an overview of relevant statutes affecting the provision, availability and distribution of accessible instructional materials. For a full discussion of relevant statutes please view Appendix D.

Federal Civil Rights Laws and AIM in Postsecondary Settings

The U.S. Department of Education, Office for Civil Rights (OCR) enforces Section 504 of the Rehabilitation Act of 1973 with respect to entities that receive federal financial assistance from the Department of Education, including Pell grants and Federal Work Study grants.[39] OCR and the U.S. Department of Justice (DOJ) enforce Title II of the ADA with respect to public educational institutions.[40] Section 504 and Title II both require that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or otherwise be denied the benefits of a service, program, or activity, or be subjected to discrimination on the basis of disability.[41] Generally, postsecondary institutions fall under the purview of at least one of these laws. In addition, Title III of the ADA prohibits discrimination on the basis of disability by places of public accommodations, including private postsecondary institutions.[42] Title III is enforced by DOJ. (This document uses "ADA" to refer to both Title II and Title III, unless otherwise noted.)

These laws define disability, with respect to an individual, as "a physical or mental impairment that substantially limits one or more of the major life activities of such individual; a record of such an impairment; or being regarded as having such an impairment."[43] In the postsecondary context, a qualified person with a disability is "an individual with a disability who, with or without reasonable modifications to rules, policies, or practices, the removal of architectural, communication, or transportation barriers, or the provision of auxiliary aids and services, meets the essential eligibility requirements for the receipt of services or the participation in programs or activities" provided by the obligated educational institution.[44]

The general prohibitions against discrimination under Section 504 and Title II prohibit different or separate services or benefits for persons with disabilities unless necessary to provide a qualified person with a disability services or benefits that are as effective as those provided to others.[45] Academic adjustments, including auxiliary aids and services, must be provided when they are necessary for a qualified student with a disability to have an equal opportunity to participate in and enjoy the benefits of an educational program or activity.[46] Academic adjustments are modifications to academic requirements necessary to ensure that such requirements do not discriminate or have the effect of discriminating, on the basis of disability against a qualified applicant or student with a disability.[47] Academic adjustments may include but are not limited to a reduced course load, extended time on tests and the provision of auxiliary aids and services.[48] AIM are frequently required in postsecondary settings as an auxiliary aid. They often take the form of alternate versions of print materials (textbooks, course packs, articles and hand-outs, etc.). The implementing regulation for Title II specifies, "In determining what types of auxiliary aids and services are necessary, a public entity shall give primary consideration to the requests of individuals with disabilities."[49] In addition, the regulation states, "In order to be effective, auxiliary aids and services must be provided in accessible formats, in a timely manner and in such a way as to protect the privacy and independence of the individual with a disability."[50]

Title II further requires public entities to "take appropriate steps to ensure that communications with applicants, participants, members of the public and companions with disabilities are as effective as communications with others."[51]

Reinforcing Access to Opportunity

On June 29, 2010, OCR and DOJ issued a joint "Dear Colleague" letter (DCL) to college and university presidents regarding the use of electronic book readers and other emerging technologies that are inaccessible to students who are blind or

have low vision.[52] The letter explained that requiring use of an emerging technology in a classroom environment when the technology is inaccessible to individuals with disabilities is discrimination prohibited by the ADA and Section 504 unless those individuals are provided accommodations or modifications that permit them to receive all the educational benefits provided by the technology in an equally effective and equally integrated manner. Postsecondary institution presidents were asked to take steps to ensure that their institutions refrain from requiring the use of any electronic book reader (or other similar technology) in a teaching or classroom environment as long as the device remains inaccessible to individuals who are blind or have low vision. (See Appendix F.)

On May 26, 2011, OCR issued a frequently asked questions (FAQ) document with accompanying cover letters that provided more detail about schools' responsibilities when using technology.[53,54] The FAQ clarified that the principles articulated in the June 2010 DCL apply to all emerging technologies, not just electronic book readers, and that the principles in the DCL apply not only to students who are blind or have low vision, but also to students with other disabilities (such as dyslexia) that affect their ability to access written materials in a traditional manner. The nondiscrimination requirements of Section 504 and the ADA apply to all of the operations of a school, and, thus, all faculty and staff must comply with these requirements as outlined in the June 2010 DCL. It was clarified that the principles underlying the June 2010 DCL apply not just to the postsecondary schools to which it was sent, but also to elementary and secondary schools. In addition, the FAQ outlines considerations related to accessibility that educational institutions should apply when purchasing and implementing technology-based tools and resources.

Civil Rights Complaint Procedures

Federally assisted postsecondary institutions and public postsecondary institutions are required to provide students with disabilities with grievance procedures for the resolution of complaints of disability discrimination.[55] A student may file a complaint under an institution's grievance procedure to redress rights under Section 504 or Title II. (Grievance procedures may vary from institution to institution.) Such a student may also file a complaint with OCR about violations of Title II by public postsecondary institutions or violations of Section 504 by postsecondary institutions that receive federal financial assistance from the Department of Education, or may file a complaint with the DOJ about violations of Title II by public postsecondary institutions or violations of Title III by private postsecondary institutions.[56,57,58] In addition, a student may file a complaint in federal court alleging a violation of applicable civil rights laws.

OCR has 12 enforcement offices around the country that handle complaints alleging discrimination. The person or organization filing a complaint need not be a victim of the alleged discrimination, but may complain on behalf of another person or group. An individual who wishes to file an OCR complaint may do so within 180 days of the alleged discrimination by filling out OCR's electronic complaint form or by contacting the applicable OCR regional enforcement office for a complaint form.[59,60] OCR acts as a neutral fact finder and may use any number of viable options, including investigation and facilitated resolution, to promptly resolve the complaint.

The Purposes of Copyright

Congress enacted the first Copyright Act of the United States in 1790, under the authority provided in Article I, Section 8 of the U.S. Constitution: It provides that Congress shall have the power "To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."

The "exclusive right" provided to copyright owners is actually a "bundle" of rights that only the author, or those authorized or licensed by the author, may exploit during the term of copyright, subject to the applicability of fair use or another express exception or limitation in the Copyright Act. Exclusive rights are not absolute. Copyright is limited in time and scope, is subject to a number of exceptions and limitations, and contains "built-in First Amendment accommodations."[61] Only creative expression is protectable: ideas, facts, systems, processes and procedures are not.[62]

Copyright is much more than a right of remuneration. As a general rule, whether and how a work is made available to the public, under what conditions, whether and how an author will be compensated, and whether and how others may reproduce, distribute, or otherwise use a work are decisions that legally belong to an author/copyright holder. By establishing a marketable right to the use of one's own expression, copyright supplies an economic incentive to create and disseminate ideas. Ensuring that authors and publishers can profit from their creative efforts is central to the goals of the U.S. system of copyright.

A key element of the U.S. copyright system is the contribution of authors, publishers, producers and other rights holders to the cultural heritage of the United States. Consider the fact that the U.S. Copyright Office is housed in the Library of Congress and that our national collection of creative works is derived in large part from deposits submitted for copyright registration. Copyright is also a major building block of the U.S. domestic

economy and U.S. trade. These copyright protections support both a vital economy of trade in copyrighted goods and services, as well as a "knowledge economy" of education and expertise. At the same time, the activities fostered by exceptions to copyright contribute to important public policy objectives. These two forces are interdependent: the trade in creative content benefits from the fertile environment for creativity and knowledge provided in part by libraries and archives. Together they produce significant economic benefits for the nation as a whole.

Academic and research communities also rely on copyright. Not only do they depend upon the scholarly record, they depend on the value that is added by publishers. That is, they must have confidence that articles and other published works they rely on have not been altered, that citations have meaning, and that research is properly attributed. Copyright protects the integrity of academic publications.

Licensing

Licenses can take many forms and may be granted on an exclusive or nonexclusive basis. Broadly, licenses fall into three general categories: individual, collective and statutory.

Individual Licensing

An individual license is the most straightforward example of a license arrangement, where two or more parties voluntarily negotiate an agreement for certain exploitations of exclusive rights to all or part of a particular copyrighted work or collection of works.

Collective Licensing

Individual licensing requires identification and negotiation with individual copyright owners. To enhance efficiency, it is possible to license broad catalogues of works for certain limited uses. This is the primary structure of collective licensing. The most common examples of collective licensing are music performance rights organizations (PROs)—American Society of Composers, Authors and Publishers (ASCAP), Broadcast Music, Inc. (BMI) and the Society of European Stage Authors and Composers (SESAC)—as well as the Copyright Clearance Center (CCC), which licenses groups of print materials.

Statutory Licensing

Statutory (or compulsory) licenses have been used in limited circumstances—currently there are only eight in existence in U.S. law—in which there was a marketplace failure at the time the license was adopted.[63,64] Consequently, to bring licensors and licensees together where other mechanisms cannot, statutory licenses guarantee users' access to certain types of works, under certain circumstances, in exchange for a fee established by statute or legal proceedings.

Statutory licenses are structured to address a particular market failure without interfering with the rest of the marketplace. They are a limitation on copyright owners' exclusive rights, and must comply with United States international treaty obligations, which require that the exceptions and limitations must relate to "certain special cases," may not "conflict with the normal exploitation of the work," and may not "unreasonably prejudice the legitimate interests of the rights holder."[65]

Remedies for Infringement

Remedies for civil copyright infringement can be significant and include temporary and permanent injunctions, and impoundment and destruction of infringing materials.[66] A court may award fees and costs to the prevailing party in an infringement suit.[67] Financial awards usually granted by a court may be reduced for an innocent infringer, or may be abated altogether against certain individuals, including employees or agents of nonprofit libraries, archives, or educational institutions who have reproduced copyrighted materials in the scope of their employment, believing it to be a fair use.[68] In addition, under the Eleventh Amendment to the U.S. Constitution, the Supreme Court has held that state universities and other state entities are immune from copyright damages for past infringing behavior, although not from injunctions against future infringing behavior.[69]

Exceptions to Copyright

The first listed and best known of the exceptions to the Copyright Act is fair use, which allows for the use of copyrighted work without permission from the rights holder in certain circumstances prescribed by statute and interpreted by the courts. The various exceptions and limitations cover many different kinds of uses, such as exceptions for distance education, for libraries and archives and, notably for this report, exceptions for individuals who are blind or who have another qualifying print disability. [70,71,72]

U.S. copyright law provides no definitive legal standard for the acceptable scope of copyright exceptions and limitations. The fair use doctrine and its surrounding case law provide some guidance on how exceptions can be crafted to permit beneficial and reasonable uses without causing undue harm to rights holders.[73] Typically, copyright law's limitations and exceptions have been confined to those circumstances where there is evidence of a market failure, or where some culturally desirable purpose requires such an exception. An example of an exception to the Copyright Act that has been carefully circumscribed to avoid unreasonable harm to creators and other rights holders pertains to the privileges associated with the reproduction and distribution of copies of protected works for the visually impaired and others with disabilities in Section 121,

which are available only if the copies are in specialized formats "exclusively for use by blind or other persons with disabilities."[74]

The Chafee Amendment

Section 121 of the Copyright Act (the Chafee Amendment) provides that,

> it is not an infringement of copyright for an authorized entity to reproduce or to distribute copies or phonorecords of a previously published, non-dramatic literary work if such copies or phonorecords are reproduced or distributed in specialized formats exclusively for use by blind or other persons with disabilities.[75]

The statute defines an "authorized entity" as a "nonprofit organization or a governmental agency that has a primary mission to provide specialized services relating to training, education, or adaptive reading or information access needs of blind or other persons with disabilities."[76] "Specialized formats," is defined to mean "braille, audio, or digital text which is exclusively for use by blind or other persons with disabilities," and, in the case of "print instructional materials, includes large print formats when such materials are distributed exclusively for use by blind or other persons with disabilities."[77,78] Finally, "blind or other persons with disabilities," is defined as "individuals who are eligible or who may qualify in accordance with the Act entitled "An Act to provide books for the adult blind" approved March 3, 1931 to receive books and other publications produced in specialized formats."[79,80]

The eligible population specified in the current statute, which was first added to in 1966, includes "blind and … other physically handicapped readers certified by competent authority as unable to read normal printed material as a result of physical limitations, under regulations prescribed by the Librarian of Congress for this service."[81]

The Librarian of Congress issued implementing regulations in 1974, which have remained essentially unchanged until the present day.[82] The current regulations define the eligible population for the national library service as follows:

i Blind persons whose visual acuity, as determined by competent authority, is 20/200 or less in the better eye with correcting glasses, or whose wide diameter of visual field subtends an angular distance no greater than 20 degrees;

ii Persons whose visual disability, with correction and regardless of optical measurement, is certified by competent authority as preventing the reading of standard printed material;

iii Persons certified by competent authority as unable to read or unable to use standard printed material as a result of physical limitations;

iv Persons certified by competent authority as having a reading disability resulting from organic dysfunction and of sufficient severity to prevent their reading printed material in a normal manner.[83]

With respect to blindness, visual disability and physical limitations, "competent authority" is defined as follows:

> doctors of medicine, doctors of osteopathy, ophthalmologists, optometrists, registered nurses, therapists and professional staff of hospitals, institutions and public or welfare agencies (e.g., social workers, case workers, counselors, rehabilitation teachers and superintendents). In the absence of any of these, certification may be made by professional librarians or by any person whose competence under specific circumstances is acceptable to the Library of Congress.[84]

With respect to "reading disability resulting from organic dysfunction," *competent authority* is defined as "doctors of medicine who may consult with colleagues in associated disciplines."[85]

The Chafee Amendment was heavily negotiated by concerned stakeholders and is narrow on its face. In enacting Chafee in 1996, Congress stated a defined population of beneficiaries, implicated non-dramatic literary works only, and addressed reproduction and distribution rights only.[86] The Chafee Amendment was further amended in 2004 in the Individuals with Disabilities Education Improvement Act (IDEA) and to facilitate accessible K–12 instructional materials.[87]

Providing information access to individuals with disabilities has been implicated and to some degree reinforced under section 1201 of Title 17, which requires the Librarian of Congress, upon recommendation of the Register of Copyrights to make a determination regarding the exemption of certain classes of works from the prohibition against circumvention of technological measures that control access to copyrighted

works, provided the proposed use would be noninfringing.[88] This rulemaking is undertaken every three years.[89] The 2010 rule-making process provided an exemption for electronic books, allowing circumvention of access controls on such books in circumstances "when all existing e-book editions ... contain access controls that prevent the enabling either of the book's read-aloud function or of screen readers that render the text into a specialized format."[90] In September 2011, the Register announced the next triennial rulemaking—initial public comments are due December 1, 2011.[91]

Congress and the courts have long recognized that allowing some reasonable uses of copyrighted works without permission or compensation is fully consistent with and sometimes required to facilitate competing objectives in the national copyright system. Where Congress has found that public policy concerns warrant exceptions or limitations, it has enacted exception to the law, or limitations (e.g., to liability or to remedies) so that it complements the fundamental aims of copyright law and preserves the incentives to create, to share creations, and to invest in the creation of new works.[92]

Publishing Industry Rights Structure

The publishing industry relies heavily on copyright law and licensing transactions. Indeed, virtually every stage of the publishing value chain is connected to some type of copyright license relationship: author to publisher, publisher to ancillary product producers and publisher to distributors. Often there are numerous copyright owners involved in any one particular work, which raises significant challenges for rights clearance. A typical textbook, for example, may be comprised of several, separately licensed components, such as prefaces, introductions, forwards and chapters, as well as images, graphics, charts and diagrams.

Trends in Digital Publishing

Contract language is often outpaced by technology which can lead to confusion about who owns, or is licensed to exploit, certain rights. In the publishing industry, many older book contracts are silent on terms and conditions relating to digital product offerings. Although the phenomenon is not new, recent confusion over rights as a result of emerging technologies is illustrated by text-to-speech technology, where there are significant questions about whether such technology is an exploitation of reproduction rights and whether traditional publishing contracts cover such technology or whether these rights remain with the authors.[93]

Despite the challenges with rights management, technological evolution has spurred the development of new markets. The Internet has become a viable distribution mechanism for digital content, and electronic reading devices and electronic books are

now a rapidly growing market.[94] Moreover, there appears to be a trend towards standardization of formats for digital content, allowing certain content to be used across multiple devices, including, perhaps, adaptive technologies. For example, the ePUB3 technical specification for electronic book production incorporates standards for accessible books as set forth by the Digital Accessible Information SYstem (DAISY) Consortium.

A final trend in digital publishing that raises implications for the development of accessible materials is the widespread use of DRM technologies. Such technologies are technologically based protection measures that allow publishers, content producers and digital retailers to control access to distributed content. DRM typically imposes restrictions on the number and type of devices that can access protected content, and these restrictions often create accessibility barriers.

Guidelines for the U.S. Government: Section 508

The Access Board has provisions in our standards for equivalence facilitation that allow for innovation by manufacturers. So if they can't meet a technical provision that we have, then they can do it differently as long as [they] are providing equal or better access. But if somebody has a better way to skin the cat, then they can certainly do that under that facilitation method. That seems to have worked in the past.

Executive Director of the US Access Board (2011, September 9)

Although originally added to the Rehabilitation Act of 1973 in 1986, Section 508 (which contains provisions related to access to electronic and information technology provided to or procured by the federal government) was significantly strengthened and expanded in 1998.[95,96] This expansion was designed to ensure that anyone availing themselves of federal government resources (such as -.gov web sites) is provided appropriate access to all aspects of digital technology, including web pages and computer hardware and software. The legal mandates of Section 508 are limited to purchases by federal agencies and do not apply to private sector purchases or to public entities other than federal agencies, even public educational institutions.

To establish some consistent and implementable functional standards for accessibility, Congress also authorized the Architectural and Transportation Barriers Compliance Board (commonly referred to as the Access Board) to (1) define "electronic and information technology" and (2) determine the "technical and functional performance criteria necessary to implement the requirements set forth in paragraph (1)."[97]

The standards established by the Access Board became mandates for all federal agencies in 2001, and, as required by law, are currently undergoing a formal "refresh" to address the emergence of new technological applications and products relevant to Federal government activities.[98] The refresh is expected to elevate the importance of functional requirements, especially those related to providing alternate forms of navigation and interaction with digital content and equivalent representations of various media types—text, images, audio and video—to a higher level of importance. In addition, the refresh

is expected to effectively harmonize Section 508 standards with the Web Content Accessibility Guidelines (WCAG2) to bring both standards sets into alignment. The anticipated harmonization between WCAG2 (which is the leading accessibility standard used for the world wide web) with Section 508 standards (which are the U.S. government's accessibility standards) will provide clearer procedures for those in the content creation field.

Due to the far-reaching impact of Federal government procurement policies, in the decade since the establishment of Section 508 standards by the Access Board, these functional approaches to accessibility have become a de facto standard for many states and for product developers for guiding the creation of accessible digital technologies and content, and some states have adopted state standards often described as "mini-508's." The direct application of Section 508 does, however, remain limited to federal agencies, as does enforcement pertaining to violations.

State Instructional Materials Legislation

There are at least 12 states with laws requiring accessible instructional materials in higher education, referred to as "postsecondary e-text statutes:" Arkansas, California, Kentucky, Maryland, Michigan, Nevada, New Mexico, New York, Oregon, Texas, Utah and Washington.[99] These statutes support postsecondary institutions in fulfilling their mission and their requirements under civil rights law and are precedent-setting in establishing procedures for the provision and permissioning of e-text by publishers for use by students with documented disabilities.

Accessible Instructional Materials in K–12 Schools

Providing students with access to AIM was a prominent focus of the 2004 re-authorization of the IDEA 2004.[100] IDEA 2004 established the NIMAS, an eXtensible Mark-up Language (XML)-based source file standard intended to be used to create files in specialized formats. The law requires all state and local educational agencies to adopt the NIMAS for the purpose of providing AIM to elementary and secondary students who are blind or who have print disabilities.[101] "NIMAS" is defined as "the standard established by the Secretary to be used in the preparation of electronic files suitable and used solely for efficient conversion into specialized formats."[102] The term "specialized formats" has the same meaning as that under the Chafee Amendment—braille, audio, or digital text and, as amended by IDEA 2004, with respect to print instructional materials, large print formats when such materials are distributed exclusively for use by blind or other persons with disabilities.[103]

IDEA 2004 also allowed state and local educational agencies to voluntarily coordinate with the NIMAC, a federally funded, national electronic file repository for AIM, in order to receive NIMAS source files.[104] Alternatively, state and local educational agencies could meet their AIM obligations by purchasing accessible versions of core textbooks and related instructional materials directly from curriculum publishers.

IDEA 2004 also amended the Chafee Amendment to extend limited copyright protections to publishers to create and distribute copies of electronic files to the NIMAC that contain the contents of print instructional materials using the NIMAS, provided that (1) the inclusion of the contents of such print instructional materials is required by an SEA or an LEA (2) the publisher had the right to publish such print instructional materials in print formats and (3) such copies are used solely for reproduction or distribution of the contents of such print instructional materials in specialized formats.[105]

On sheer volume alone, there are more instructional materials being provided digitally than in print. When it comes to these course materials, they need to be looked at by our DR/S office to make sure they are accessible.

Postsecondary ADA Coordinator (2011, July 12)

Although the market has made strides in the development and delivery of accessible instructional materials, not every digital file and product that enters the marketplace is accessible to users with disabilities due to a number of factors. Many times these inaccessible products come from individuals or companies that did not intend to publish for postsecondary education, i.e., small- and medium-sized publishers without the capacity or funds to produce accessible media; faculty and other content experts with little accessibility awareness who produce open-source materials; and producers of materials only in print formats. Compounding this barrier is a lack of systemic purchasing practices in some postsecondary institutions, a systemic design flaw which allows for the adoption of products that are not accessible to students with disabilities. Addressing accessibility issues across these categories of producers remains a significant challenge.

Our markets are becoming increasingly digital and demanding accessible content and the publishers are beginning to respond to these demands.

Publisher Representative (2011, August 12)

In addition to accessibility challenges posed by various types of digital content, students with disabilities often encounter barriers when attempting to use course management or courseware delivery systems, online course registration utilities, basic productivity software and library reference databases. While not all of these commonly installed software programs are inaccessible, many of them pay only marginal attention to accessibility.

Commercial content producers now have the opportunity and the technologies to accelerate the move toward accessibility of many products, and in so doing to better meet the needs of all students. Many institutions and faculty sit on both sides of the

supply/demand equation, as they are often producers of content (print and digital) and learning technologies and thus have similar obligations to provide accessibility, including for open educational resources. The Commission recognizes that it may take a combination of regulatory and market forces to drive further development and adoption of AIM.

Recommendation #1: The Access Board

Congress should authorize the United States Access Board to establish guidelines for accessible instructional materials Congress should authorize the United States Access Board to establish guidelines for accessible instructional materials that will be used by government, in the private sector and in postsecondary academic settings.

Build on Section 508

The nice thing about 508 is that it is a standard and it's a consistent standard that people can rely on. Section 508 exists in K–12 with a number of states that are requiring the purchasers to purchase 508 materials and one who requires us to sell materials that are 508-compliant, which has moved us rapidly into that arena.

Publisher Representative (2011, May 3)

The Commission unanimously agrees that Congress should authorize and direct the United States Access Board to establish guidelines for AIM. The Commission believes that the revised and updated Section 508 guidelines (if adopted), while not intended to address the unique aspects of access to instructional materials, will better serve students with disabilities by incorporating instructional requirements.[106] In making this recommendation, the Commission is clear that the proposed guidelines for accessible instructional materials should serve to provide clarity to the market.

The Commission heard consistent testimony from a wide range of stakeholders, including end users, service providers and industry representatives such as the Association of American Publishers (AAP), the Association of American University Presses (AAUP) and the Software and Information Industry Association (SIIA), in support of Section 508 as the foundation for guidelines for accessible instructional materials. Section 508 has become the default accessibility standard for the industry and for many states and public educational institutions.[107] Although not designed with instructional materials in mind, Section 508, when "refreshed," can provide a baseline set of functional performance standards and review criteria, as well as a balanced process that recognizes the multitude of applications and platforms, the dynamic nature of technology, and the wide variety of decision factors.

Section 508 appropriately focuses on functional requirements rather than a specific file or other format. The pending updated Section 508 standards (Section 508 "refresh") are currently expected to be harmonized with WCAG2. A single 508 standard is especially appropriate because many technologies are designed for use outside of education, but utilized in education. A unified guidelines approach also will promote competition in the industry by clarifying market requirements for accessibility.

Establishing and implementing a single unified set of accessibility performance standards for digital documents and their delivery systems is highly desirable. Guidelines developed under the auspices of the Access Board would (a) build upon an already-established set of specifications for electronic and information technology (Section 508), (b) work to assure harmonization with other accepted national and international accessibility specifications (WCAG2, etc.) and (c) provide a technical specification as the foundation for enforceable standards.

Specifications for Digital Documents

As we look to the future, our hope is that there will be a universally accessible standard format identified for the various devices and materials available to our users.

Postsecondary Disability Service Provider (2011, May 4)

The Commission recommends that the criteria described below be implemented. Rather than adopting a specific file format for creating accessible documents and documents that can be easily transformed into other formats (such as braille, DAISY and other student-requested accessible formats) the following document characteristics should, at a minimum, be provided:

- All content included and structured in a logical sequence
- All major heading structures retained and designated as such
- Page breaks included for each page
- Page numbers included for each page (regardless of whether or not numbers are to be displayed)
- Content presented in a table format must be properly structured
- Text contained in an image must be provided
- Adequate descriptive text must be included for images, charts, graphs, et al.
- Mathematical Mark-up Language (MathML) or sufficient textual expression for mathematical content must be provided

These functional capabilities for digital documents are supported or referenced in the 2011 *Accessible Publishing—Best Practice Guidelines for Publishers*, a joint publication of EDI*t*EUR, the DAISY Consortium and the World Intellectual Property Organization (WIPO).[108]

Recommendation #2: Section 121 of the Copyright Act (the Chafee Amendment)

Congress should review the scope, effectiveness and function of the Copyright Act as amended (Section 121, the Chafee Amendment) to determine whether it or any of its key component elements, as well as its implementation through applicable regulations, needs to be updated to adequately address the needs of individuals with print disabilities, including those enrolled in postsecondary education.

It would be beneficial to revisit the existing Section 121 Copyright exception (Chafee Amendment) in hopes of clarifying or updating some of its components. Section 121 has significantly expanded the availability of AIM for those individuals who qualify as beneficiaries. However, ambiguous and sometimes conflicting interpretations of its components have resulted in widespread confusion, which has, in turn, decreased its efficacy.

Therefore, determining the effects of the Chafee Amendment, its application in postsecondary settings, the rapid shift to digital materials and delivery systems and their associated copyright issues, and whether the Amendment accurately reflects research into the physical and neurological basis of specific learning disabilities over the past 15 years, is warranted.

The Commission was charged with examining the definitions of "authorized entities," "instructional materials," and "eligible students." The terms "authorized entity" and "print instructional materials" are currently defined in Section 121 and some students with print disabilities may or may not fall under Section 121's definition of "blind or other persons with disabilities."

Science, technology and instructional materials have all advanced considerably since the passage of Section 121 in 1996. Scientific research related to specific learning disabilities has evolved considerably.[109,110,111] The newest version of the popular ePUB standard for production and delivery of reflowable e-books, ePUB3, is converging with DAISY, the *de facto* accessible content standard for XML-based e-books.

Similarly, the increased flexibility of technology has resulted in instructional materials that are now far more diverse and delivered increasingly in digital rather than print formats.

There are four particular references in Section 121that are of greatest relevance to the context of AIM in higher education in 2011:

1. The kinds of organizations that may qualify as an "**authorized entity,**"
2. The types or nature of "**specialized formats**" that qualify for purposes of reproduction and distribution,
3. The scope of the beneficiary class, for purposes of who is considered to be eligible as "**blind or other persons with disabilities**," and
4. The definition of "**previously published, non-dramatic literary work**" in the digital age.

Authorized Entity

Providing disability documentation is a time-consuming, embarrassing process requiring significant planning and coordination by students and staff. Students with learning disabilities learn differently, but we are not less. By requiring us repeatedly to "prove" our deficits to receive the accommodations that best suit our brains is discouraging students.

Student with dyslexia (2011, February 25)

With respect to what kind of organization may qualify as an authorized entity, the Commission's discussion focused on whether Congress intended a campus-based or system-wide office that provides academic support services for postsecondary students with disabilities to qualify as "*a nonprofit organization or a governmental agency that has a primary mission to provide specialized services relating to training, education, or adaptive reading or information access needs of blind or other persons with disabilities.*" However, this is largely a matter of legal interpretation.

With respect to such offices or institutions, which collectively number more than 5,000 in the United States, the latter issue includes consideration of how interpreting the intent of Congress to include organizations that are so numerous by their nature would impact the industry as a whole. Limiting the types of organizations that would qualify to exercise reproduction and distribution privileges as an authorized entity under this copyright exception may be needed to avoid harm to copyright owners in their mainstream markets.

Specialized Formats

The Commission's discussions about specialized formats in Section 121 started with the statutory definition: "*braille, audio, or digital text which is exclusively for use by blind or other persons with disabilities; and with respect to print instructional materials, includes large print formats when such materials are distributed exclusively for use by blind or other persons with disabilities.*" The Commission observed that that audio, digital text and large print formats that now make up the majority of accessible materials delivered under Section 121 are based on mainstream technology formats such as XML and MP3. The main question on specialized formats was whether the term should mean the intrinsic technical nature of current formats on the one hand, or on the scope of distribution limitations ("*for the exclusive use of blind or other persons with disabilities*" as defined in Section 121) on the other hand. The Commission reached consensus that Section 121 should continue to have distribution limitations.

Certification of Eligibility under Chafee

With respect to the eligibility of "blind or other persons with disabilities," discussions focused on the Section 121 certification requirement for learning disabilities that affect reading.

Currently, certification for reading disabilities requires a medical doctor and does not allow professionals such as psychologists and special education professionals who do have

the necessary clinical expertise and experience to provide certification. The Commission noted that various authorized entities have interpreted certification requirements in different ways, and this has caused inconsistency due to differences in perspectives with regard to which postsecondary students qualify for services under Section 121. The Commission did reach consensus that any changes to Section 121 should not lead to a significant expansion of students eligible for these services: the eligible population should remain as 1–2% of total student populations. While eligibility remains narrow, it ensures that requirements are met for copyright exemption and minimizes the exemption's economic impact on rights holders.

Genres and Media

Currently, the Section 121 exception covers only "non-dramatic literary works," which does not address the full range of instructional materials used in postsecondary education. This definition excludes plays, music and films that are frequently required course-related materials in academic settings. In a review of the Chafee amendment, this exclusion may bear examination.

Recommendation #3: Disability Documentation

The Commission recommends that the Department of Education and the Department of Justice consider whether to provide additional guidance on legal requirements concerning postsecondary institutions' policies and procedures regarding the documentation of disability under Title II and Title III of the ADA and according to Section 504, to reduce the barriers currently presented by some institutions' requirements for documentation of disability.

Postsecondary institutions require students with disabilities to present supporting documentation as to the nature and severity of their condition. Best practices guidelines promulgated by AHEAD recommend flexibility in the nature of documentation required to determine eligibility and the uses for that documentation to determine the most appropriate accommodations.[112]

Postsecondary institutions are not necessarily required to accept documentation of a disability that originated in a student's elementary or secondary experience as sufficient documentation of disability for the purposes of postsecondary academic adjustments or auxiliary aids. Additional and more up-to-date assessments may be required, and payment for these (often high-cost) procedures is the responsibility of the student.[113] If a student's documentation is insufficient, their postsecondary institution is not required to pay for testing that is required to determine whether a student has a documented

disability. Thus, while providing documentation of disability is necessary, for many students it is a costly step, sometimes prohibitively so.

The Commission found that some postsecondary institutions require students to periodically update documentation of their disabilities to demonstrate that they are still qualified students with disabilities for the purpose of receiving auxiliary aids and services. In addition, testing entities conducting graduate and professional school examinations frequently require new certification. The Commission believes that such requirements for students with long-term disabilities and no near-term prospect of change may create unnecessary expense and potential delay in receiving auxiliary aids and services.

While there are disabilities that are by their nature variable, such as a disability that is episodic or that can go into remission, most students with print disabilities have disabilities that are likely to persist throughout their education and lifespan: from K–12 through postsecondary, graduate and adult education. For many students with certain kinds of impairments, such as dyslexia, each disability assessment can cost thousands of dollars.[114] Requiring these assessments to be performed annually, or every few years, can easily create an adverse impact on students who cannot afford this expense. In some cases, students who have had a detailed assessment in secondary school and are preparing for transition to postsecondary studies should not need to provide new documentation to demonstrate that they meet the legal definition of an individual with a disability. Even for those institutions of higher education that pay for such assessments, the time required and delays in provision of services while waiting for such assessment results can be problematic.

Out of those 6,000 requests for alternate formats, interestingly enough, over 3,000 of them—I mean, over 3,000 titles were requested. Which means, as you break it down, 61 percent of their titles were only requested once. And not only the 61 percent have a single request, another 20 percent had only two requests. So, basically, four out of five titles were only requested over a five-year period twice. So this is an issue for the publishers who are trying to figure out how to support people efficiently in those needs.

AIM Consultant
(2011, May 3)

The Commission notes that OCR interprets regulatory requirements as giving postsecondary institutions the discretion to develop their own policies and procedures for documenting students' disabilities, as long as those policies and procedures are reasonable and in compliance with Section 504 and Title II.[115] The Commission suggests that the Department consider issuing policy guidance on how to determine whether policies and procedures are "reasonable."

In addition, the Commission believes that the departments of Education and Justice should consider examining this issue in the context of high-stakes testing for professional and educational purposes in order to reduce the barriers to access to education created by excessive and duplicative requirements for disability assessments.

These disability determinations also affect a student's eligibility for services through Section 121 authorized entities because most students receiving services from authorized entities have their proof of qualifying disability supplied by their educational institutions.[116]

This recommendation is not intended to affect the normal activities of DR/S offices in working with students with disabilities to determine the best accommodation(s) for them for each class and educational activity.

Chapter 2—Market Solutions

Summary

The challenge of providing AIM for students with disabilities in a timely and cost-effective manner involves many different variables that are all in motion. The confluence of these variables will effect change that is likely to be most profound over the next five years as the print-oriented world with its longstanding practices, policies and market dynamics is altered by a world that is increasingly digital. The evolution of challenges related to the provision of AIM has occurred rapidly. Acquisition of accessible materials was a laborious task that was focused entirely on creating alternate formats at the time the HEO Act was written and enacted in 2008. Today, providers of AIM are poised for instant response and market options may, for some materials and for some students, completely obviate the need for alternate formats.

By 2007, several drivers (e.g., digital technologies, including e-texts; Section 508; and ripples from K–12's IDEA legislation) were already in place to stimulate a transformation in the print books market. In higher education, educational, trade, professional, scholarly and independent press publications may be assigned reading in a postsecondary classroom. Regarding the creation of accessible versions of these materials, processes related to obtaining files and permissions that previously took weeks and months to accomplish can now be completed in minutes or hours. Procedures that consumed hours of valuable staff time for publishers and DR/S offices alike can now be completed with minimal human intervention. The redundancy of the current system which still often requires DR/S coordinators to transform source files or scan and process print copies into student-ready digital files will be dramatically reduced. As sanctioned file-sharing efforts, coupled with the availability of more accessible files from course material producers, emerge more student-ready files will become available to be used by multiple institutions.

While the present efficiency in delivering alternate formats for students is a major change from even the recent past, it still is not the ideal. Rather, the ideal is for the vast majority of mainstream instructional materials to be available in accessible forms in the same manner that and at the same time as traditional materials are available. The Commission believes that this ideal can best be achieved through market model solutions. Such market model solutions can include products produced and sold by publishers and other content owners as well as products using licensed publisher content that are produced, sold and supported by digital distributors. In some capacities, the market is already moving towards accessibility solutions. For example, several major digital retailers (CourseSmart, VitalSource, Inkling and others) began releasing accessible textbook products that embrace universal design during 2011.

And I also think that "out of the box" accessibility of born digital instructional materials is huge. Anything that supports universal design and accessibility right up front is very good.

Community College Alternate-Format Production Specialist (2011, July 12)

Even when market models mature there will be instructional materials that, for the foreseeable future, will not be available through market channels. These include older titles, titles from small- and medium-sized publishers, titles from non-commercial publishers and instructor-created materials. It is also important to recognize those areas where market-based options can, at best, be only part of the total solution. Market-based solutions will take time to become fully established, but as authoring and product development tools are improved and publishing services vendors become more accessibility savvy, smaller publishers will be able to make their offerings accessible. Regardless of whether AIM are provided via market-based distribution or by some other means, the needs of low-incidence student populations will continue to require and to deserve special attention.

Higher Education Publishers

There are more than 262,000 publication titles currently for sale in college bookstores that are produced by more than 4,000 publishers.[117] The AAP estimates that its nine higher education publisher members produce more than 90% of all print and digital textbooks currently sold in the United States, calculated by unit volumes.[118] At the time of this report, only a small percentage of these titles are available in the marketplace in an accessible digital form. That number, however, is growing significantly as digital retailers (e.g., CourseSmart, VitalSource, etc.) grow their catalogs of AIM texts.

During the last decade, publishers have cumulatively provided tens of thousands of e-text files of their printed textbooks each year to college DR/S offices around the country. These files are converted, enhanced, or otherwise used to provide accessible formats of textbooks to students with print disabilities. While some 12 states have laws requiring publishers to provide these digital files under specific circumstances and on an as-needed basis to serve a student

enrolled in a course for which the textbook has been assigned, publishers have long provided e-text files to DR/S offices voluntarily in states without such legislation as well.

Non-Textbook Instructional Materials

Simplification and automation of production would be helpful, but even more so, born digital accessible formats from the publishers, both book and periodical, we feel is the true goal.

Postsecondary Disability Service Provider (2011, May 4)

The role of the classic printed textbook is expected to gradually decline; becoming a smaller portion of the required course materials that faculty will expect their postsecondary students to use in their studies. Continuing growth is expected, however, in the use of software, multimedia resources and non-print supplements provided by textbook publishers. Instructors are also increasingly reserving digital course materials for students at a school's library and requiring students to utilize course packs, periodicals, articles, novels, nonfiction works, reference materials and other resources there. All of these required materials must be provided in accessible form to students. These and other required resources may be web-based and, if they are not controlled by the school, a student with a disability is often without AIM support and can face a significant challenge.

Technological Changes

My degree is pretty much completely ruined because I have not been able to take a single math course. Computer science is extremely math heavy, as it should be. But this is something that I am quite interested in. I write software for a living now and the only way I'm going to be able to do that is, well, it's certainly not going to involve a degree.

Student with a visual impairment (2011, February 24)

The rate of change in assistive technologies such as screen readers and the explosion in new portable technologies such as tablet computers are creating an array of challenges. Some faculty have shown an eagerness to adopt new technologies because of the promise they hold for energizing the learning experience for students, improving student success rates and lowering the cost-per-pupil for instruction. However, technologies that do not incorporate accessibility features will prevent students with disabilities from being able to fully participate. This would place postsecondary institutions in a difficult position as there may not be an equally effective and equally integrated alternative to the chosen technology.

Recent OCR and DOJ guidance related to electronic book reader pilot programs has demonstrated explicitly that new technologies, while opening up a world of educational possibilities, also can create accessibility challenges. OCR's June 2010 DCL stated, "Requiring use of an emerging technology in a classroom environment when the technology is inaccessible to an entire population of individuals with disabilities—individuals with visual disabilities—is discrimination prohibited by the Americans with Disabilities Act of 1990 (ADA) and Section 504 of the Rehabilitation Act of 1973 (Section 504) unless those individuals are provided accommodations or modifications that permit them to receive all the educational benefits provided by the technology in an equally effective and equally integrated manner."[119]

The June 2010 DCL called for colleges and universities to "refrain from requiring the use of any electronic book reader, or other similar technology, in a teaching or classroom environment as long as the device remains inaccessible to individuals who are blind or have low vision. It is unacceptable for universities to use emerging technology without insisting that this technology be accessible to all students."[120] OCR also noted in the follow-up May 2011 FAQ document that "As explained by the DCL, application of our long-standing non-discrimination requirements means that schools must provide an electronic book reader (*i.e.*, the technology that the school uses to provide educational benefits, services, or opportunities) that is fully accessible to students who are blind or have low vision; otherwise schools must provide accommodations or modifications to ensure that the benefits of their educational program are provided to these students in an equally effective and equally integrated manner."[121]

Problematic Content Areas

At present there are important areas of content in postsecondary education where accessibility challenges have not been adequately met. Producers of STEM content are a long way away from having generally accepted methods to follow for delivering content accessibly.[122] The recent incorporation of MathML into the DAISY, ePUB3 and HTML5 standards has provided progress in mathematics but to date MathML is neither uniformly well-handled by web browsers nor widely used by authoring faculty. STEM accessibility is very much a persisting challenge.

In addition, instructional materials in the areas of foreign languages and music present unique challenges. The conversion of these materials into accessible formats requires highly specialized expertise and, with respect to braille in particular, requires competency in either foreign language braille coding or braille music code.

Publishers Producing and Selling AIM

As of today, the market model for AIM is in a gestational state. Publishers recognize that the demand for digital texts is poised to grow dramatically and are working aggressively to determine how best to meet the demand. At this time, the significance of the direct-from-publisher channel cannot be determined without data documenting the degree to which customers respond to new publisher offerings. It is anticipated, however, that content producers and publishers seeking success in the marketplace will utilize software that supports access for students with disabilities to deliver a viable reading experience. The ideal circumstance would be having AIM available through digital retailers and usable by students with little or no need for DR/S

intervention. The transition to AIM needs to be supported by training of students and support for students who are not adept in the use of digital technologies.

The Capacity of the Market to Address Accessibility Needs

Instructional materials range from textbooks and traditional print-based sources to PowerPoint presentations, course packs, web pages, videos, animations, audio and e-texts, among others. These materials may be developed by commercial publishers other content producers or as open educational resources (OER) created by course instructors, foundations, U.S. government agencies, or other content developers.

Increasingly, these products are created and distributed digitally and more frequently they incorporate multimedia and rich media interactivity. The incorporation of these media and dynamics in a single product (a feature-rich electronic book, for example) complicates accessibility issues, and the technological complexity of a product may make it impossible for a DR/S office to transform it into a fully accessible version. In these instances, a postsecondary institution would, pursuant to the OCR/DOJ DCL and the OCR FAQ document, have to provide accommodations and modifications to ensure that the benefits of the educational program are provided to students with disabilities in an equally effective and integrated manner. Given the increasing complexity of feature-rich digital instructional materials, DR/S offices would seldom have the ability to make the materials fully accessible. For this reason, these materials need to be designed from the outset with accessibility in mind.

Through research and discussion, the Commission determined that the existing network of AMPs, which includes organizations as APH, Learning Ally (formerly Recording for the Blind & Dyslexic) and Bookshare, are not going to be able to retrofit even a small proportion of the wide variety of media-rich digital materials into accessible, student-ready versions. In recognition of these increasing needs, the ED recently funded the DIAGRAM Research and Development Center (in which several of the national AMPs participate) to develop open source online tools to make it easier and less costly for publishers, AMPs, schools and individuals to add accessible features to inaccessible media in educational content of all types.[123]

The Challenge of Rich Media

Providing accessibility in multimedia digital materials may require text equivalents for images and video, audio equivalents for text, text equivalents for audio and other transformations that are technically feasible and often can be economical to implement as products are being designed and developed. As

an afterthought, however, accessibility features are expensive, time-consuming and, in some cases, impossible to effect. A growing number of college textbook publishers and providers of other types of instructional software for the postsecondary market are increasingly aware of the need to create materials that can be used by students with disabilities, and a number of them are taking steps to adjust their content offerings accordingly.[124]

Delivery Systems and Software

A large number of postsecondary institutions and instructors use networked and online content management systems (CMS) and learning management systems (LMS), such as Blackboard, Elluminate, eCollege, Moodle and approximately 35 other platforms.[125] These systems provide online course access and most include embedded student-to-student-to-instructor communication modules, assignments and interactive quizzes and exams. Attention to accessibility has significantly increased in this segment of the postsecondary materials market in the past few years. Still, it is important that these delivery systems consider accessibility needs to address the considerable instruction and communication that occurs almost exclusively online. While the majority of these systems report that their student components are compliant with the current accessibility requirements of Section 508 of the Rehabilitation Act and/or with WCAG Level A requirements of the World Wide Web Consortium (w3C), two issues should be noted.[126] First, the availability of accessibility features does not guarantee their use by instructors or other content creators. Second, because the Section 508 standards were not designed with instructional materials in mind, 508-conforming accessibility solutions offered may or may not be appropriate for assuring equal access.

Outside of the classroom, students may encounter additional access barriers that impact their classroom performance. For example, more and more, students interact primarily with digital systems when they register for classes, financial aid and educational assistance, as well as for accessing a wide variety of online and other content. Unfortunately, these systems are often procured without accessibility in mind, making it is much more difficult to efficiently accommodate the accessibility needs of students with disabilities.

Students need to be able to access digital reserve materials from libraries, course registration and other information from university web sites and online databases for research. Some state-affiliated institutions of higher education have adopted Section 508 accessibility requirements for systems interacting with users via a web browser, but this is not typical.

Increasing awareness of disability requirements in the acquisition and operation of IT systems by institutions of higher education is clearly needed.

Technology Challenges Access

As technology continues to advance and instructional materials become more media-rich, institutions of higher education increasingly find it more challenging to comply with their obligation under the law to ensure that qualified students with disabilities have equal access to educational opportunities and benefits. In short, they often lack the resources to retrofit market-quality versions that yield the same quality as the original works and are therefore challenged to meet the standards to which postsecondary students are entitled under disabilities laws. The alternate formats provided by DR/S offices may not be of equal quality to their commercial counterparts (e.g., a digital scan of a book is usually not the same as a book)—but the problem is now more challenging since digital marketplace works contain more graphics, more potential for interactive features and more hyperlinks, for example.

All Commission members agree that the ideal solution for meeting the instructional and access needs of most students with disabilities lies in increasing the availability of "universally designed" digital academic materials and delivery systems:

> The term 'universal design' means a concept or philosophy for designing and delivering products and services that are usable by people with the widest possible range of functional capabilities, which include products and services that are directly accessible (without requiring assistive technologies) and products and services that are interoperable with assistive technologies.[127]

The Commission also agrees that to affect this solution in a comprehensive manner will require a multifaceted approach. Many significant technology advances during the past decade have been introduced with major accessibility defects while, at the same time, technology has come to play an increasingly significant role in instructional settings. The difficulties of circumventing the purchase and implementation of inaccessible technologies have been articulated before the Commission in public testimony by postsecondary personnel, and significant technological barriers were presented by students and faculty with disabilities from a wide range of postsecondary institutions. As a digital infrastructure becomes more central to all aspects of postsecondary education, assuring its usability for all students is a paramount consideration.

Since the environment for commercially produced AIM is very much in flux and major changes are occurring that hold promise for significant, continued improvement in the largest area of demand—required course materials—major publishers are migrating from print to digital at a rapid pace and are making efforts to "build in" accessibility functionality from the start to conform to Section 508 standards and to WCAG2 Level AA Guidelines in anticipation that the two will be harmonized in the "refreshed" Section 508.[128] Because these are the publishers of some ninety percent of the print textbooks and many of the new digital course materials now sold, this transition will greatly improve access to digital content available for purchase through the marketplace.

Recommendation #4: Market Capacity

If the postsecondary marketplace—producers of instructional materials and delivery systems and institutions of higher education—does not adequately provide AIM for students with print disabilities, Congress should consider appropriate legislation to better address these shortcomings.

The Commission believes that the best way to address the needs of students with print disabilities is for mainstream instructional materials to become fully accessible. The current transition away from printed materials to digital materials creates a new opportunity for equality, one that can enable students with print disabilities to utilize the same products as their peers who do not have disabilities. The goal is for individual students who purchase their own materials, as well as institutions of higher education that purchase delivery systems for instructional materials, to be able to purchase such products and expect them to be to be accessible. With this accomplished, today's specialized approaches to resolving accessibility challenges would move from being the primary sources of accessible materials to secondary sources.

In today's rapidly evolving digital marketplace, the Commission sees both hopeful signs of an accessible mainstream future as well as the danger of increased implementation of inaccessible technologies that provide significant barriers to students with disabilities in the postsecondary environment. In the future, progress towards mainstream accessibility to meet the educational needs of students with print disabilities should be assessed by Congress.

The Commission believes that Congress should establish a mechanism within the next three years for evaluating the digital marketplace to assess the degree to which there is an increase in the availability and purchase of AIM for postsecondary students with print disabilities. There is widespread agreement within

the Commission that appropriate metrics and empirical data need to be developed to form the basis for assessing the success or failure of either or both sides of the postsecondary marketplace—producers and consumers.

The Commission's hope is that during this recommended three-year time period there will be a major shift towards students with print disabilities being able to obtain mainstream instructional materials that are accessible to them and meet their educational needs. At that point, students with print disabilities would simply order or use the same digital content being used by the majority of their peers. This market-based approach would overcome many of the barriers cited in Appendix E.

The Commission believes that the evaluation mechanism should be developed to focus on methods of obtaining accessible instructional materials from mainstream sources. Examples of useful metrics might include the percentage of materials obtained through specialized *vs.* mainstream channels, the timeliness of obtaining those materials for students with disabilities compared to the time required to obtain materials for non-disabled students, the percentage of materials that are unobtainable in a usable format for students with print disabilities from any source, and the types of technologies required to participate in the postsecondary environment as well as quantitative and qualitative data on their accessibility.

The Commission believes it is the legal responsibility of institutions of higher education, including administration, department chairs, deans and faculty to assure appropriate instructional materials for all of their students, including those with disabilities. The Commission believes that institutions can effectively accomplish this goal by leveraging their demand for instructional materials and related software and hardware delivery systems that are accessible to all students. This will be best achieved when clear guidelines for accessibility in adoption and purchasing, as described in Recommendation 1, are provided. If accessibility was introduced as a fundamental requirement for doing business in higher education, vendors who build accessibility into their products would be in a more competitive position.

To better segment the issue of instructional materials, the Commission addressed three categories of academic resources: (1) print works, (2) digital e-texts and (3) supporting software and applications (CMSs, LMSs, operating systems, web browsers, animation engines, digital publishing platforms, desktop applications, etc.) commonly found in postsecondary settings.

Regarding DRM issues, we just can't make all of our content open and free to everybody … we're having enough trouble with piracy already, even print piracy. So we just want to encourage commercial digital distributors to make sure that DRM used in their systems enhances rather than limits accessibility features.

Publisher Representative (2011, May 3)

With respect to the first category, print works, the Commission noted that print, by its very nature, is and will continue to be inaccessible to a wide range of students with print disabilities. For print to be made accessible in the most efficient manner, it needs to be transformed into a digital file. As digital e-text products move towards becoming the norm in higher education, accessibility of these digital products should be a priority. Many low-incidence and high-cost materials will, however, continue to be produced by today's specialized system (i.e., non-market-oriented DR/S offices and AMPs).

The growth of the digital e-text industry is beginning to eliminate many traditional accessibility barriers and is creating an opportunity for sales of accessible e-text content as the market for digital files expands. A key concern, however, is that DRM designed to discourage unauthorized copying often locks essentially accessible content within an inaccessible wrapper. Recommendation 11 focuses on the issue of DRM with the goal of assuring that commercially available e-texts will be usable by students with print disabilities, thereby encouraging the purchase of mainstream e-texts. Until issues surrounding DRM are resolved for students with disabilities, the goal of making e-texts accessible enough to be purchased by students with disabilities will continue to depend on rendering technology beyond the actual e-text content.

The third category, supporting software and applications, remains a source of many accessibility challenges. Even if instructional materials are accessible at their core, if the delivery systems available to sell and render these materials are inaccessible, students with print disabilities will not be able to use them. Since the accessibility of these delivery systems is a prerequisite for the accessibility of digital materials, this area was identified by the Commission as a significant priority to enable a functioning market-based approach. The majority of these delivery systems introduced to date have had significant accessibility problems when first brought to the marketplace, resulting in students with print disabilities not being able to use these products alongside their peers without disabilities.[129] Often, accommodations provided have not been equally effective nor equally integrated, resulting in separate and unequal educational opportunities.

The OCR's May 2011 FAQ document regarding emerging technology (see Appendix G) addresses the need to ensure that all of these programs and activities at a school, including those that are online or operate in a "virtual" context, are accessible; or, alternatively, that functionally equivalent accommodations are provided.[130] Although institutions of higher education should be recommending and purchasing technology that is

accessible, the Commission heard testimony that the purchasing requirements of these institutions did not place a sufficiently high priority on accessibility—a reality that is unacceptable. Large publishers are reporting, however, that following the issuance of the DCL in June of 2010, some institutions are increasingly placing a higher priority on purchasing accessible materials and supporting software and applications.

The Commission looks forward to a transition from today's world of specialized supports for students with print disabilities to a time when students with print disabilities are able to use the same products and systems at the same time as all students. Ideally, a student with a print disability will rely on DR/S offices and specialized accessibility resources only to provide a safety net for materials not yet available digitally or for low-incidence accessibility services. If this positive vision of commercial products does not evolve within the next three years, and students with print disabilities are still not able to effectively utilize the mainstream supply of instructional materials at that time, the Commission believes that it would be appropriate for Congress to consider legislative action to expedite this transition to market-based solutions to provide students with disabilities equal educational opportunities.

Recommendation #5: Market Incentives

Congress should consider incentives to accelerate innovation in accessibility by publishers and producers of course materials, hardware and software by offering support and inducements for the production, sale and consumption of accessible instructional materials and delivery systems.

The Commission discussed a number of strategies for encouraging the producers of instructional materials (and, for digital-only products, their associated rendering or delivery systems) to design products usable by the widest array of individuals, including those with disabilities. In a market-based economy, the most efficient and effective means of affecting the design of products is via consumer demand. Commercial vendors respond to needs of their customers, with features and functionality built to address consumer expectation and to secure market share. Consumer requirements are also a factor in the success or failure of non-commercial OERs materials. If these products cannot meet instructional or institutional needs the fact that they are freely available will not be sufficient to warrant their adoption. From this perspective, it is clear that customer procurement drives product design and development in both the commercial and the OER sectors.

The Commission supports a concerted approach to increasing the awareness of consumers—institutions of higher education, faculty and students—through education about accessibility in relation to their selection of digital materials. The Commission details its recommendations to increase postsecondary institutional accessibility awareness in Chapter 4, Recommendation 12.

In addition to capacity-building for purchasers of instructional materials, the Commission references recommendations 1 (Access Board) and 9 (Federated Search) as critical factors designed to standardize accessibility features of instructional materials and more efficiently facilitate their discovery and acquisition. Recommendation 1 (Access Board) is designed to establish specific functional accessibility guidelines that will provide guidance and a sense of clarity of expectation that should benefit all stakeholders. In Recommendation 9 (Federated Search), the Commission recommends federal encouragement for further development of federated search capacity to enable DR/S offices, faculty, college/university book stores and students to utilize a single online search for commercial and non-commercial course materials that also permits users to determine the accessibility of those materials.

Finally, the Commission encourages Congress to investigate the applicability of tax incentives for the developers, publishers and distributors of postsecondary instructional materials to support the inclusion of accessibility features into their respective products. For example, the existing Disabled Access Credit Form 8826 of the Internal Revenue Service (IRS) provides some limited tax relief to qualified businesses for measures taken to comply with the equal access provisions of the ADA. It may serve as a model for encouraging the development of accessibility features in the creation of digital materials or services designed for use in instructional settings.

Beyond targeted incentives for stakeholders in the commercial instructional materials market, the Commission supports the exploration and expansion of voluntary licensing arrangements if doing so will increase the availability of AIM in postsecondary settings.

Recommendation #6: Licensing

Congress should consider means to encourage authors, publishers, producers and other content providers to collaborate with a range of organizations, including postsecondary institutions and alternate media producers, in developing cost-effective licensing models for the production and delivery of AIM.

Certain copyright industries already benefit from the existence of voluntary collective licensing frameworks which continue to develop for the purpose of licensing the reproduction, distribution, public performance and public display of works of authorship, including those produced and/or accessed in digital forms. Collective licensing models operate on an "opt-in" basis on the part of rights holders, who enroll to participate and authorize a collective rights organization to grant licenses to their works as part of its collective offerings.

In the context of accessibility and higher education and specifically targeting materials not presently commercially available in an accessible form, collective licensing could be an option. For example, it might enable a rights holders to negotiate a blanket license with an organization, such as CCC, that could, in turn, permit an authorized entity such as Learning Ally (formerly known as Recording for the Blind & Dyslexic), Bookshare, the NLS, or the Described and Captioned Media Program (DCMP) to create and deliver licensed works to educational institutions that have subscribed to one of their service agreements. A collective or repertory license would eliminate the sometimes laborious and costly process of identifying and contacting individual rights holders. Instead, it would allow organizations to deal with one party that would be able to license rights for a variety of regularly used materials, often in advance, through a single agreement.

The Copyright Clearance Center licenses all different types of material. We license text. We license moving images, video clips. We license still images. We license blog contents, e-books, in-print books, out-of-print books, journal articles, excerpts, and bits of code from O'Reilly Media. If you can create this and you want to license it, we can help you to do it.

Director, Copyright Clearance Center
(2011, February 15)

The Commission recognizes that, in many instances, the rights holder for a specific instructional work may not have additional rights beyond print publication allowing them to authorize digital reproduction and distribution of an entire work without first obtaining permission from third-party rights holders—including, for the use of prefatory text, photographs, or other component parts used by the publishers under agreements from other publishers, producers, historical societies, authors, or photographers. Such works will necessarily require special treatment under a collective rights arrangement.

The licensing concepts discussed may yield strategies that are applicable to the licensing of AIM. These types of agreements have the potential to expand the market for AIM simply by expanding the scope and number of formats available and could lead to new licensing agreements that provide for additional sales of accessible commercial products. Similarly, the licensing approach implemented by rights holders and publishers under the auspices of the AccessText Network, for example, provides the kind of federated search capacity that can lead to the sale of materials and may also serve as a model. A critical factor is assuring the availability of high-quality materials for the postsecondary market by combining the resources and capacities of disparate stakeholders.

Given the certainty of a digital future in postsecondary instructional materials, the Commission believes that the underlying technologies supporting them need to be flexible, harmonized with existing standards, readily discoverable, readily acquired and supportive of accessibility features.

Chapter 3—Technology

Hardware and Software Platforms

At this point in time, the educational technology market is experiencing an explosion of different hardware platforms. Devices dedicated to specific functions are also proliferating, such as proprietary e-text readers. The rapid development of these numerous hardware platforms and devices creates challenges to accessibility, since access usually requires certain capabilities of the hardware to allow for accessibility features.

There is a similar explosion in software platforms. Different vendors are vying to be the leading platform for software on mobile phones and tablet computers. The growth of the application market for mobile devices ("apps") has proliferated the ways information can be provided to users. Web technology can also create accessibility challenges.

Essentially, technology helps to level the playing field. And for me and for many other young people with learning disabilities, these innovations are more than just conveniences. They are difference makers.

Student with a learning disability (2011, February 24)

Not only does content need to be accessible, reading delivery systems also need to be accessible. The number and kinds of inaccessible platforms present a challenge because otherwise accessible content might be rendered inaccessible by a given software platform. This was clearly illustrated by the OCR and DOJ complaints against the Kindle, in which the user interface of the device itself was inaccessible to many students with disabilities.[131] Any solution to address accessibility must, therefore, not only address content but also content systems that render the information to the end user.

It used to be that postsecondary institutions, through centralized technology purchasing decisions, could more easily control the impact of these platform issues. However, the increasing shift in society to mobile and personal devices has made the situation more complex, as students are likely to be accessing the same content through dozens of different hardware and software platform combinations.

Historically, the accessibility of new hardware and software platforms has been addressed as follows: a new innovation comes out, but accessibility is not built in. Time passes, and accessibility issues are raised. Advocates file complaints, generally under civil rights law and against educational institutions; and gradually the most minimal of access becomes included, primarily through the efforts of assistive technology

(AT) producers, such as screen reader developers. With the current proliferation of new technologies, AT vendors must carefully allocate their development resources and choose the software they will work with, potentially leaving more applications without accessibility.

Instructional Materials

The nature of the postsecondary market is that a very large percentage (estimates range from 85% to 95% of calculated unit volume) of printed and digital textbooks sold in the postsecondary market are produced by approximately 10 large publishing organizations.[132] These publishers, the digital retailers who distribute electronic versions of their products under licenses and other e-text vendors are moving to incorporate accessibility into their products.

Additional instructional materials, including titles from smaller publishers, trade books, research publications, journals, reference books, videos and software, are generated by approximately 6,000 other producers.[133] It is not yet possible to predict the degree to which the producers of these additional materials will embrace the postsecondary accessibility market model. Accessibility standards such as Section 508 and WCAG, as well as increasing adoption of universal design principles, are beginning to change this paradigm. The Commission heard testimony from software producer members of SIIA that many producers of web applications, social media and productivity software are working to address accessibility challenges.

The belief that building accessibility into a digital product will create a potentially unrecoverable incremental cost can be a deterrent for some publishers who are considering embracing the market model by creating accessible versions of some of their titles for the commercial marketplace. If a publisher deems an incremental cost likely to prove unrecoverable, content producers are understandably likely to shy away from incurring that cost. Of course, if accessibility becomes a requirement of conducting business in the postsecondary market segment, this incremental cost can be justified as a requirement to be competitive in the postsecondary market sector.

A major inhibiting concern for the publishing community that produces AIM is the lack of a clear, authoritative definition of what constitutes a suitably accessible product or file in the postsecondary environment.[134] Without an explicit, stable definition of formats and best practices governing AIM production, publishers are sometimes hesitant to incur the costs of making workflow changes that would enable them to produce more accessible products and files. Not only does this impact

the potential for commercially available AIM, it also affects the likelihood of publishers' willingness to supply high quality files to meet the alternate needs of other use cases.

Currently textbook publishers are creating digital products of primarily three kinds. The first are digital versions of their print-only works and the second are works that are "born digital." In the third category are products that are, from the outset, expected to be available both in print and in digital form (typically for incorporation into third-party LMS or proprietary formats used in such systems as, for example, those provided by CourseSmart, VitalSource, Café Scribe and others).

For all of these digital products to be simultaneously available to students with and without disabilities wherever they may be enrolled, the products must be created with accessibility built in. Further, providing accessibility in digital learning materials offers benefits that extend beyond providing supports for students with disabilities. There is the potential for many students to take advantage of cross-media representations of information such as text-to-speech (TTS), captioned videos, text transcripts of audio and text equivalents for images. Supports that may provide essential information access for a student with a disability may offer a non-disabled student an alternative means of interpreting or acquiring information. For learning materials, added functionality such as embedded highlighting, bookmarking and note-taking, as well as built-in progress monitoring and supports to prompt a student to pay attention to critical information, are increasingly becoming aspects of instructional materials designed with both accessibility and pedagogy in mind.

PDF Traditionally Used for Print Publishing

The portable document format (PDF) was developed as a uniform way to view, print and distribute print-based information regardless of a computer's operating system.[135] While the original PDF was designed only to produce a fixed-layout document meant to replicate print—text and graphics—for digital distribution (eliminating the need to mail or fax paper documents) on screen, subsequent iterations of PDF have incorporated hyperlinks, interactive forms, increased levels of document security (designed to maintain the integrity of an original publication and/or restrict access to it), and embedded multimedia. In 2001, "tagging" was added to PDF, which added limited capacity to identify structural and other elements of a document (headings, quotations, body text, reading order, etc.) to facilitate the re-purposing of accessing a PDF document across multiple devices and platforms.[136]

While the addition of tagging did provide some capacity to separate the content of a PDF document from the manner in which it could be presented, the print foundation of PDF continues to present significant challenges in the more flexible and ever-increasing world of digital documents. These challenges are particularly noticeable in the area of accessibility for individuals with print disabilities. To make an accessible PDF document generally means it must be diligently authored with accessibility in mind, and, often, significant manual intervention is needed to achieve that outcome. As a result, most PDF documents remain inaccessible to students with print disabilities.[137]

PDF/UA: A standards-based effort to define accessible tagging of PDF

In 2005, a group of stakeholders came together for the purpose of developing a set of guidelines for the creation and distribution of PDF documents designed to be more accessible to and readable by individuals with print disabilities.[138] The guidelines established by the Portable Document Format Universal Accessibility Group (PDF/UA) have subsequently entered the International Organization for Standardization (ISO) process and although significant progress has been made towards developing clear benchmarks for creating accessible PDF documents, several ongoing challenges remain. Many PDF documents are not constructed to take advantage of either the flexibility or the accessibility of available tagging functionality. In addition, a PDF/UA version closest to standardization (ISO/DIS 14289:1 [PDF/UA]) does not support math mark-up (ergo, mathematics would most likely be represented by an inaccessible picture of the equations).[139]

PDF documents sometimes contain DRM settings used to protect the rights holder's content by locking a document and this prevents assistive technology from accessing it. Some documents are constructed to provide access for blind persons using screen readers, but others include settings that prevent the use of assistive technology (for example, in order to access its content via TTS).

DAISY—the Digital Accessible Information SYstem

Founded in 1996 to facilitate the transition of international talking book libraries from analog to digital technologies, the DAISY Consortium actively promotes DAISY specification as the international, technical foundation for accessible, navigable publications and documents. Building on a research project that was begun in 1988 by the Swedish Library of Talking Books and Braille (TPB) and the first working prototype developed in 1994 by TPB, the original primary goal of the DAISY initiative was the production of structured, phrase-based, recorded audio versions of print works. As the project evolved, the following core functions were added:

- Ability to skim text, phrase by phrase or section by section, where section is a collection of phrases
- Ability to search for different parts using a text-based table of contents
- Ability to search for specific pages in a talking book
- Ability to place and search for bookmarks in a book, and, later
- Ability to underline text and create notes in a talking book[140]

The original 1996 DAISY Consortium represented six international talking book libraries. As of 2011, the Consortium has a membership totaling almost 110, including twenty full members that provide direction and set policy. The membership represents an extensive international spectrum of stakeholders. Bookshare, Learning Ally, the National Federation of the Blind (NFB) and NLS at the Library of Congress are full members. The Consortium's primary focus has been to refine, extend and promote the international adoption of the DAISY standard for digital talking books (DTBs). The DAISY Consortium is the maintenance agency for the National Information Standards Organization's (NISO's) Digital Talking Book Standard (DTBook), now DAISY3. This technical specification is undergoing a final revision with a formal update to DAISY planned for the latter part of 2011.[141]

The NIMAS, incorporated in 2004 into the re-authorization of IDEA as the technical standard for K–12 core textbooks and related instructional materials, is a sub-set of the DAISY specification. The National File Format (NFF) Technical Panel that identified the NIMAS unanimously agreed that adoption of the well-established and actively implemented DAISY Standard would significantly increase the availability of high-quality alternate format materials—braille, audio, digital text and large print—for the nation's qualifying students with print disabilities. The NIMAS Standards Board and the NIMAS Development Center made a formal recommendation to the DOC in 2009 that MathML be formally included in the NIMAS (K–12), in order to improve the accessibility of STEM instructional materials.[142]

International Digital Publishing Forum (IDPF)—the ePUB3 Standard

In 1999, the stakeholder community involved in the production, distribution and consumption of electronic books established the Open e-Book Publishing Forum, or OEBF. This international organization saw the need to create a foundation specification, one based on open and readily usable standards, for the content, structure and presentation of electronic books.

As this organization evolved, it increasingly came to represent the interests of e-text producers and developers, and in 2005 its name was changed to the International Digital Publishing Forum, or IDPF, to more accurately represent that orientation.

In 2009 the IDPF formally accepted a request by the DAISY Consortium to support the maintenance of the IDPF standards and specifications, officially uniting the efforts of trade organizations, disability advocacy organizations and digital publishing technology groups in incorporating accessibility standards into the primary e-text publishing specification, ePUB3. As the revised DAISY Standard evolves, its accessibility functionality will be effectively incorporated into the proposed update to ePUB3. The incorporation of the accessibility-focused DAISY Standard into the broader ePUB3 specification is designed to ensure that ePUB3-based products are fully capable of supporting the accessibility requirements that are the foundation of DAISY.

Simultaneously, this convergence of the two specifications supports the needs of the DAISY Consortium to attend to the accessibility challenges that digital materials can create if not addressed at the development and production stage. In addition, ePUB3 incorporates modules for the use of rich media—audio, video, animations and interactivity. It incorporates sophisticated supports for computer-generated (synthetic) speech, it incorporates MathML for effectively rendering mathematics in an accessible manner, and it includes support for Scalable Vector Graphics (SVG) which can be used to create layered and navigable versions of images with embedded text equivalents which offers a significant boost to the production of tactile graphics.

Of interest to content producers and publishers, ePUB3 supports reflowable content, which means it can be deployed on multiple devices, and can efficiently support in-house publisher workflows as well as commercial product distribution. In the twelve years since its initial development, ePUB3 has emerged as the format of choice for e-text development and distribution. Adobe, Apple, Google, Microsoft, Nokia, Sony and many other vendors support ePUB3 in the provision of digital content.

Convergence Enhances Access

ePUB3, with its incorporation of DAISY accessibility requirements, holds significant promise for the increased availability of commercial products that are useable out of the box by a wide range of consumers—those with disabilities and those without. ePUB3 provides a strong example of the efficiency and effectiveness that can be achieved by the combined efforts of a stakeholder community. A recent (April, 2011) joint publication by the DAISY Consortium, WIPO, and

also EDI*t*EUR, which is the trade standards body for the global book and serials supply chains entitled, "Accessible Publishing—Best Practices Guidelines for Publishers" actively supports ePUB and points to the increasing awareness within the publishing community that accessible design and production is simply good business practice.

Publishing on the World Wide Web

The W3C recognized early on the need to make web-based content, resources and interactions accessible to individuals with disabilities, and launched the Web Accessibility Initiative (WAI) to address these needs. In 1999, W3C/WAI published WCAG1. This was superseded in 2008 by WCAG2, which serves as a guiding document for creating accessible digital content and for building accessible delivery mechanisms. Extensive technical and educational resources support WCAG2, including *Techniques for WCAG 2.0*, *Understanding WCAG 2.0*, and *How to Meet WCAG 2.0*, which developers can use throughout their development process. WCAG2 was developed with multi-stakeholder input from around the world. It has become the predominant *de facto* worldwide standard for web accessibility, as well as for network software applications that are browser-based, and serves as a foundation for more specific accessibility standards such as DAISY. Further, it is anticipated that Level AA of WCAG2 will be congruent with the new Section 508 standards when they are released.

The WAI, recognizing that not all web content can be produced in an optimally accessible manner, developed WCAG2 guidelines with three levels: A, AA and AAA. In layman's terms, Level A provides the barest minimum of accessibility. Level AA provides greater accessibility and is the level that is likely to equate to the refreshed Section 508. AAA provides optimum accessibility. When assessing WCAG2, it is important recognize the level that is being employed.

W3C/WAI has also published other standards complementary to WCAG2. These include the Authoring Tool Accessibility Guidelines (ATAG), which address the accessibility of user interfaces for people with disabilities for any authoring tools used to produce web content and provides support for production of accessible content; the User Agent Accessibility Guidelines (UAAG), which addresses accessibility features of browsers and media players for people with disabilities; and Accessible Rich Internet Applications (WAI-ARIA), which provides accessibility solutions for dynamic and interactive applications on the web.[143]

While acknowledging this arena of evolving technology standards, including a heightened awareness of the need to create interoperable specifications for the creation of accessible documents and their delivery systems, the Commission makes the following recommendations with respect to technology.

Recommendation #7: No National Format or Centralized Repository

The Commission does not recommend a single national file format solution similar to the (K–12) NIMAS nor a single centralized clearinghouse, file sharing network, or national repository similar to the NIMAC. The Commission recommends that postsecondary students with print disabilities would be better served by explicit support for a wide variety and range of different options and suppliers.

The Commission's charge from Congress included a directive to examine market model solutions where accessible materials would simply be purchased. The Commission kept this market model solution firmly in mind and achieved broad consensus that it would be the best long-term solution to many accessibility challenges, including the two key questions concerning file format and a repository. The Commission also looked closely at the existing K–12 systems established as part of IDEA 2004, with the NIMAS file format and the NIMAC repository.

Technology is rapidly evolving and students with disabilities have a wide array of needs; therefore, locking accessibility into a current technology by recommending a single specific national file format is ill-advised. The Commission felt strongly that a more functional approach that allows for technical innovation, while describing functional requirements for accessibility, was required. Due to the costs and delays involved in creating and supporting a new technical standard, the Commission also prefers to influence the accessibility-related content of major standards that are already in use or are expected to become widely used.

The Commission perspective of functionality was driven by this guiding principle:

> *Technology developed or deployed to facilitate access to instructional materials must permit a user with a print disability the opportunity to acquire the same information, engage in the same transactions and enjoy the same services at the same time as the user without a disability, and with a substantially equivalent ease of use.*

Although the NIMAS format does contribute to accessibility, and thousands of K–12 textbooks in NIMAS format have been deposited into the NIMAC repository, the Commission uniformly agrees that the adoption of a NIMAS-style national format for postsecondary materials is inadvisable. This determination was based on a number of factors, including the volume of instructional materials titles (more than 262,000 postsecondary versus approximately 3,500 in K–12), the fact that there are fewer than five duplicate requests per title in postsecondary, and the fact that K–12 purchasing represents an aggregate market (districts purchase materials) compared to postsecondary (where every student constitutes a market).

Additionally, the scope of postsecondary materials includes not only those textbooks developed specifically for that market, but trade books, scholarly publications, research monographs and an array of other publications selected at the discretion of the faculty or institution. These factors, combined with the rapid move to digital materials, are all contraindications. Finally, a mandated, disability-specific source file format would be inconsistent with the goal of encouraging a market environment within which students with disabilities can buy or legally obtain accessible content directly.

The Commission is in agreement that the wide range of needs of students with disabilities cannot be met by any single entity or organization. Rather than creating a national repository like the NIMAC that serves K–12 students with print disabilities, it is preferable to support a system for locating accessible materials. To the greatest extent practical, students with disabilities should be able to purchase mainstream accessible materials through the same channels as non-disabled students. There will, however, remain a strong need for DR/S offices and AMPs to ensure that remaining inaccessible materials are converted and low-incidence materials are created (such as braille and tactile graphics).

When it is necessary for DR/S offices and accessible media producers to convert inaccessible content with accessibility augmentations, it should be possible to share this augmented work with other stakeholders and avoid the costly need to duplicate the accessibility work. These include such additions as tactile graphics, image descriptions (including converting text presented in inaccessible forms), captioning and descriptive video. For example, postsecondary institutions will need a mechanism by which to exchange accessible content in a manner conforming to copyright law. If one institution has already undertaken to create an accessible version of a work, other institutions that require the same title should not need to invest the time and effort to create a new copy. The

Commission notes the existence of several different file-sharing networks already filling this need in other areas. A federated search, as described in Recommendation #9, would provide an important means for easing the discovery of existing accessible works.

Recommendation #8: Metadata

The Commission recommends that publishers, distributors, content producers and AMPs facilitate the distribution of new AIM products by including accessibility metadata used for marketing and discovery. Also, standards organizations are encouraged to incorporate and further develop accessibility specifications in their domains based on a common list of accessibility-focused metadata.

Including accessibility information in bibliographic and marketing metadata would enable the discovery of accessible products more easily at publisher web sites, bookstores, libraries and in the databases of authorized entities and other information services. Accessibility-focused metadata would also enable postsecondary institutions to determine comparative accessibility of potential syllabus materials. One significant marketing metadata framework that now includes accessibility focused metadata is ONIX for Books Product Information Message, a widely implemented XML-based framework maintained by EDI*t*EUR (see www.editeur.org). ONIX is in use within most large and many mid-size and small commercial publishers in North America, as well as in Europe and increasingly in the Asia-Pacific region. Other metadata frameworks include, for example, Dublin Core Open Source Metadata Framework, Bath Profile, MARC and Metadata Object Description Schema.

EDI*t*EUR is an international metadata standards organization for the book and serials supply chain, whose standards incorporate accessibility elements. ONIX for Books 3.0, published in October 2011, enables publishers to specify that their products incorporate a range of features which promote accessibility—logical reading order, alternative textual descriptions and so on—in a highly granular manner. Optional extended accessibility information to be carried in ONIX data would exist alongside other bibliographic information, collateral data used for discovery and promotion and supply chain information. Full details of the newest release of ONIX and best practices guidelines are available at the EDI*t*EUR website, and an established mechanism for future review and extension of features that can be specified is in place.

Once such metadata are available to the supply chain, educators will be able to select curriculum products offering the widest range of accessibility features. Equally, individual print-

impaired readers will potentially be able to compare their personal accessibility requirements with the range of features offered by a product to determine which version, if any, of a particular product would be suitable for their needs.

The semantics of various codes used within ONIX for Books ideally should be incorporated in other metadata standards used for postsecondary materials, including courseware, journals, OER and learning objects; and in metadata used by libraries, specifically the Library of Congress. As additional metadata elements are released, they should be incorporated into the various product distribution systems. Publishers, distributors, content producers, libraries and authorized entities should use the new ONIX accessibility metadata specifications in their domain-specific metadata standards, e.g., MARC for libraries. Shared semantics will promote greater interoperability among the various metadata standards (though of course the exact syntax each metadata framework uses to deliver information will vary).

Recommendation #9: Federated Search

The Commission supports the development of federated search capabilities that enable individual students and DR/S offices to make a single online search to locate existing accessible resources.

Currently, there is no universal national discovery mechanism for students, DR/S offices, college bookstores, or entities that create, identify, or acquire accessible materials to learn about the availability of AIM. The AccessText Network is providing a partial solution with ATF, a federated search program that is currently in its beta phase. Still, in some instances, users need to use multiple web sites in searching for the specific content they need. There was agreement among Commission members that the development of federated search capabilities is a core requirement to make support of multiple sources of content practical.

Just as a centralized repository is not the Commission's recommended answer for this problem, a single centralized catalog also is not the best solution. Instead, different companies and organizations that are sources of content should support ease of discovery by incorporating their AIM holdings into web-based federated search engines. Such federated search resources would simultaneously search multiple places on the Internet find out what is available and return a summary of its survey to users. Much as a user today can use a search engine to look for a print book that is often offered for sale by a broad array of retailers and suppliers, so, also, a search for an accessible book or source file should also return a list of

available accessible options. Options should include results for both commercial and non-commercial providers of accessible materials.

A federated search as described above requires the implementation of a common set of accessibility-focused metadata—i.e., consistent code in the records being searched—such as that proposed by EDI*t*EUR.

This federated search capability should be easily integrated into different tools. Whether it is a hardware device, software application, or web site, the capability to search for accessible content should be widely available. For maximum reach and effectiveness, a federated search resource needs to be freely available on the Internet and the search resource itself should be fully accessible.

Recommendation #10: Accessibility Support in Authoring Tools

The Commission recommends that producers of courseware management systems, web development software, content authoring software, word processors and layout programs, among others, be encouraged to create accessibility wizards and prompts that launch validation processes to inspect materials for accessibility as they are created and before they are distributed to students.

As more materials used in postsecondary instruction are created by more and more stakeholders, more and more instructional materials are being generated in inaccessible ways. Although tools for authoring content generally support accessibility features, most authors are unaware of these features and inadvertently create inaccessible content. To facilitate accessibility, lower costs and speed delivery, it is best to make instructional materials accessible at the time they are being created.[144]

I'll limit my comments to two things that I see as mostly unaddressed on our campus, which I feel this Commission might make recommendations on: These are authoring tools guidelines and purchasing recommendations…

Postsecondary Alternate-Format Production Specialist (2011, May 4)

The Commission unanimously agrees that creators of instructional content could employ popular authoring tools more efficiently and effectively if they contained built-in prompts and/or reminders to address accessibility during content development. For example, authors are the best people to describe a graphic (in alternative text) that is part of a textbook or a learning module because of their subject-specific understanding of its educational purpose. A person subsequently trying to make a graphic accessible often lacks the contextual knowledge possessed by the author. For example, a "prompt" might be activated by the content that an author is adding to a document: e.g., "You have added an image to this document. Have you supplied a text equivalent?" A "wizard" could guide an author through a specific process: e.g., "To add a text equivalent to the image just added to the document,

follow this sequence..." By incorporating this type of universal design approach—currently employed by some vendors—incremental production costs should be marginal and should obviate the need for subsequent retro-fitting for accessibility.

The Commission recommends that authoring or content development software used to create web sites, courseware management systems, or electronic documents incorporate active support for ensuring that accessibility is addressed during the content creation process. Instructional materials containing STEM content—especially equations and/or scientific notation, for example—should produce products usable by students with disabilities. For example, approaches that incorporate MathML or similar technology could be employed to help ensure that STEM material is made accessible.

Recommendation #11: Digital Rights Management

The Commission recommends that content producers, producers of software applications, supporting device manufacturers, producers of digital content, providers and producers of software applications and their DRM suppliers should ensure that accessible versions of both materials and delivery systems using DRM are made available without harming publishers' established and emerging distribution channels.

The Commission is unified in its support of ensuring that mainstream commercial versions of instructional materials are compatible with adaptive technology used to facilitate accessibility. The Commission believes device manufacturers, software applications producers and publishers should coordinate and cooperate to ensure that DRM will not serve as an impediment to accessibility.

DRM is sometimes an impediment to accessibility because the devices or software used by students with print disabilities are not able to process and/or render the content that is protected by DRM features. Even if a student with a print disability lawfully acquires a copy of an accessible work, DRM may inhibit the use of that work on certain assistive devices or may inhibit certain features (e.g., TTS, the ability to render the content in braille, the ability to enlarge font size, etc.) that are required by students with print disabilities.

It should be possible to have DRM that discourages unauthorized copying while still enabling content access that includes a full range of accessibility features.

Chapter 4—Capacity Building

Postsecondary Context

The postsecondary population of students with disabilities includes students with a wide variety of physical and mental disabilities, including sensory, learning, chronic health, episodic, bodily systemic and cognitive impairments. Under Section 504 and Title II, the postsecondary process for obtaining academic adjustments for a disability differs greatly from the process used in the elementary and secondary education context. In the elementary and secondary context, public schools are required to seek out and identify students with disabilities and to provide a free appropriate public education (FAPE) that may include services and accommodations to those students which in turn are then described in a written plan such as an Individualized Education Program (IEP) under the IDEA or what is often referred to as a "504 Plan" under Section 504.[145] In contrast, in the postsecondary setting, there are no 504 Plans or IEPs and colleges and universities do not have a duty to seek out and identify students with disabilities. Rather, students may request services from an institution's DR/S office or through another appropriately designated university official.

Accommodating Students in Postsecondary Settings

I am a strong self-advocate. I know what my needs are, how to ask for them, how to receive them and where to look. I am the exception, not the rule. We need to do a much better job educating the public about access AND de-stigmatizing learning disabilities so that people are not afraid to ask for what they need and know what to ask for. The best way to accomplish this is through universal design and awareness building. We are once again missing a population of students who need and could benefit from accommodations but they are afraid of the stigma and don't know how to ask, what to look for, and can't afford the testing.

Student with a learning disability (2011, February 25)

Postsecondary institutions may set their own policies and procedures for qualified students with disabilities to apply for auxiliary aids and services such as AIM, as long as those policies and procedures are reasonable. At a postsecondary institution, once a student is determined to be a qualified student with a disability, adjustments are made on an individualized basis. A diagnosis of a disability, by itself, may not warrant an academic adjustment; it is the functional impact of a student's impairment that determines whether or not an accommodation is appropriate.[146]

Auxiliary aids and services are typically provided by a school's DR/S office. This office is an important gateway for postsecondary students with disabilities, since its role is to collaborate with a student to identify appropriate accommodations and to negotiate the appropriateness of these accommodations with course instructors. A GAO report on higher education and disability outlines an example of the process of how these offices might determine, and ultimately provide, appropriate accommodations to a student with a disability. To receive accommodations, a DR/S office might require that students—

- Register with the DR/S office
- Provide recent and appropriate documentation of disability
- May need to visit a qualified professional for additional documentation
- Work with the DR/S office to determine what auxiliary aids and services are needed
- Request auxiliary aids and services at the DR/S office
- In some cases, take an accommodations letter to each professor and discuss needed accommodations[147]

Though some institutions follow a different sequence, these steps are representative of the procedure followed by many schools.

Postsecondary students with disabilities are not required to self-identify, but if a student would like to receive academic adjustments for a disability, the responsibility is on that student to inform the institution of his or her disability (usually by contacting the DR/S office) so that he or she can receive services. At times, students are unaccustomed to initiating this type of self-advocacy and may not initiate this process at the beginning of a postsecondary experience.[148,149] In addition, some students may be reluctant to disclose their disabilities. They may not know what to ask for, or where to ask for it; they may want to avoid the possible stigma of others knowing that they have disabilities.[150]

Although filing a grievance with an institution or a complaint with OCR or DOJ is free of charge, and many students do so every year, anecdotal reports indicate some students hesitate to complain due to perceived concerns about being placed in a potentially adversarial position to the institution where they are enrolled. As a result of these concerns, some students may be constrained from objecting to their unmet access needs.

The second wave of the National Longitudinal Transition Study (NLTS2) found that about two-thirds of postsecondary students with disabilities receive no academic adjustments from their schools, often because students have not disclosed their disabilities.[151]

Students with disabilities may attempt to undertake a postsecondary course of study without academic adjustments and subsequently request services later in the year when they are already struggling and recovery from potential failure in

courses may be difficult. Alternatively, students with disabilities who do not request services from their institutions may drop or change courses mid-year or transfer from one institution to another due to academic difficulties. In addition, a student may present documentation that is incomplete, inconclusive, or out-of-date, necessitating additional information gathering or assessment. Any of these or other situations may make it challenging for an institution to arrange academic adjustments in a timely manner.

The postsecondary enrollment rates for students with disabilities lags behind that of their non-disabled peers as does the completion rates for these students once enrolled.[152] In order to facilitate the informed transition of students from secondary to postsecondary settings, IDEA 2004 requires a secondary-level SEA or LEA to create a Summary of Performance (SOP) to provide a student with information related to the diagnosis and functional impact of their disability.[153] As of 2008, the majority of states indicated that an SOP was made available for each student exiting special educations services, as required.[154] However, many postsecondary DR/S personnel found the language of a typical SOP, with references to "modifications," "success," and "essential," did not reflect existing postsecondary practices and the legal requirements that guide them.[155]

Determining Appropriate Auxiliary Aids and Services

Once a student has identified him- or herself as an individual with a disability and provided appropriate documentation, institution staff discuss with the student what academic adjustments are appropriate in light of the student's individual needs and the nature of the institution's programs. Students with disabilities often possess unique knowledge of their disabilities and should be prepared to discuss the functional challenges they face and, if applicable, what has or has not worked for them in the past. Institution staff should be prepared to describe barriers students may face in individual classes that may affect their full participation as well as to discuss academic adjustments that might enable students to overcome those barriers. Public institutions are required to give primary consideration to an auxiliary aid or service that a student requests but can opt to provide alternative aids or services if they are equally effective.[156]

Private institutions have a similar obligation to provide auxiliary aids or services, and the best practice is to give primary consideration to an auxiliary aid or service that a student requests.[157] They can also opt to provide an equally effective alternative if a requested auxiliary aid or service would fundamentally alter the nature of a service, program, or activity, or would result in undue financial or administrative burdens.[158]

Implementing Auxiliary Aids and Services

DR/S offices strive to provide qualified students with appropriate auxiliary aids and services in as effective and timely a manner as possible. Timelines can be affected by a number of factors, including the date of student course registration, the date of a student's notifying DR/S of course enrollment, the date when instructors identify required course materials, length of class session and term and class and exam expectations. With respect to AIM, materials identification and DR/S notification are crucial variables. DR/S offices need to locate, acquire and, in most instances, convert materials into appropriate student-ready formats, and lack of information or a last minute change can increase delays.[159]

The Commission notes that section 133 of the HEOA requires, to the maximum extent practicable, that each institution of higher education that receives federal financial assistance disclose information of required and recommended textbooks and supplemental materials for each course listed in an institution's course schedule used for pre-registration and registration purposes.[ii] Although not designed to address the provision of AIM to students who require them, this provision, if consistently adhered to, has the potential to identify required course materials months before the beginning of class and could prove to be beneficial to DR/S offices.

Even when the specifics of course materials are known, acquisition delays often occur. The nature of AIM requests is cyclical, with the majority of requests occurring just prior to or during the initial weeks of each term. Many DR/S offices are understaffed, with some having student-to-staff ratios as large as 350 to 1.[160] In many instances, students have become accustomed to receiving less than optimal versions of materials and accept these because having a mediocre version may allow them to keep pace with the course, whereas having no alternate format may necessitate withdrawal. The lack of timely delivery of AIM has even deterred some students from using DR/S to receive academic adjustments.[161] Some DR/S providers lack the knowledge and skill sets necessary to determine what AIM might be most appropriate for students and/or the techniques and capacity to retro-fit print or otherwise produce or acquire AIM. In the case of digital materials, such as computer-based tutorial systems or library databases, there may be no way for DR/S to provide an alternative, and this leads many students to feel they are not receiving the services they need.[162,163]

Requesting Auxiliary Aids and Services from Faculty

The challenge is to get people to change about what they should be doing and taking greater ownership and responsibility for themselves as teachers and doing what they need to do in order to support all students, including students with disabilities.

Postsecondary faculty member (2011, April 12)

Many academic adjustments granted by DR/S offices are provided in cooperation with course instructors.[164] Instructors and academic departments determine what are essential and necessary components of a class or a course of study. Research has indicated that an unaware or unsupportive course instructor or faculty member can create barriers to students needing academic adjustments.[165,166,167,168] Students with learning or other "hidden" disabilities, in particular, may encounter additional problems. It is not unusual for instructors to be unaware of the needs of students with disabilities or to perceive academic adjustments for these students (such as extended time or note takers) as negatively affecting the academic integrity of the assignment or of the course.[169] These supports may be viewed as offering an "unfair advantage" to a student. This perception can be magnified by the fact that, in contrast to physical or sensory challenges, the functional impact of a hidden disability may fluctuate significantly across different courses or assignments.[170] In most circumstances, however, instructors do try to support both the DR/S office and students in crafting academic adjustments.[171]

Where there is widespread systemic or faculty-based awareness of the need for accessibility, instructors may select accessible materials accordingly or pro-actively work with their DR/S office to acquire alternate versions. In other circumstances where no institution-wide directives exist, instructors may not or, in some cases, cannot choose AIM. For example, some academic departments may select inaccessible print or digital instructional materials for widespread use in developmental or large-enrollment survey classes. In those situations, DR/S must independently advocate for students to receive alternate formats as an academic adjustment. Instructors may be reluctant to provide major academic adjustments, such as modified assignments, but they are generally willing to provide small academic adjustments and those accommodations whose necessity is immediately apparent.[172]

Due to the wide range of attitudes, perceptions and practices across faculty, students with disabilities will have a range of experiences, even within the same department. Though attitudes do appear to be changing, academic adjustments and disabilities are not necessarily openly discussed, and students with disabilities still report having varying communication experiences with faculty.[173,174]

Faculty Awareness and Training

A prominent theme that has emerged from the recent literature, stakeholder testimony and Commission deliberation is the need for formal training of faculty and staff to increase their understanding of disability in general. This training should include an overview of disability characteristics, instructor's legal rights and responsibilities, the nature and purpose of auxiliary aids and services, and other disability-related issues, all of which can have a positive influence on the personal beliefs and instructional practices of faculty members.[175,176]

Recommendation #12: Faculty/Staff Awareness and Capacity-Building

The Commission recommends that federally sponsored projects and programs encourage and support systematic faculty and staff professional development with respect to selection, production and delivery of high-quality AIM to meet the needs of students with disabilities in postsecondary settings.

Federally sponsored or competed projects, including grants, cooperative agreements and contracts that involve the design, development and/or creation of materials that could be used for postsecondary instruction need to support accessibility. The Commission strongly encourages postsecondary institutions to reference and utilize Section 508 procurement and purchasing guidelines in their digital product development descriptions and in their applications for Federal funding.[177]

Higher education institutions, consistent with the requirements of the ADA and Section 504, should purchase authoring tools for use by faculty, staff and students in working with accessible digital publications. In addition, every postsecondary institution should offer a mandatory system-wide orientation for faculty, staff, teaching assistants and administrators concerning strategies for ensuring accessibility in all aspects of the education enterprise, including readings, courseware and instructional technology, assessments and instructor-made materials. Consideration should be given to establishing institutional benchmarks for proficiency in disability awareness and responsiveness to the need for AIM.

Recommendation #13: Cross-Agency Collaboration

The Commission recommends that the Department of Education re-establish an intra-agency working group on postsecondary students with disabilities and also create a cross-agency working group to provide a more unified and consistent approach to federal initiatives regarding the provision of AIM at postsecondary institutions.

Of even more concern is the way in which staff in the disability service office are reluctant to provide brailled or otherwise accessible materials to those students taking math and science classes. For example, all course work for certain statistics classes is online. The software that is used is not compatible with screen reading software, and this leaves blind students in these classes unable to read and/or complete assignments.

Student with visual impairment (2011, July 11)

A 2009 GAO Study concluded that the Department of Education could improve access to higher education for students with disabilities if the Secretary of Education were to develop and implement a coordinated approach to optimize agency resources and knowledge in providing technical assistance to institutions of higher education in supporting students with disabilities.

The Department of Education reported that it did establish a staff-level intra-agency working group to carry out GAO's recommendations. At this time, however, the staff-level group in no longer active. The Commission urges the Department to reestablish the staff-level working group, and asks that senior level interagency groups at the Department also focus on how to better provide information to postsecondary institutions regarding accessible instructional materials.

A number of federal agencies, including the National Science Foundation (NSF), the departments of Education and Labor and others have initiatives or funded projects related to the accessibility of postsecondary instructional materials and delivery systems. The Commission recommends that the Department of Education work with other agencies to develop means to routinely and systematically share information with institutions of higher education regarding how best to support postsecondary students with disabilities while avoiding duplication of Federal effort. This cross-agency working group would help to ensure better coordination among federal agencies.

Recommendation #14: Low-Incidence/High-Cost Materials

The Commission recommends that the federal government support the creation and sharing of both embossed and digital braille, as well as tactile graphics materials, in postsecondary settings, particularly for STEM, foreign language and music.

As the Commission determined by stakeholder testimony and research, the predominant challenges associated with the delivery of high-cost AIM to students with low-incidence disabilities are (1) a lack of production/acquisition capacity and (2) timeliness. These inhibiting factors are amplified considerably when the materials are technically challenging, such as those for STEM, foreign language and music. Because their production requires significant cost and effort, physical braille and tactile graphics exemplify these challenges.

Only a limited number of DR/S offices produce literary (general purpose) braille in-house; even fewer have the expertise to produce Nemeth (STEM) braille, chemistry braille, foreign

language braille, music braille, or tactile graphics and, consequently, most rely on external agencies for these materials. Due to the regular revision and updating of core instructional materials (textbooks and related resources) used in postsecondary institutions, the enormous number of materials in circulation, and the limited number of duplicate requests, DR/S offices can seldom locate the materials they need in existing repositories. As a result, the majority of these materials need to be created in highly specialized formats in an *ad hoc* manner in order to provide students with equitable access to their courses.

For the foreseeable future, the production of tactile graphics and braille will fall outside the scope of the commercial market. The Commission recognizes that high production costs combined with the limited demand for these materials will require on-going government support. The goal of this support would be to lower the cost of developing and producing these specialized materials and enable greater sharing of those adaptations being produced.

The Commission believes that federal funding for the development of open source tools and open content for tactile graphics is also needed. These freely sharable open content models should target materials that can be re-used in postsecondary education as is or with minor edits. For example, a detailed description and tactile version of a diagram of the heart could be quickly adapted for many different images that depict the biology of the heart. Longer term, on-going funding for provision of sharable braille and tactile materials will be needed.

Making A/V Materials More Accessible

The Commission recommends research into affordable methods to make audio-visual (A/V) materials that cannot be gleaned from a soundtrack alone available through some other means, such as audio description, notes included with packaging, summary information, accompanying commentary, or a simple synopsis.

Audio description of A/V materials is technically challenging and expensive. In a postsecondary setting, it is also of limited usefulness as instructors may not wish to turn on audio description and the equipment on which a video is shown may not be capable of playing it.

The Commission believes that, when an understanding of a video cannot be gleaned from the audio information or narration contained in the video, some alternative means of understanding that information be considered. Possible alternatives could include options such as a brief summary of the action of the film described in an insert to the packaging.

Rare and Specialized Materials

At higher educational levels, upper-division and graduate students may require hundreds of books for literature reviews. Such materials are typically not mainstream textbooks but a wide array of original materials from particular timeframes, scholarly works and journal articles. These materials may only be used by the one student who requested them. Public testimony to the Commission revealed that campuses may spend tens of thousands of dollars on such document conversions.

Developing alternate formats is a time- and resource-intensive process. The Commission suggests that mechanisms—such as federated search and the use of appropriate metadata—be encouraged so that these materials can be readily found to facilitate their timely and copyright-compliant distribution to other students with print disabilities across the country.

Recommendation #15: Captioning

The Commission recommends that producers of instructional materials for use by postsecondary institutions (including the postsecondary institutions themselves) who incorporate synchronized audio and visual formats (e.g., VHS tapes, DVDs/CDs, video, web video, etc.) into their materials should provide closed captions or subtitles for the Deaf/hard of hearing (SDH).

The issue of captioning is of particular concern for institutions of higher education. Not only do many students with auditory disabilities require captioning for access, it is also an excellent example of universal design. Captioning is a mature technology that was developed in the 1970s. The Federal Communications Commission (FCC) has required captioning of most television programs since 1996. Analog television sets with screens greater than 13 inches have had captioning decoders built in since 1993 and digital TVs have had decoders since 2002.

Numerous studies have shown that, in addition to making materials available to students with disabilities, captioning improves understanding and retention for mainstream students, including English language learners (ELL), when discussions of unfamiliar subjects and new vocabulary can be seen and heard at the same time via synchronized text and audio.[178,179,180,181] There are many reasons for including captions on videos: search capability, indexing and translation, as well as many viewing scenarios such as learning English as a second language (ESL) and use of captions in both quiet and loud environments..

From a market perspective, captioning is an important emerging issue. Some campuses are developing policies of purchasing videos for classroom use only if they are closed captioned, and

vendors, in recognition of this fact, are beginning to caption their materials. Given these trends, the Commission recommends that reasonable captioning requirements applying to materials created after a date certain, be negotiated between the producer(s) and/or rights holder(s) of A/V content and postsecondary institutions.

Some states, including California, have existing requirements which may be used as models in creating a unified standard of broader application. Extending these kinds of models to foster cooperation and reduce redundancy (i.e., preventing multiple campuses performing the duplicative process of creating the same captioned materials) is a key objective of the Commission. Ideally, these converted materials might be included within the scope of a federated search as envisioned in Recommendation 9 and the Sources of AIM section.

Chapter 5—Discretionary Investments: Demonstration Projects

The HEOA includes a charge to the Commission to develop recommendations to support the model demonstration programs authorized under Section 773 of the Higher Education Act.[182] In carrying out this charge, the Commission recommends the three model demonstration projects described in this chapter. To ensure quality and successful implementation of the demonstration projects, the Commission recommends that the Department of Education address the following points in the development of the applications for new awards created as a part of these demonstration projects and in the process of reviewing grants awarded through these demonstration projects:

- Include specific content experts in the pool of proposal reviewers,
- Include high standards for evaluation, replication and scalability in the requirements in all priorities, and
- Include two-year colleges and four-year institutions of higher education, both public and private, as eligible applicants under recommendations 16, 17 and 18.

The Commission recommends that the goal of the demonstration projects be replicable models that can be referenced, modified and implemented across other postsecondary settings to advance the effective provision of AIM and its delivery systems. This report will be an important resource to be consulted during the development of the request for proposals.

I think that the demonstration projects have been doing phenomenal work across the country. In our particular area, we have been working hard on issues of how to train campus personnel. We have been working with faculty, administrators and service people, virtually everyone on campus, to increase the accessibility on our campus. We have departmental accessibility resource coordinators. It's our way to ensure that universal design is attended to on all levels of the university.

Postsecondary Alternate-Format Production Specialist (2011, July 12)

Recommendation #16: Campus-Wide Exemplar Projects

The Commission recommends that Congress appropriate funds to the Department of Education for the development of a discretionary priority to fund model demonstration projects designed to identify, validate and disseminate project results regarding best practices in the provision of AIM as part of a project candidate's campus-wide delivery system for auxiliary aids and services. The purpose of the demonstration projects will be to develop best practice models for implementing AIM and its delivery systems campus-wide.

I do not think that universities should be able to utilize software products, things that they purchased from an outside agency or developed internally, that are inaccessible and provide a barrier, as it were, to this important field, like STEM.

Student with a visual impairment
(2011, February 24)

The Commission understands that the effective provision of AIM is a process that crosses major segments of postsecondary institutions including administration, departments, bookstores, student affairs and academic affairs. To that end, it is recommended that the proposed priorities be differentiated from more typical demonstration projects by requiring the involvement and endorsement of institution-level leaders from each segment area. At a minimum, these would include the president and/or chancellor, provost, dean(s), university library and student affairs and auxiliary affairs divisions.

The Commission urges the Department to compete these projects at a variety of different types and sizes of postsecondary institutions. Further, the Commission recommends that the goal of these demonstration projects be replicable models that can be referenced, modified and implemented across other postsecondary settings to advance the effective provision of AIM and its delivery systems.

Recommendation #17: Science, Technology, Engineering, Mathematics (STEM)

The Commission recommends that Congress appropriate funds for the Department of Education to support faculty professional development demonstration projects to develop and validate effective practices in the creation and provision of universally designed instructional materials in STEM courses and laboratory classes.

As reflected in testimony heard by the Commission and referenced elsewhere in this report, STEM is an area where instructional materials, practices and the systems that facilitate their delivery and use are more challenging than other curricular areas. Enrollment and graduation rates in STEM fields for students with disabilities are remarkably low due to the complex nature of relevant instructional materials and the associated challenges in the accessible presentation of those materials.[183]

Moreover, this area is complicated by the variety of teaching and learning styles and instructional contexts inherent in many STEM disciplines.

The Commission notes that Congress has supported STEM efforts recently, both at the Department of Education and at other agencies.[184] Notwithstanding this existing federal financial support, more effort is needed in this area. The Commission received expert testimony that affirmed the extraordinarily critical role that faculty in the STEM field play in creating, providing and maintaining instructional materials, activities and methodologies central to effective STEM education. While expert in specific content areas, postsecondary STEM faculty are not routinely educated or expert in the application of universal design or strategies for meeting the needs of diverse learners in their specific academic discipline. Given these two very important and interdependent factors, the Commission believes that Congress should appropriate funds to support the Department's effort to develop additional prototypes that will enhance the capacity of STEM faculty to support students with disabilities.

Recommendation #18: Access to Accessible Instructional Materials

The Commission recommends that the Department of Education fund postsecondary demonstration projects that model how to improve the quality, efficiency and timeliness of the acquisition and provision of AIM in postsecondary education and reduce duplication of effort in accordance with Section 773 of the HEOA.

Congress specifically charged the Commission with making recommendations regarding the best ways to implement demonstration projects as described in Section 773 of the HEOA. The goal of these demonstration projects is to advance new directions for systems change and improvement around the provision of AIM. The Commission has addressed this charge in several of its preceding recommendations. Recommendation 7, for support of provision options, argues against the establishment of a centralized repository and describes how several networks have already been developed to share accessibility improvements made to existing works. Recommendations 8 and 9 related to metadata and federated search are designed both to both promote the market model as well as to improve the efficiency of specialized services for provision of AIM. Demonstration projects could build upon and extend these early prototype solutions.

[1]Higher Education Opportunity Act of 2008, Pub. L. No. 110-315, 122 Stat. 3078 (codified as amended at 20 U.S.C. § 1001 *et seq.*).

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[14]*Ibid.*

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[19]34 C.F.R. § 104.4(b)(1)(ii).

[20]34 C.F.R. § 104.44(d); 28 C.F.R. §§ 35.104 and 35.160; 28 C.F.R. § 36.303.

[21]Harper & Row Publishers, Inc. v. Nation Enters., 471 U.S. 539, 558 (1985).

[22]*Harper & Row*, 471 U.S. at 588. *See also* Mazer v. Stein, 347 U.S. 201, 219 (1954).

[23]American Geophysical Union v. Texaco, Inc., 882 F. Supp. 1, 27 (S.D.N.Y. 1992), *aff'd*, 60 F.3d 913 (2d Cir. 1994).

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[27]17 U.S.C. § 107.
[28]17 U.S.C. § 1201(a)(1)(C).
[29]Pub. L. No. 105-304, Title I, § 103(a), 112 Stat. 2863 (1998) (codified at 17 U.S.C. § 1201(a)(1)(C)).
[30]*Id.*
[31]76 Fed. Reg. 60,398, 60, 398 (Sept. 29, 2011).
[32]4 C.F.R. § 104.44(a).
[33]28 C.F.R. § 35.104.
[34]42 U.S.C. § 12102(2); *see also* 29 C.F.R. § 1630.2(g); 29 U.S.C. § 794; 29 U.S.C. § 705(20).
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[38]Assistive Technology Act, 2004, Section 3(19).
[39]29 U.S.C. § 794; 34 C.F.R. 104.3(h).
[40]The Department of Health and Human Services also has enforcement responsibilities under Title II with respect to health-related schools. 28 C.F.R. § 35.190(b)(3).
[41]42 U.S.C. §§ 12131 *et. seq.*; 28 C.F.R. § 35.130(a); 29 U.S.C. § 794; 34 C.F.R. § 104.4(a).
[42]42 U.S.C. §§ 12181, *et seq.*; 28 C.F.R. § 36.104. Title III does not apply to religious entities, 28 C.F.R. § 36.102(e).
[43]28 C.F.R. § 35.104; *see also* 34 C.F.R. § 104.3(j).
[44]28 C.F.R. § 35.104; *see also* 34 C.F.R. § 104.3(*l*).
[45]34 C.F.R. §104.4(b)(1)(iv); 28 C.F.R. § 35.130(b)(1)(iv).
[46]28 C.F.R. § 35.160(b)(1); *see also* 34 C.F.R. § 104.44(a).
[47]34 C.F.R. § 104.44(a); *see also* 28 C.F.R. 35.160(b)(1).
[48]*Id.*
[49]28 C.F.R. § 35.160(b)(2).
[50]*Id.*
[51]28 C.F.R. § 35.160(a)(1); *see also* 34 C.F.R. 104.4(b)(1)(iii).
[52]Joint "Dear Colleague" Letter: Electronic Book Readers. (2010). Retrieved 11/9, 2011, from http://www2.ed.gov/about/offices/list/ocr/letters/colleague-20100629.html.
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[61]*Eldred, 537 U.S. at 219 (citing Harper & Row, 471 U.S. at 560).*
[62]*See* United States Copyright Office, *The Licensing Division of the Copyright Office (Circular 75)* (last visited Oct. 26, 2011) [http://www.copyright.gov/circs/circ75.pdf] (citing 17 U.S.C. § 111 (statutory license for secondary transmissions by cable systems); 17 U.S.C. § 112 (statutory license for making ephemeral recordings); 17 U.S.C. § 114 (statutory license for public performance of sound recordings by means of a digital audio transmission); 17 U.S.C. § 115 (compulsory license for making and distributing of phonorecords); 17 U.S.C. § 118 (compulsory license for use of certain works in connection with non-commercial broadcasting); 17 U.S.C. § 119 (statutory

license for secondary transmissions of distant television programming by satellite carriers); 17 U.S.C. § 122 (statutory license for secondary transmissions of local television programming by satellite carriers); 17 U.S.C. § 1003 (statutory obligation for distribution of digital audio recording devices and media)).

[63]17 U.S.C. §§ 111, 112, 114, 115, 118, 119, 122, 1003.

[64]*See* United States Copyright Office, *The Licensing Division of the Copyright Office (Circular 75)* (last visited Oct. 26, 2011) [http://www.copyright.gov/circs/circ75.pdf] (citing 17 U.S.C. § 111 (statutory license for secondary transmissions by cable systems); 17 U.S.C. § 112 (statutory license for making ephemeral recordings); 17 U.S.C. § 114 (statutory license for public performance of sound recordings by means of a digital audio transmission); 17 U.S.C. § 115 (compulsory license for making and distributing of phonorecords); 17 U.S.C. § 118 (compulsory license for use of certain works in connection with noncommercial broadcasting); 17 U.S.C. § 119 (statutory license for secondary transmissions of distant television programming by satellite carriers); 17 U.S.C. § 122 (statutory license for secondary transmissions of local television programming by satellite carriers); 17 U.S.C. § 1003 (statutory obligation for distribution of digital audio recording devices and media)).

[65]Berne Convention for the Protection of Literary and Artistic Works, Sept. 9, 1886, as revised at Paris on July 24, 1971 and amended in 1979, S. Treaty Doc. No. 99-27 (1986) [The 1979 amended version does not appear in U.N.T.S. or I.L.M.] Article 9(2) Article 9(2).

[66]17 U.S.C. §§ 502, 503.

[67]17 U.S.C. §§ 412, 505.

[68]17 U.S.C. §§ 412, 504.

[69]*See Ex parte Young*, 209 U.S. 123, 159-60 (1908); *Woelffer v. Happy States of America, Inc.*, 626 F. Supp. 499, 505 (N.D. Ill. 1985); *Rainey v. Wayne State University*, 26 F. Supp. 2d 973, 976 (E.D. Mich. 1998).

[70]17 U.S.C. § 110.

[71]17 U.S.C. § 108.

[72]17 U.S.C. § 121.

[73]17 U.S.C. § 107.

[74]17 U.S.C. § 121.

[75]17 U.S.C. § 121(a).

[76]17 U.S.C. § 121(d)(1).

[77]17 U.S.C. § 121(d)(4)(A).

[78]17 U.S.C. § 121(d)(4)(B).

[79]2 U.S.C. 135a; 46 Stat. 1487

[80]17 U.S.C. § 121(d)(2).

[81]Pub. L. No. 89-522, §1, 80 Stat. 330 (July 30, 1966) (current version at 2 U.S.C. § 135a).

[82]39 Fed. Reg. 20203 (June 7, 1974).

[83]36 C.F.R. § 701.6(b)(1).

[84]36 C.F.R. § 701.6(b)(2)(i).

[85]36 C.F.R. § 701.6(b)(2)(ii).

[86]Pub. L. No. 104-197, Title III, § 316(a), 110 Stat. 2416 (Sept. 16, 1996).

[87]Pub. L. No. 104-197, Title III, § 316(a), 110 Stat. 2416 (Sept. 16, 1996).

[88]7 U.S.C. § 1201(a)(1)(C).

[89]*Id.*

[90]37 C.F.R. § 201.40(b)(6).

[91]76 Fed. Reg. 60,398, 60, 398 (Sept. 29, 2011).

[92]For instance, potential market harm is a factor that must be weighed in determining whether a use is a fair use under Section 107. *See* 20 U.S.C. § 107(4).

[93]Authors Guild, (2009), *E-Book Rights Alert: Amazon's Kindle 2 Adds "Text to Speech" Function*, retrieved November 11, 2011 from http://www.authorsguild.org/advocacy/articles/e-book-rights-alert-amazons-kindle-2.html.

[94]Aptara Corporation (2010), Survey: *E-Books—A second Look*, Falls Church, VA.

[95]Section 508 of the Rehabilitation Act of 1973, Pub. L. No. 93-112, Title V, § 508, as added Pub. L. No. 99-506, Title VI, § 603(a), 100 Stat. 1830 (Oct. 21, 1986).

[96]Section 508 of the Rehabilitation Act Amendments of 1998, enacted as Title IV of the Workforce Investment Act of 1998, Pub. L. No. 105-220, Title IV, § 408(b), 112 Stat. 1203 (Aug. 7, 1998), codified at 29 U.S.C. § 794d.

[97]29 U.S.C. § 794d(a)(2)(A).

[98]*See Status of 508 Refresh*, Secton508.gov: Opening Doors to IT (An Official web site of the U.S. Government) (Oct.

24, 2011) [http://buyaccessible net/blog/?p=191].

[99]*See* ARK. CODE ANN. §§ 6-68-101–6-68-108; CAL. EDUC. CODE §§ 67302, 67302.5; KY. REV. STAT. ANN. § 164.477; MD. CODE ANN., EDUC. § 11-903; MICH. COMP. LAWS § 390.1543; MO. ANN. STAT. § 170.132; NEV. REV. STAT. ANN. § 396.546; N.M. STAT. ANN. § 22-15-29; N.Y. EDUC. LAW § 715; OR. REV. STAT. §§ 337.511-337.524; TEX. EDUC. CODE ANN. § 51.970; UTAH CODE ANN. § 53A-25a-105; WASH. REV. CODE ANN. § 28B.10.916.

[100]*See* Individuals with Disabilities Education Improvement Act of 2004, Pub. L. No. 108-446, §§ 612(a)(23), 674(e), 118 Stat. 2647, 2688, 2794 (Dec. 3, 2004).

[101]20 U.S.C. §§ 1412(a)(23)(A), 1413(a)(1), (6); 34 C.F.R. §§ 300.172(a), 300.201, 300.210.

[102]20 U.S.C. § 1474(e)(3)(B).

[103]20 U.S.C. § 1474(e)(3)(D) (referencing 17 U.S.C. 121(d)(3), current version at 17 U.S.C. § 121(d)(4)).

[104]20 U.S.C. § 1412(a)(23)(B), 1413(a)(6)(A).

[105]17 U.S.C. § 121(c).

[106]In 2006 the Access Board directed its staff to revise and update the accessibility standards for E&IT covered under Section 508 and the accessibility guidelines for telecommunications equipment and customer premises equipment covered under Section 255 and to harmonize the updated standards with international accessibility standards.

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[127]Assistive Technology Act, 2004, Section 3(19).
[128]Technology Roundtable Presentation, textbook and software producers (2011, May 3), Testimony given at Postsecondary AIM Commission meeting.
[129]Burgstahler, S. (2011, July 11), Testimony given at Postsecondary AIM Commission meeting.
[130]Frequently Asked Questions About the June 29, 2010, Dear Colleague Letter. (2011). Retrieved 11/9, 2011, from http://www2.ed.gov/about/offices/list/ocr/docs/dcl-e-text-faq-201105.html.
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[133]*Ibid.*
[134]Technology Roundtable Presentation, textbook and software producers (2011, May 3), Testimony given at Postsecondary AIM Commission meeting.
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[137]Higher Education Roundtable (20111, May 3), industry analysts, testimony given at Postsecondary AIM Commission meeting.
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[152]Getzel, E. E. (2008) "Addressing the Persistence and Retention of Students with Disabilities in Higher Education: Incorporating Key Strategies and Supports on Campus', Exceptionality, 16: 4, 207 — 219.
[153]IDEA Regulations, Section 602, Part B, Number ii:
(ii) SUMMARY OF PERFORMANCE – For a child whose eligibility under this part terminates under circumstances described in clause (i), a local education agency shall provide the child with a summary of the child's academic achievement and functional performance, which shall include recommendations on how to assist the child in meeting the child's postsecondary goals.

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[156]28 C.F.R. § 35.160(b)(2).
[157]34 C.F.R. 104.44(a)-(d); 104.4(b)(1)(iii)(iv).
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[184]For example, the Office of Postsecondary Education at the Department has funded the SciTrain University (SciTrain U) grant. This grant supports both research and dissemination to enhance the capacities of postsecondary teachers to provide effective learning in science and mathematics for students with disabilities. SciTrain U provides extensive training to teachers, teaching assistants, mentors and tutors; and conducts research to investigate the efficacy of its training efforts. As noted in Recommendation 13, the NSF recently awarded Georgia Tech a five-year grant in 2010. The NSF project provides accessible STEM resources for high school and college teachers. The project focuses on using online social networking (including virtual worlds), making accessible teaching materials, and connecting mentors to students with disabilities.

List of Appendices

The Advisory Commission on Accessible Instructional Materials in Postsecondary Education for Students with Disabilities

Appendix A: Resignation Letter—Maria Pallante

A letter regarding resignation from the Commission, dated September 22, 2011, is appended.

The Register of Copyrights of the United States of America
United States Copyright Office · 101 Independence Avenue SE · Washington, DC 20559-6000 · (202) 707-8350

September 2, 2011

Martha J. Kanter
The Under Secretary of Education
U.S. Department of Education
400 Maryland Avenue, S.W.
Washington, DC 20202-2500

Dear Under Secretary Kanter:

By this letter I regretfully inform you of my resignation from the Advisory Commission on Accessible Instructional Materials in Postsecondary Education for Students with Disabilities, effective today.

The Commission is charged with studying extremely important issues of law and practice and it has been a privilege to serve for the past eleven months, including by chairing the Commission's legal task force. However, you may recall that although I was serving as Senior Advisor to the Librarian of Congress when the Commission's work began last September, I was appointed to head the Copyright Office on June 1, 2011. At that time, it appeared the Commission was concluding its work (and preparing to memorialize it), but subsequent discussions among Commission members, including on the subject of copyright law and related issues, showed that this was not the case.

These recent developments have required me to consider whether my continued participation is appropriate now that I am Register of Copyrights of the United States. As Register, my duties are prescribed under Title 17 of the U.S. Code and include general stewardship of copyright law and advising Congress on possible changes to that law. I therefore conclude it is inappropriate for me to negotiate the presentation of issues that may reasonably be raised before me and my Office.

Because the Commission is scheduled to dissolve at the end of this month, it does not seem necessary for the Librarian to name a replacement at this time. However if we can support the Commission in some other way, such as by reviewing the background sections of the report for legal accuracy, we would be pleased to do so.

Sincerely yours,

Maria A. Pallante

Maria A. Pallante
Register of Copyrights and Director
U.S. Copyright Office

cc: James H. Billington, Librarian of Congress
Alexa Posny, Assistant Secretary of Education

Advisory Commission on Accessible Instructional Materials in Postsecondary Education for Students with Disabilities

Appendix B: Member Biographies

Russlynn H. Ali
Assistant Secretary for Civil Rights
United States Department of Education

Russlynn Ali was appointed assistant secretary for civil rights at the U.S. Department of Education by President Barack Obama on March 18, 2009, and was confirmed by the U.S. Senate on May 1, 2009. As assistant secretary, Ali is U.S. Secretary of Education Duncan's primary adviser on civil rights and is responsible for enforcing U.S. civil rights laws as they pertain to education—ensuring the nation's schools, colleges, and universities receiving federal funding do not engage in discriminatory conduct related to race, sex, disability, or age.

Prior to joining the department, Ali served as vice president of the Education Trust in Washington, D.C., and as the founding executive director of the Education Trust—West in Oakland, California, since 2001. She was a member of the review board of the Broad Prize in Urban Education, was appointed by Governor Schwarzenegger to the Governor's Advisory Committee on Education Excellence, the Curriculum and Instruction Committee of the Los Angeles Unified School District Board of Education, and received the Aspen Institute's New Schools Entrepreneurial Leaders for Public Education Fellowship.

Previously, Ali was a teacher, served as the liaison for the president of the Children's Defense Fund, as assistant director of policy and research at the Broad Foundation, and as chief of staff to the president of the Los Angeles Unified School District's Board of Education. She has also taught at the University of Southern California Law Center and the University of California at Davis.

In the legal field, Ali was a contract attorney at Bird, Marella, Boxer, and Wolpert, deputy co-director and counsel at the Advancement Project at English, Munger, & Rice, and an attorney at Sheppard, Mullin, Richter, & Hampton, all in Los Angeles. Ali is a member of the California State Bar.

Ali received her J.D. from Northwestern University School of Law, where she was awarded the Lowden-Wigmore Prize for Trial Advocacy and was a Julius Miner Moot Court Finalist. She received her bachelor's degree in law and society from the American University. She also attended Spelman College.

Lizanne DeStefano, Ph.D.
Fox Family Professor of Education
University of Illinois-Urbana-Champaign

Lizanne DeStefano received her Ph.D. from the University of Pittsburgh in 1986. Dr. DeStefano is a former special education teacher. She holds a doctorate in educational psychology, and trained and practiced as a clinical and school psychologist. Currently, she is the director of the Illinois STEM Education Initiative, the Fox Family Professor of Education, Professor of Educational Psychology. Dr. DeStefano recently served as Executive Associate Dean for Research and Administration, and Director of the Bureau of Educational Research at University of Illinois at Urbana-Champaign. Dr. DeStefano's research interests include the evaluation and sustainability of innovative programs, multi-site initiatives, and programs serving special populations such as students with disabilities or those at risk for academic failure. Her work has been funded by numerous agencies and foundations, including the U.S. Department of Education, the National Science Foundation, the National Academy of Education, the Joyce Foundation, the Lilly Foundation,

Chicago Community Trust, and the Illinois State Board of Education. She has conducted many large-scale evaluations of programs serving children and youth, including evaluations of the implementation of IDEA, Illinois Learning Standards, and early literacy professional development initiatives such as the Reading Excellence Act in Illinois and the Reading First Evaluation.

Gaeir Dietrich (Commission Chair)
Director of the High Tech Center Training Unit
California Community Colleges

Gaeir Dietrich is the director of the High Tech Center Training Unit (HTCTU) of the California community colleges, located at De Anza College in Cupertino, California. Gaeir is a member of the AHEAD Board and the AHEAD Instructional Materials Access Group (IMAG). She is a trainer for the two-day AHEAD E-text Institute.

Gaeir serves on the advisory board for Bookshare, the Alternate Text Production Center (ATPC), and the Silicon Valley Independent Living Center (SVILC). She also leads the Veterans Resource Center (VRC) project for the California Community Colleges Chancellor's Office. In 2010–2011, she served as the chair for the national Advisory Commission on Accessible Instructional Materials in Postsecondary Education.

Chester A. Finn
Council Member
National Council on Disability

Mr. Finn is a Special Assistant with the New York State Office for People With Developmental Disabilities (NYSOPWDD), providing services, supports, and advocacy to individuals with development disabilities and their families; in October 2009 he was appointed to the NYSOPWDD's Leadership Team. He is also the former President of the national board of Self-Advocates Becoming Empowered, Board Advisor to the Self Advocacy Association of New York State (SANYS), and a member of the Justice for All Action Networking Steering Committee. Mr. Finn is also a former member of the Board of Directors for the ARC of the United States, the world's largest community-based organization of and for people with intellectual and developmental disabilities. Mr. Finn is blind and a person with a developmental disability and is committed to fighting for the civil rights of all people with disabilities.

Andrew Friedman
President and CEO
Learning Ally

Andrew Friedman was appointed President & CEO of Learning Ally, formerly Recording for the Blind & Dyslexic, on January 23, 2011 after serving as Acting CEO since May 11, 2010. Andrew joined Learning Ally in January 2009 as its Chief

Financial Officer. In November 2009, after leading Learning Ally's finance integration and demonstrating his passion for operational excellence, Andrew was promoted to Chief Operating Officer.

Prior to joining Learning Ally, Andrew was founder and partner of iFOS Publishing/ParentingTeensNetwork, where he raised capital to launch the company and run all operations, also building distribution partnerships with large not-for-profit associations. He was also financial partner and chief financial officer for Rosetta LLC and SimStar Inc., a marketing services agency and professional services company, from 2000 through 2007, where he defined and implemented ongoing corporate strategy and managed the organization's P&L.

In his earlier experience, Andrew took on roles of escalating responsibility with Petersen Publishing Company, where he served as general manager; Primedia Directories Inc., where he served as CFO and director of financial services; and ADP, where he served as finance director. Andrew received his B.S. degree in business administration from Tulane University.

Jim Fruchterman
CEO of Benetech
MacArthur Fellow, Technology and Social Entrepreneur

Jim Fruchterman is social entrepreneur and CEO of Benetech, a nonprofit technology company based in Palo Alto, California. A technology entrepreneur and engineer, Fruchterman has been a rocket scientist, founded two of the foremost optical character recognition companies, and created numerous technology social enterprises. Fruchterman co-founded Calera Recognition Systems and RAF Technology, Inc., both of which were based on optical character recognition technology. In 1989, Fruchterman founded Benetech as a nonprofit social enterprise, to produce reading machines based on the Calera technology, for people who are blind.

Benetech expanded its focus in 2000 and began creating new technology for people with disabilities, as well as the human rights and environmental movements. Benetech's programs include Martus, software for tracking human rights violations; and Miradi, project management tools for conservationists.

Bookshare, Benetech's largest program, is the largest online library for people with print disabilities, serving more than 150,000 people in the United States with more than 125,000 books available for accessible downloading. The U.S.

Department of Education has funded Bookshare to provide its services for free to all American students with qualifying print disabilities.

Fruchterman has received numerous awards, including the MacArthur Fellowship and the Skoll Award for Social Entrepreneurship. In 2003, Fruchterman was named an Outstanding Social Entrepreneur by the Schwab Foundation. Fruchterman has received the American Library Association's Francis Joseph Campbell award for his outstanding contribution to the advancement of library services for the blind and physically handicapped. The American Council of the Blind awarded Fruchterman the Robert F. Bray Award in recognition of his efforts to make literary works accessible to people who are blind or visually impaired. Fruchterman believes that technology can be the ultimate leveler, allowing disadvantaged people achieve more equality in society.

Peter Givler
Executive Director
Association of American University Presses

Peter Givler is the Executive Director of the Association of American Publishers, a position he has held since 1997. Before that he was Director of the Ohio State University Press, and has held a variety of jobs in textbook and scholarly publishing. He is also President of the International Federation of Scholarly Publishers and is a member of the Executive Committee of the International Publishers Association, whose Copyright Committee he chairs. He is on the Board of Directors of the Book Industry Study Group, and has served on a number of other governing, advisory, and editorial Boards. He was a member of the Section 108 Study Group for the Library of Congress. He has been a speaker at many scholarly and professional meetings, both domestic and international, and his articles about scholarly publishing have appeared in, among others, *The Chronicle of Higher Education*, *Academe*, *The Journal of Scholarly Publishing*, and *Publishing Research Quarterly*.

Stephan J. Hamlin-Smith
Executive Director
Association on Higher Education And Disability (AHEAD)

Following five years in event management and public relations, Stephan began his career in the field of higher education and disability in 1994 when he joined the staff of AHEAD as their director of communications and marketing. He became their

director of operations in 1996 and executive director in 2001. Through his work with AHEAD, in addition to serving as the chief staff officer, he has taken on increasingly influential roles in local, state, and national arenas advocating for the total and equitable inclusion of people with disabilities in education and the workplace. In 2010 Stephan also became the executive officer for the Society for Disability Studies.

Currently Stephan serves on the executive councils for the Institute on Community Inclusion in Boston, MA; the National Council on Disability and Exchange; Career Opportunities for Students with Disabilities; and the advisory boards of numerous national and international research and development initiatives related to transition to and involvement in higher education by people with disabilities.

His passion for social justice and human rights combined with his educational background in management and rhetoric serve as a fitting foundation for his leadership in this field. Stephan's educational history at Muskingum College for his undergraduate and Ohio Dominican University for his post-baccalaureate study provides a unique experiential perspective from which to orient his work with AHEAD.

In his personal life, Stephan is involved in a volunteer capacity with the Human Rights Campaign (HRC), the American Civil Liberties Union (ACLU), the American Society for the Prevention of Cruelty to Animals (ASPCA), and Amnesty International. He and his partner reside in Charlotte, North Carolina where they are both actively involved in the region's fine arts community.

Kurt Herzer
Medical and Doctor of Philosophy Student
The Johns Hopkins University

Kurt R. Herzer is an M.D.-Ph.D. student at the Johns Hopkins University School of Medicine. In 2010 he completed an MSc in social policy at the University of Oxford on a Marshall Scholarship awarded by the British Government. In 2009, he received a BA in public health from Johns Hopkins University. Mr. Herzer's research has included vitamin A supplementation's role in the reduction of childhood mortality and blindness as well as national assessments of healthcare quality standards. He has authored/co-authored several journal papers and a book chapter, and spoken at international conferences. Mr. Herzer has previously worked in the Department of Health and Human Services in Washington, DC as a Harry S. Truman Scholar and at the World Health

Organization in Geneva. As a legally blind individual, Mr. Herzer has been involved with several organizations, including the National Federation of the Blind, the Helen Keller Foundation, and Learning Ally.

Bruce Hildebrand
Executive Director for Higher Education
Association of American Publishers

Bruce Hildebrand is Executive Director for Higher Education for the Association of American Publishers (AAP). He has been with AAP since mid-2004. Bruce is a former print and radio journalist who was active in campaign politics from 1972 until 1985 and served in the administrations of three presidents. For 10 years, he was president and CEO of an international consulting and development firm and served for six years as a Senior Vice President at Hill and Knowlton International Public Relations.

As Executive Director for Higher Education at the AAP, Bruce manages all member, public, and government relations activities at the federal level and in the 50 states. His activities include development of the AccessText Network for print disabled students and the Cost Effective Solutions for Student Success Program to improve student success while lowering student spending and institutional instructional costs. Bruce's ongoing functions include design and implementation of multimedia communications programs and providing in-person and written testimony for legislative and academic hearings, commissions, and task forces. His direct media and public outreach has included more than 1,500 newspaper, radio, and television interviews, and speeches while with AAP.

Ashlee Kephart
Student at Hamline University
Founder of Kids For A Better World, USA
and a Liberian Chapter and Child Development Center in Africa

Ms. Kephart is the founder of a nonprofit organization providing opportunities for local and global youth to get involved in addressing the needs of individuals, children, and families within local and global communities. She encourages the empowerment of youth through community initiatives and spreads the volunteer spirit internationally by connecting youth in America with youth in other parts of the world.

She established a Liberian chapter of Kids For A Better World and a Child Development Center in a remote area of Africa,

serving over 400 vulnerable street children who call her Mother. She's touched the lives of hundreds of thousands of people in need. She inspired, encouraged, and motivated others to see what is possible, to share their skills and talents, to take what they have and make their dreams a reality. She believes everyone has something important to contribute to society, that there is no contribution too small or insignificant. She's a mentor/role model for children and adults. She encouraged girl scouts, classmates, teachers, community leaders, churches, etc., to personally get involved.

Whether the focus is music, bandages, books, shoes, etc., all of her programs promote a sense of community between those who give to the program and those who receive from it. She's raised over $100,000.00, recycled 10,000+ cans, distributed over 15,000 Caring Bags of personal-care products to the homeless, 65,000 shoes to underprivileged families, 10,000 books to children in hospitals and orphanages, 4,000 stuffed animals and backpacks to victims of disasters, and reached hundreds of thousands through her nonprofit organization (www.kidsforabetterworld.com), a true champion of positive living.

George Kerscher, Ph.D.
Secretary General of the DAISY Consortium
President of International Digital Publishing Forum

George Kerscher began his IT innovations in 1987 and coined the term "print disabled." George is dedicated to developing technologies that make information not only accessible, but also fully functional in the hands of persons who are blind or who have a print disability. He believes properly designed information systems can make all information accessible to all people and is working to push evolving technologies in this direction.

As Secretary General of the DAISY Consortium and President of the International Digital Publishing Forum (IDPF), Kerscher is a recognized international leader in document access. In addition, Kerscher is the Senior Officer of Accessible Technology at Learning Ally in the USA. He chairs the DAISY/NISO Standards committee and the W3C's Steering Council for the Web Accessibility Initiative (WAI). George is one of the authors of the ePUB3 Standard and also serves on the National Instructional Materials Accessibility Standard (NIMAS) Board.

Eduardo M. Ochoa, Ph.D.
Assistant Secretary, Office of Postsecondary Education
United States Department of Education

Dr. Eduardo Martín Ochoa is Assistant Secretary for Postsecondary Education. As such, he serves as the principal advisor to the Secretary on Departmental matters related to postsecondary education. The Office of Postsecondary Education (OPE) directs, coordinates, and recommends policies for 79 programs totaling over $2.6 billion that provide financial assistance to eligible students enrolled in postsecondary educational institutions, improve postsecondary educational facilities and programs through the provision of financial support to eligible institutions, recruit and prepare disadvantaged students for the successful completion of postsecondary educational programs, and promote the domestic study of foreign languages and international affairs and support international educational research and exchange activities. Notable among them are the TRIO and GEAR UP programs, institutional development programs for minority institutions, teacher development programs, international education programs, and the Fund for the Improvement of Postsecondary Education (FIPSE). OPE also certifies all regional and national accreditation agencies eligible to qualify institutions for Federal financial aid and Pell grants.

Prior to his appointment as Assistant Secretary, Dr. Ochoa was a faculty member and an administrator in higher education for twenty-nine years, most recently having been Provost and Vice President for Academic Affairs at Sonoma State University in California. He received his B.A. in Physics from Reed College, his M.S. in Nuclear Science and Engineering from Columbia University, and his Ph.D. in Economics from the New School for Social Research.

Alexa E. Posny, Ph.D.
Assistant Secretary for Special Education and Rehabilitative Services
United States Department of Education

Alexa E. Posny is the Assistant Secretary for Special Education and Rehabilitative Services at the U.S. Department of Education. In her role, Alexa oversees the Office of Special Education Programs (OSEP), the Rehabilitation Services Administration (RSA), and the National Institute on Disability and Rehabilitation Research (NIDRR). She previously served as the Commissioner of Education for the state of Kansas. As Commissioner, she was responsible for helping over 475,000 students meet or exceed high academic standards, licensing over

45,000 teachers, and overseeing a state education budget of over $4.5 billion dollars. Prior to this, Posny was appointed as the Director of OSEP, a position in which she assisted state and local efforts to effectively educate all children and youth with disabilities.

Other positions that Posny has held include the Kansas Deputy Commissioner of Education, Kansas State Director of Special Education, Director of Special Education for the Shawnee Mission School District, Director of the Curriculum and Instruction Specialty Option as part of the Title 1 Technical Assistance Center (TAC) network of TACs across the United States, and a Senior Research Associate at Research and Training Associates in Overland Park, KS. Posny earned her Bachelor's degree in Sociology and Psychology from the University of Wisconsin at Stevens Point, a Master's degree in Behavioral Disabilities from the University of Wisconsin at Madison, and a Ph.D. in Educational Administration with a minor in Special Education also from the University of Wisconsin at Madison.

Mark A. Riccobono
Executive Director,
Jernigan Institute, National Federation of the Blind

Born in Milwaukee, Wisconsin, Mark Riccobono was diagnosed with glaucoma and aniridia at age five. Nonetheless, Mark attended public schools, graduating with honors while active in debate and track.

Mark earned a bachelor's degree in business administration at the University of Wisconsin-Madison. He became a member of its Iron Cross honor society and was the founding president of the Wisconsin Association of Blind Students. During his senior year, Mark was elected president of the National Federation of the Blind (NFB) of Wisconsin.

After graduation, Mark joined the Sears executive trainee program and spent his free time advocating for the blind. Then he was appointed to the Wisconsin State Superintendent's Blind and Visual Impairment Education Council, and was made the first director of the Wisconsin Center for the Blind and Visually Impaired, an agency responsible for statewide services to blind children. Afterward, he took a position in Baltimore with the NFB and earned a Masters of Science in Educational Studies from the Johns Hopkins School of Professional Studies in Business and Education.

Mark is currently executive director of the NFB Jernigan Institute—the only research and training institute developed and directed by the blind. Its NFB Blind Driver Challenge initiative is building an interface that would permit the blind to drive independently. In January 2011, at the Daytona International Speedway, Mark navigated a car equipped with nonvisual technology for 1.5 miles, demonstrating the first time a blind individual has driven a street vehicle in public without the assistance of a sighted person. In early 2011, the University of Wisconsin Alumni recognized Mark's accomplishments by naming him as one of their Forward Under 40 Award recipients.

Mark is married to Melissa, who is president of the NFB of Maryland. They have two children, Austin and Oriana.

Linda Tessler, Ph.D.
Psychologist and Learning Disabilities Specialist

Dr. Linda Tessler is a licensed psychologist and author who has earned national recognition for her pioneering work in raising awareness and treatment of learning disabilities. Severely dyslexic herself and undiagnosed until age 32, Dr. Tessler specializes in helping patients understand and use life-long accommodation techniques to reach their fullest potential. In her active private practice, she also helps patients overcome a variety of emotional difficulties including self-esteem issues, traumatic experience, and relationship concerns.

In 2008, Dr. Tessler celebrated the release of her new book, *One Word at a Time: A Road Map for Navigating Through Dyslexia and Other Learning Disabilities***.** The book not only chronicles Tessler's lifelong struggle with dyslexia but also provides compassionate advice and practical strategies which are culled from her professional experience and personal experience as the parent of a son who struggles with dyslexia.

Dr. Tessler is a frequent speaker at academic institutions and local and national conferences on dyslexia, including the International Dyslexia Association's conferences. In addition, she has made numerous radio and television appearances and has been published in various newspapers.

Tessler is a past board member of the Philadelphia Branch of the International Dyslexia Association and of Learning Ally. She also served on Learning Ally's National Advisory Council. Dr. Tessler is a fellow of the Pennsylvania Psychological Association, a long-standing member of the American Psychological Association, and an invited member of the Phi Kappa Phi Honor Society.

Tuck Tinsley III, Ed. D.
President
American Printing House for the Blind

Tuck Tinsley is the President of the American Printing House for the Blind (APH), the oldest company in the United States dedicated to creating products for blind people and the largest organization of its kind in the world. He received his undergraduate and Master's degrees from the Florida State University, majoring in education of the visually impaired and special education, and subsequently earned a doctorate in educational administration from the University of Florida.

In 1968, Dr. Tinsley began his career as a mathematics teacher in the Department for the Blind of the Florida School for the Deaf and the Blind (FSDB) in St. Augustine, Florida. He served as principal of the Department for the Blind from 1981 until 1989. At that
time he accepted the position of president of APH. During his twenty-one year tenure at FSDB, he also served as assistant principal and interim president.

Dr. Tinsley has been active in several professional organizations. He has served as a board member of the Association for the Education and Rehabilitation of the Blind and Visually Impaired (AER), the Kentucky School for the Blind Charitable Foundation (KSBCF), and APH; presently continuing that role with KSBCF and APH. He is also currently a North American delegate to the World Blind Union and the International Council of Education of the Visually Impaired, and has written seventeen professional monographs and articles regarding the blind and visually impaired.

In 2004, Dr. Tinsley received the William H. English Leadership Award, presented by the Council of Schools for the Blind. He also received the 1997 Distinguished Alumni Award in Business and Industry, presented by the Florida State University College of Education; the 2001 Exceptional Service Award, presented by the Kentucky Association for Education and Rehabilitation of the Blind and Visually Impaired; the 2008 Robert Bray Distinguished Service Award, presented by the American Council of the Blind; the 2009 Excellence in Leadership Award, presented by VisionServe Alliance; and in 2010, Dr. Tinsley was the recipient of the prestigious Migel Medal, presented by the American Foundation for the Blind.

James H. Wendorf (Commission Vice-Chair)
Executive Director
National Center for Learning Disabilities

James H. Wendorf is executive director of the National Center for Learning Disabilities (NCLD), which seeks to ensure success for all individuals with learning disabilities in school, at work, and in life. He directs NCLD's efforts to connect parents with resources, guidance, and support so they can advocate effectively for their children; deliver evidence-based tools, resources, and professional development to educators to improve student outcomes; and develop policies and engage advocates to strengthen educational rights and opportunities.

NCLD's multi-year initiative promoting the implementation of Response to Intervention strategies in schools nationwide—the RTI Action Network—is the largest single program in this effort.

For the past two decades, Mr. Wendorf has worked in the not-for-profit sector to build national and international partnerships supporting learning and literacy programs. Prior to joining NCLD in 1999, Mr. Wendorf served as vice president and chief operating officer of Reading Is Fundamental, Inc., the nation's largest nonprofit children's literacy organization, based in Washington, D.C.

Mr. Wendorf currently serves on the advisory board of the National Center on Educational Outcomes (University of Minnesota), the National Association for the Education of African American Children with Learning Disabilities, the Education Policy and Leadership Center (Southern Methodist University), and previously with a variety of civic and education organizations. He currently serves as vice chair of the Congressionally authorized Advisory Commission on Accessible Instructional Materials in Postsecondary Education for Students with Disabilities.

Mr. Wendorf is frequently called upon by the news media to comment on policies and programs affecting individuals who struggle to read and learn. He earned a B.A. degree from Yale College, and graduate degrees in English Language and Literature from the University of Cambridge and Cornell University.

The Advisory Commission on Accessible Instructional Materials in Postsecondary Education for Students with Disabilities

Appendix C: The Higher Education Act as Amended (SEC. 772—Establishment of Advisory Commission on Accessible Instructional Materials in Postsecondary Education for Students with Disabilities)

a) ESTABLISHMENT.—

(1) IN GENERAL.—The Secretary shall establish a commission to be known as the Advisory Commission on Accessible Instructional Materials in Postsecondary Education for Students with Disabilities (in this section referred to as the 'Commission').

(2) MEMBERSHIP.—

(A) TOTAL NUMBER OF MEMBERS.—The Commission shall include not more than 19 members, who shall be appointed by the Secretary in accordance with in subparagraphs (B) and (C).

(B) MEMBERS OF THE COMMISSION.—The Commission members shall include one representative from each of the following categories:

(i) The Office of Postsecondary Education of the Department.
(ii) The Office of Special Education and Rehabilitative Services of the Department.

(iii) The Office for Civil Rights of the Department.
(iv) The Library of Congress National Digital Information and Infrastructure Preservation Program Copyright Working Group.
(v) The Association on Higher Education and Disability.
(vi) The Association of American Publishers.
(vii) The Association of American University Presses.
(viii) The National Council on Disability.
(ix) Recording for the Blind and Dyslexic.
(x) National organizations representing individuals with visual impairments.
(xi) National organizations representing individuals with learning disabilities.

(C) ADDITIONAL MEMBERS OF THE COMMISSION.—The Commission members shall include two representatives from each of the following categories:

(i) Staff from institutions of higher education with demonstrated experience teaching or supporting students with print disabilities, including representatives from both two-year and four-year institutions of higher education of different sizes.
(ii) Producers of accessible materials, publishing software and supporting technologies in specialized formats, such as Braille, audio or synthesized speech and digital media.
(iii) Individuals with visual impairments, including not less than one currently enrolled postsecondary student.
(iv) Individuals with dyslexia or other learning disabilities related to reading, including not less than one currently enrolled postsecondary student.

(D) TIMING.—The Secretary shall appoint the members of the Commission not later than 60 days after the Commission is established under paragraph (1).

(3) CHAIRPERSON AND VICE CHAIRPERSON.—The Commission shall select a chairperson and vice chairperson from among the members of the Commission.

(4) MEETINGS.—

(A) IN GENERAL.—The Commission shall meet at the call of the Chairperson.

(B) FIRST MEETING.—Not later than 60 days after the appointment of the members of the Commission under paragraph (2)(D), the Commission shall hold the Commission's first meeting.

(5) QUORUM.—A majority of the members of the Commission shall constitute a quorum, but a lesser number of members may hold hearings.

(b) DUTIES OF THE COMMISSION.—

(1) STUDY.—

(A) IN GENERAL.—The Commission shall conduct a comprehensive study to—

(i) assess the barriers and systemic issues that may affect, and technic al solutions available that may improve, the timely delivery and quality of accessible instructional materials for postsecondary students with print disabilities, as well as the effective use of such materials by faculty and staff; and (ii) make recommendations related to the development of a comprehensive approach to
improve the opportunities for postsecondary students with print disabilities to access instructional materials in specialized formats in a timeframe comparable to the availability of instructional materials for postsecondary nondisabled students.

(B) EXISTING INFORMATION.—To the extent practicable, in carrying out the study under this paragraph, the Commission shall identify and use existing research, recommendations, and information.

(C) RECOMMENDATIONS.—

(i) IN GENERAL.—The Commission shall develop recommendations—

(I) to inform Federal regulations and legislation;
(II) to support the model demonstration programs authorized under section 773;
(III) to identify best practices in systems for collecting, maintaining, processing, and disseminating materials in specialized formats to students with print disabilities at costs comparable to instructional materials for postsecondary nondisabled students;
(IV) to improve the effective use of such materials by faculty and staff, while complying with applicable copyright law; and
(V) to modify the definitions of instructional materials, authorized entities, and eligible students, as such terms are used in applicable Federal law, for the purpose of improving services to students with disabilities.

(ii) CONSIDERATIONS.—In developing the recommendations under subparagraph (C), the Commission shall consider—

(I) how students with print disabilities may obtain instructional materials in accessible formats—

(aa) within a timeframe comparable to the availability of instructional materials for nondisabled students; and

(bb) to the maximum extent practicable, at costs comparable to the costs of such materials for nondisabled students;

(II) the feasibility and technical parameters of establishing standardized electronic file formats, such as the National Instructional Materials Accessibility Standard as defined in section 674(e)(3) of the Individuals with Disabilities Education Act, to be provided by publishers of instructional materials to producers of materials in specialized formats, institutions of higher education, and eligible students;

(III) the feasibility of establishing a national clearinghouse, repository, or file-sharing network for electronic files in specialized formats and files used in producing instructional materials in specialized formats, and a list of possible entities qualified to administer such clearinghouse, repository, or network;

(IV) the feasibility of establishing market based solutions involving collaborations among publishers of instructional materials, producers of materials in specialized formats, and institutions of higher education;

(V) solutions utilizing universal design; and

(VI) solutions for low-incidence, high-cost requests for instructional materials in specialized formats.

(2) REPORT.—Not later than one year after the Commission's first meeting, the Commission shall submit a report to the Secretary and the authorizing committees detailing the findings and recommendations of the study conducted under paragraph (1).

(3) DISSEMINATION OF INFORMATION.—In carrying out the study under paragraph (1), the Commission shall disseminate information concerning the issues that are the subject of the study through—

(A) the National Technical Assistance Center established under subpart 4; and

(B) other means, as determined by the Commission.

(c) TERMINATION OF THE COMMISSION.—

The Commission shall terminate on the date that is 90 days after the date on which the Commission submits the report under subsection (b)(2) to the Secretary and the authorizing committees.

The Advisory Commission on Accessible Instructional Materials in Postsecondary Education for Students with Disabilities

Appendix D: Legal Background—Copyright

The Purposes of Copyright

The authority for U.S. copyright law is found in Article I, Section 8 of the U.S Constitution, which empowers Congress to enact laws "To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." To the framers of the Constitution, "Science" meant knowledge or learning.[1] Copyright serves as "an engine of free expression."[2]

The duration of copyright protection is meaningful but not perpetual. For example, for works created on or after January 1, 1978, copyright protection endures for the period of the life of the author plus 70 years.[3] An author is some who creates an original work of authorship fixed in any tangible medium of expression, now known or later developed.[4] Such works include many categories of works and genres, such as literary works, musical compositions, pictorial works, motion pictures, and architectural works. As a legal matter, the term *author* is therefore a broad one. Works also can be created jointly, meaning there may be co-authors with equal rights; and such rights may be transferred to others, including by will. In addition, under certain circumstances where the doctrine of work-made-for-hire is implicated, an author may be a corporation or one's employer.

Copyright is much more than a right of remuneration. As a general rule, whether and how a work is made available to the public, under what conditions, whether and how an author will be compensated, and whether and how others may reproduce, distribute or otherwise use a work are decisions that legally belong to an author. By establishing a marketable right to the use of one's own expression, copyright supplies an economic incentive to create and disseminate ideas."[5] As the Supreme Court has explained,

> The economic philosophy behind the clause empowering Congress to grant patents and copyrights is the conviction that encouragement of individual effort by personal gain is the best way to advance the public welfare through the talents of authors and inventors in "Science and the useful Arts."[6]

Ensuring that authors and publishers can profit from their creative efforts is central to the U.S. system of copyright:

> The attempt to depreciate the interest of the copyright owner by reason of profits it has realized through its copyrights is directly contrary to the theory on which copyright law is premised. The copyright law celebrates the profit motive, recognizing that the incentive to profit from exploitation of copyrights will redound to the public benefit resulting in the proliferation of knowledge.[7]

In comparison to the copyright laws of some other nations, a hallmark of U.S. copyright law is that it balances the intellectual property rights of authors and publishers with the needs of a democratic society. It promotes freedom, open communication, and diversity of thought and is an alternative to patronage or government support. While the "immediate effect of our copyright law is to secure a fair return for an author's creative labor," its ultimate goal is "to stimulate artistic creativity for the general public good."[8]

The U.S. copyright system has multiple independent dimensions and its benefits include economic advantages. A key element is the contribution of publishers and other rights holders to the U.S. economy and particularly to U.S. trade. The protections provided by Copyright law support the creative industries—including the millions of people engaged in the production, marketing, and distribution of creative works[9]—and at the same time expands the country's knowledge base.

Collectively, copyright protections and exceptions support both a vital economy of trade in copyrighted goods and services as well as a "knowledge economy" of education and expertise. These two economies are interdependent: the trade in creative content and the fertile environment for creativity and knowledge provided in part by libraries and archives work together to produce significant economic and other benefits for the nation as a whole.

Overview of Exclusive Rights

The "exclusive right" provided to copyright owners is actually a "bundle" of rights that only the author, or those authorized by the author, may engage in during the term of copyright, subject to the applicability of fair use or another express exception or limitation in the Copyright Act. These are—

- *The reproduction right (the right to make copies or phonorecords)*. As defined in Section 101, a "copy" of a work may be any material object in which a work is fixed or embodied and from which it can be perceived, reproduced, or communicated, either directly or with the aid of a machine.[10] In a digital context, "copies" include reproductions on a hard drive of a computer (such as those that reside on network servers) or on a physical, removable medium (such as copies on DVDs, CDs, etc.) as well as reproductions stored in the RAM of a computer when a user views a work.[11] A work may also be reproduced across formats; for example, a book may be reproduced by reading it aloud into a tape recorder.

- *The right to prepare derivative works (e.g., adaptations)*. A "derivative work" is a work that is based on a copyrighted work but which contains new material that is "original" in the copyright sense. A movie version of a novel, for instance, is a derivative work. The dramatization of a work, including a dramatic reading of a book complete with music and other sound effects, would implicate the right to make derivative works. Merely scanning a work to digitize it, on the other hand, involves no original authorship, and so the resulting digital version is considered a reproduction and not a derivative work.

- *The right to distribute copies or phonorcords of the work to the public*. The right of distribution encompasses distribution of copies to the public "by sale or other transfer of ownership, or by rental, lease or lending."[12] Making copies of a work available for public downloading over an electronic network has been held to qualify as public distribution and therefore implicates an

- exclusive right of the rights holder.[13] The distribution right is limited by the "first sale doctrine," which allows the owner of a particular copy of a copyrighted work to give or lend that copy to someone else—such as a library lending a book to a patron or a private citizen giving or selling a used book to another person. The first-sale doctrine does not, however, authorize the owner of a copy to make another copy. Since "transferring" a work electronically entails making a new copy, the first-sale doctrine does not apply.[14]

- *The right to perform the work publicly*. The Copyright Act states that to perform a work means to recite, render, play, dance, or act it with or without the aid of a machine. The meaning of the term "publicly" is discussed below. A dramatic reading of a play on Broadway or through a webcast would implicate the public performance right. The right does not extend to sound recordings, which have their own narrowly tailored right of public performance, also discussed below.

- *The right to display the work publicly*. To display a work means to show a copy of it, either directly or with the aid of a device or process. Posting a journal article or a photograph on a public web site would implicate the public display right, for example.

- *Performance right in sound recordings*. Copyright owners of sound recordings do not have the same right of public performance that attaches to most other works. Instead, they have a more limited right to perform the work publicly "by means of a digital audio transmission."[15]

To perform or display a work "publicly" under Section 101 of the Copyright Act means to perform or to display it anywhere that is open to the public or anywhere that a "substantial number of persons outside of a normal circle of a family and its social acquaintances is gathered." As a matter of law, it is a public performance "to transmit or otherwise communicate a performance or display of the work to a place (specified above) or to the public.

Limitations & Exceptions to the Exclusive Rights

The exclusive rights set forth above are not absolute. Copyright is limited in time and scope, is subject to a number of exceptions and limitations, and contains "built-in First Amendment accommodations."[16] Only creative expression is

protectable; ideas, facts, systems, processes, and procedures are not.[17] Works created by U.S. government employees are public domain works; they are not subject to copyright.[18]

The first listed and best known of the exceptions listed in the Copyright Act is *fair use*, codified in Section 107 of the Copyright Act. Fair use allows for the use of copyrighted expression without permission from the rights holder in certain circumstances prescribed by statute and developed by the courts. In all, Sections 107–122 of the Act provide specific exceptions to and limitations on the exclusive rights of authors.

These various exceptions and limitations cover many different kinds of uses, such as exceptions for distance education,[19] for libraries and archives,[20] and, notable for this Report, exceptions for the blind and disabled[21] (discussed further below). In addition, some types of works—musical compositions and sound recordings, for example—are subject to "compulsory" or "statutory" licenses for certain uses. Such a license provides a specific legal authorization (in other words, the copyright owner cannot deny permission) to use a copyrighted work in certain ways or for certain purposes as long as the user pays the required fee and otherwise meets the conditions in the law. Not all uses that are in the public interest automatically warrant an exception. In some cases, the constitutional goal of copyright is better served if the cost of certain uses is borne by society generally, rather than by the authors and other rights holders of works that would be affected.[22]

The Rationale for Copyright Exceptions & Limitations

Congress and the courts have long recognized that allowing some reasonable uses of copyrighted works without permission or compensation is fully consistent with and sometimes required by the ultimate goal of copyright: to promote the progress of knowledge. Creative works inspire new creations, which in turn inspire others; but this "engine of free expression" does not function unless the works so created are made available to the public.

There are certain public interests that, on balance, outweigh copyright rights in certain circumstances. Where Congress has found that public policy concerns warrant exceptions or limitations, it has tried to circumscribe the exception or limitations so that it complements the fundamental aims of copyright law and preserves the incentives to create or to invest in the creation of new works. For instance, potential market harm is a factor that must be weighed in determining whether a use is a fair use under Section 107.

In this vein, the drafters of the 1976 Copyright Act determined that certain services provided by libraries and archives should be permitted within the copyright law with more certainty than is provided by fair use. They also determined that some acts that might not qualify as fair use were still desirable and should be allowed. Examples of exceptions in the Copyright Act that have been carefully circumscribed to avoid unreasonable harm to creators and other rights holders include the following:

- Making back-up copies of computer programs, according to Section 117, requires that all such copies be made for archival purposes and that they be transferred when the original copy is transferred, so that copies of the program do not proliferate.
- Performance and display of copyrighted works for online distance education, according to Sub-Section 110(2), is limited to accredited nonprofit educational institutions and requires, among other things, that works so used be accessible only to enrolled students and protected by technological measures from redistribution or retention for longer than the class term.
- As discussed more fully below, privileges to reproduce and distribute copies of protected works for the visually impaired and others with disabilities, as described in Section 121, are extended only if the copies are in specialized formats "exclusively for use by blind or other persons with disabilities."

Standards and Principles for Copyright Exceptions and Limitations

U.S. copyright law provides no definitive legal standard for the acceptable scope of copyright exceptions and limitations. The fair use doctrine and surrounding case law provide some guidance on how exceptions can be crafted to permit beneficial and reasonable uses without causing undue harm to rights holders. The legislative history of the 1976 Act and its amendments illustrates that Congress, in creating exceptions, is influenced by notions of what is fair and reasonable, and is mindful that an exception should not undermine the affected right nor interfere with the incentive to create and disseminate original works of authorship.[23] Typically, copyright law's limitations and exceptions have been confined to those circumstances where there is evidence of a market failure, or where a culturally desirable purpose requires such an exception.

Obligations Under International Treaties

In considering exceptions and limitations to copyright, Congress navigates within the confines of relevant treaty obligations. The principal international copyright treaty is the Berne Convention for the Protection of Literary and Artistic Works. Article 9(2) of the Berne Convention limits the nature and scope of exceptions to copyright rights that members (including the United States) may create. Article 9(2) provides—

> It shall be a matter for legislation in the countries of the Union to permit the reproduction of such works in certain special cases, provided that such reproduction does not conflict with a normal exploitation of the work and does not unreasonably prejudice the legitimate interests of the author.

Exceptions and limitations must thus satisfy a three-step test: (1) they must relate to "certain special cases," (2) they may not conflict with a normal exploitation of the work, and (3) they must not unreasonably prejudice the author's legitimate interests. Berne Article 9(2) refers only to reproduction rights, but the World Intellectual Property Organization (WIPO) Copyright Treaty and the WIPO Performances and Phonograms Treaty, to which the United States has also adhered, provide that all rights granted under those treaties will be governed by the Berne Article 9(2) standard.[24]

While the Berne Convention itself has no enforcement mechanism, the requirements of Berne were incorporated into the World Trade Organization (WTO) Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)[25] and are now subject to WTO dispute resolution procedures. Accordingly, the United States is subject to sanctions arising from WTO enforcement proceedings if its copyright exceptions exceed what is permitted under the three-step test.[26]

Licensing

Licensing is one of the legal mechanisms by which the owner of a copyright grants permission to another party to exploit one or more exclusive rights described above. Licenses can take many forms and vary widely based on the type of authorship at issue and the nature of the exclusive rights being licensed. Licenses may be granted on an exclusive or nonexclusive basis. Broadly, licenses fall into three general categories: individual, collective, and statutory.

Individual Licensing

An individual license is the most straightforward example of a license arrangement, where two or more parties voluntarily negotiate an agreement for certain exploitations of exclusive rights to all or part of a particular copyrighted work or collection of works. Individual licenses are typically narrowly tailored to allow only certain, specific intended uses, and include a variety of terms, including the following:

- Geographic territory (e.g., worldwide, the United States)
- Exclusivity
- Term
- Compensation (e.g., flat-fee, running royalty, minimum guarantees)
- Sub-license rights
- Right to prepare certain derivative works

A typical book contract between an author and a publisher provides an example of a typical individual copyright license. Such an agreement implicates the reproduction and distribution rights, and will permit a publisher to print and distribute books, within a particular geographic territory, for a certain period of time. More recent publishing contracts may also grant a publisher the right to prepare and distribute electronic versions of a book, or to sub-license others to do so (e.g., publisher has the right to license Amazon.com® to sell books for its Kindle® device). It is also not uncommon for a book to contain the product of authorship of multiple copyright owners.

Collective Licensing

One of the drawbacks of direct licensing is the high cost of identifying and negotiating with individual copyright owners. To enhance the efficiency of the licensing process, in certain limited circumstances it has become possible to license broad catalogs of works for certain limited uses. This is the primary structure of collective licensing. Perhaps the most common examples of collective licensing are music performance rights organizations (PROs)—such as the American Society of Composers, Authors, and Publishers (ASCAP), Broadcast Music, Inc. (BMI), and the Society of European Stage Authors and Composers (SESAC)— as well as the Copyright Clearance Center (CCC), which licenses groups of print materials. These organizations collectively license the copyrighted content of their members.

Through the PROs, music users such as radio stations, restaurants, and retail establishments can obtain blanket licenses to perform broad, diverse repertories of musical works in their establishments. Though the licenses granted by each of the three main PROs are broad in terms of number of works

available, they are narrow in the sense that they cover only the public performance right. The PRO model allows music users to safely use a diverse array of musical works without the high costs associated with identifying and negotiating with thousands of music publishers and composers.

The CCC, which began as a licensing agent for reproduction (photocopying) rights, performs a similar function with respect to books, journal articles, and other print materials. CCC offers licensing services for publishers and authors and serves as a source for those seeking licenses to reproduce such materials; it conducts both blanket and pay-per-use (or "transactional") licensing. Most countries have a similar organization, and most of these are members of the International Federation of Reproduction Rights Organizations (IFFRO). It is worth noting that courts have previously looked to the presence of licensing mechanisms in finding against fair use.[27]

Another form of collective licensing, called extended collective licensing (ECL), has recently gained traction as a possible mechanism by which to enhance the efficiency of certain licensing transactions. Originally conceived in the Nordic countries in the 1960s, ECL is a copyright management scheme in which an organization represents owners of particular types of works (e.g., literary or musical works) and enters into license agreements with third parties for the use of the owners' protected works. ECL operates on an opt-out basis rather than on a voluntary opt-in basis. In other words, rights holders can opt out, but if they don't, their works may be available for certain uses at certain set rates. By operation of law, these agreements extend to all copyright owners of the specified types of works, even those owners who are not members of the organization. (Non-members, however, usually have the right to opt out of the licensing scheme and receive individual remuneration.)

Statutory Licensing

As mentioned in the context of copyright law's limitations and exceptions, statutory (or compulsory) licenses are sometimes used in circumstances where the marketplace failed at the time the license was adopted to provide an efficient mechanism to bring licensors and licensees together. Statutory licenses guarantee users' access to certain types of works, under certain circumstances, in exchange for a statutorily or administratively set fee. Traditionally, statutory licenses are only appropriate where there exists a true market failure—that is, where market participants are unable to enter into licensing arrangements efficiently.

Statutory licenses are structured carefully and deliberately and are properly crafted to address a particular market failure without interfering with the rest of the marketplace. Moreover, statutory licenses are a limitation on copyright owners' exclusive rights, and therefore must comply with United States international treaty obligations; specifically, statutory licenses must be sufficiently limited in scope to fit within the provisions for copyright exceptions found in international copyright treaties.

There are currently eight statutory licenses in U.S. copyright law, covering the re-transmission of television programming via cable and satellite, certain reproductions and transmissions of recorded music, reproduction of musical works, certain reproductions and performances by public broadcasters, and the sale of digital audio recording devices.

Remedies for Infringement

Remedies for civil copyright infringement can be significant. Such remedies include temporary and permanent injunctions and impoundment and destruction of infringing materials.[28] A court may award attorneys' fees and costs to the prevailing party in an infringement suit, but only if the copyright at issue in the suit was registered in a timely manner.[29] Timely registration also entitles a plaintiff to opt for statutory damages rather than actual damages. Statutory damages usually granted by a court range from $750 to $30,000 per work (and up to $150,000 for willful infringement). The court may reduce this amount to $200 for an innocent infringer, and may abate the amount altogether against certain individuals, including employees or agents of nonprofit libraries, archives, or educational institutions who have reproduced copyrighted materials in the scope of their employment, believing it to be a fair use.[30]

Finally, the Eleventh Amendment to the U.S. Constitution provides that "the Judicial power of the United States shall not be construed to extend to any suit ... commenced or prosecuted against one of the United States by any Citizen of another State." The Supreme Court has held that Congress may not act pursuant to the Commerce Clause or the Intellectual Property Clause to subject the states to suits for money damages. Accordingly, state universities and other state entities are immune from copyright damages.

Technological Protection Measures

Enacted as part of the Digital Millennium Copyright Act (DMCA), Section 1201 of Title 17 prohibits anyone from circumventing a "technological measure that effectively controls access to a work." There is no ban on circumventing a technological measure that protects a right of a copyright owner, such as reproduction or distribution, without controlling access to the work. Circumventing a copy control in and of itself, for example, is not prohibited.[31]

Section 1201 also prohibits manufacturing, providing, or trafficking in devices or services primarily designed to circumvent either access controls or rights controls. There are a number of statutory exemptions to these anti-circumvention provisions, but none of them apply specifically to the creation or distribution of accessible materials.

Beyond the statutory exemptions, Section 1201 provides for a rule-making proceeding to be conducted every three years by the Register of Copyrights on behalf of the Librarian of Congress. The purpose of the proceeding is to determine whether users of any particular class of copyrighted works are, or are likely in the ensuing three years to be, adversely affected by the prohibition against circumventing technological access controls in their ability to make non-infringing uses of those works. When adverse effects are present or are likely to arise with respect to one or more particular classes of works, the DMCA exempts those classes of works from the prohibition against circumventing technological access controls for the next three years. Any exemptions remain in effect until the next rule-making proceeding, at which time a new application must be filed demonstrating a continued or likely adverse impact if an exemption is to be renewed.

The most recent rule-making process was completed in 2010. Of particular relevance to this report is the current exemption for electronic books, which permits circumvention of access controls on such books "when all existing e-book editions ... contain access controls that prevent the enabling either of the book's read-aloud function or [the functioning] of screen readers that render the text into a specialized format."[32]

The authority to create additional exemptions does not extend to Section 1201's ban on manufacturing, providing, or trafficking in circumvention devices and services.

Limitations & Exceptions in Support of Accessibility

Fair Use

Fair use is a well-known limitation on a copyright owner's exclusive rights. Originally created by the courts, fair use was codified in the Copyright Act of 1976.[33, 34] Fair use is very fact-intensive, and the outcome of a fair use analysis can vary substantially depending on the facts and circumstances related to a particular use of copyrighted material. A fair use analysis requires the court to balance at least four factors set forth in the statute:

1) purpose and character of the use,
2) nature of the copyrighted work,
3) amount and substantiality of the portion used, and
4) effect upon the market for the copyrighted work.

Because of its judicial origins, the case-by-case nature of fair use will likely remain a staple of the fair use doctrine for the foreseeable future. Although the four-factor analysis renders the fair use doctrine inherently flexible, the virtues of its flexibility come at the cost of uncertainty. The case-by-case applicability of the doctrine leads to litigation risk, making it difficult to craft institutional policies based on fair use. Thus, fair use is typically used in attempts to "fill the gap" where a particular use of copyrighted material is not covered by a clear statutory limitation or exception.

The Chafee Amendment

Section 121 of the Copyright Act the Chafee Amendment) provides that,

> it is not an infringement of copyright for an authorized entity to reproduce or to distribute copies or phonorecords of a previously published, nondramatic literary work if such copies or phonorecords are reproduced or distributed in specialized formats exclusively for use by blind or other persons with disabilities.[35]

Prior to the Chafee Amendment, organizations devoted to supplying accessible materials to individuals with print disabilities were required to seek permission from individual copyright owners on a work-by-work basis.

The statute defines an "authorized entity" as a "nonprofit organization or a governmental agency that has a primary mission to provide specialized services relating to training, education, or adaptive reading or information access needs of

blind or other persons with disabilities."[36] "Specialized formats," is defined to mean "braille, audio, or digital text which is exclusively for use by blind or other persons with disabilities," and, in the case of "print instructional materials, includes large print formats when such materials are distributed exclusively for use by blind or other persons with disabilities."[37, 38] Finally, "blind or other persons with disabilities," is defined through a related statute, as "the blind and other physically handicapped residents of the United States" who are "certified by [a] competent authority as unable to read normal printed material as a result of physical limitations."[39, 40]

The Chafee Amendment was heavily negotiated at the time of its preparation by the relevant stakeholders and is narrow on its face. In enacting Chafee in 1996, Congress stated a defined population of beneficiaries; implicated nondramatic literary works only; addressed reproduction and distribution rights only; and, in terms of technological developments, froze the provision in time by limiting its application to specialized formats used exclusively by the blind—or, put another way, formats which have no application to the general population or marketplace.

Chafee was further amended in 2004 to accommodate the Individuals with Disabilities Education Improvement Act (IDEA) and to facilitate K–12 education standards. The 2004 amendment authorizes publishers of print instructional materials to create electronic files containing print instructional materials according to certain technical standards, and to distribute those files to a national repository, which then reproduces or distributes the materials in specialized formats for use by elementary or secondary school students.[41]

The Publishing Landscape

Publishing Industry Rights Structure

The publishing industry relies heavily on copyright law and licensing transactions. Indeed, virtually every stage of the publishing value chain is connected to some type of copyright license relationship:

- Author to publisher—reproduction, distribution, derivative works rights, and the right to sub-license those rights, as well as public performance and public display rights.
- Publisher to ancillary product producers (including producers of audio books)—sub-licenses to prepare derivative works, reproduction, distribution, public performance, and public display rights (rights packages vary with licensed uses).

- Publisher to distributors—sub-licenses of distribution, public performance, and public display rights.

Often there are numerous copyright owners involved in any one particular work which raises significant challenges for rights clearance. A typical textbook, for example, may be comprised of several separately licensed components, such as prefaces, introductions, forwards, chapters, as well as images, graphics, charts, and diagrams.

Trends in Digital Publishing

Contract language is often outpaced by technology which can lead to confusion about who owns, or is licensed to exploit, certain rights. In the publishing industry, many older book contracts are silent on terms and conditions relating to digital product offerings. Although the phenomenon is not new, a recent instance of confusion over rights as a result of emerging technology is that illustrated by text-to-speech technology, where there are significant questions about whether such technology is an exploitation of reproduction rights and whether traditional publishing contracts cover such technology or whether these rights remain with the author.

Despite the challenges with rights management, technological evolution has spurred the development of new markets. The Internet has become a viable distribution mechanism for digital content and electronic reading devices, such as Amazon.com's Kindle® and Apple's iPad®, and electronic books are now a rapidly growing market. According to the Association of American Publishers, electronic book sales reached $441.3 million in 2010, up approximately 164% over 2009 sales figures.[42]

Moreover, there appears to be a trend towards standardization of formats for digital content, allowing certain content to be used across multiple devices, including, perhaps, adaptive technologies. For example, the ePUB3® technical specification for electronic book production, which has been promulgated but not yet formally adopted as a standard, incorporates standards for accessible books as set forth by the Digital Accessible Information SYstem (DAISY) Consortium.

A final trend in digital publishing that raises implications for the development of accessible materials is the widespread use of digital rights management (DRM) technologies. Such technologies are technologically based protection measures that allow publishers to control access to their content. DRM typically imposes restrictions on the number and type of devices that can access protected content.

[1] Eldred v. Ashcroft, 537 U.S. 186, 242-243 (2003) (Breyer, J., dissenting) (citing EDWARD C. WALTERSCHEID, THE NATURE OF THE INTELLECTUAL PROPERTY CLAUSE: A STUDY IN HISTORICAL PERSPECTIVE 125-126 (William S. Hein & Co. 2002)).
[2] Harper & Row Publishers, Inc. v. Nation Enters., 471 U.S. 539, 558 (1985).
[3] Chapter three of the U.S. Copyright Act governs the duration of copyright protection. *See generally* 17 U.S.C. §§ 301-305. See also Copyright Term and the Public Domain in the United States by Peter Hirtle, Cornell University, available at http://copyright.cornell.edu/resources/publicdomain.cfm.
[4] 17 U.S.C. § 102.
[5] *Harper & Row*, 471 U.S. at 588.
[6] Mazer v. Stein, 347 U.S. 201, 219 (1954).
[7] American Geophysical Union v. Texaco, Inc., 882 F. Supp. 1, 27 (S.D.N.Y. 1992), *aff'd*, 60 F.3d 913 (2d Cir. 1994).
[8] Twentieth Century Music Corp. v. Aiken, 422 U.S. 151, 156 (1975). Put another way, "the monopoly created by copyright thus rewards the individual author in order to benefit the public." *Harper & Row*, 471 U.S. at 546.
[9] Stephen E. Siwek, Int'l Intellectual Prop. Alliance, Copyright Industries in the U.S. Economy: The 2003-2007 Report 13 (2009), http://www.iipa.com/pdf/IIPASiwekReport2003-07.pdf.
[10] Technically, a copy of a sound recording is known as a "phonorecords," but for purposes of this Report, all reproductions of copyrighted works will be referred to as "copies."
[11] *E.g.*, MAI Sys. Corp. v. Peak Computer, 991 F.2d 511 (9th Cir. 1993), *cert. dismissed*, 510 U.S. 1033 (1994); *see also* THE REGISTER OF COPYRIGHTS, DMCA SECTION 104 REPORT 107-123 (2001), *available at* http://www.copyright.gov/reports/studies/dmca/sec-104/report-vol-1.pdf.
[12] 17 U.S.C. § 106(3).
[13] *See, e.g.*, A&M Records, Inc. v. Napster, Inc., 239 F.3d 1004, 1014 (9th Cir. 2001); Playboy Enter., Inc. v. Russ Hardenbugh Inc., 982 F. Supp. 503, 513 (N.D. Ohio 1997).
[14] 17 U.S.C. § 109(a); *See* the Register of Copyrights, *supra* note 11, at 78-80 (discussing the inapplicability of the first sale doctrine to digital transmissions that involve making a copy rather than merely transferring an existing physical copy).
[15] 17 U.S.C. § 106(6).
[16] *Eldred*, 537 U.S. at 219 (citing *Harper & Row*, 471 U.S. at 560).
[17] *See* 17 U.S.C. § 102(b).
[18] *See, e.g.*, 17 U.S.C. § 105 (no copyright protection for works of the U.S. government). *See also* Banks v. Manchester, 128 U.S. 244 (1888) (no copyright protection for laws).
[19] 17 U.S.C. § 110.
[20] 17 U.S.C. § 108.
[21] 17 U.S.C. § 121.
[22] Thus, for example, there is no blanket exception that allows schools to copy textbooks rather than purchase them, despite the beneficial role of schools in society.
[23] The general principle is that courts should resort to legislative history only if the statute is not clear on its face. *See, e.g.*, Ardestani v. INS, 502 U.S. 129, 135-36 (1991) ("The strong presumption that the plain language of the statute expresses congressional intent is rebutted only in rare and exceptional circumstances . . . when a contrary legislative intent is clearly expressed.") Reference to legislative history is, however, prevalent in copyright cases. *See, e.g.*, Cmty. for Creative Non-Violence v. Reid, 490 U.S. 730, 743-49 (1989); Bonneville Int'l Corp. v. Peters, 347 F.3d 485, 496-99 (3d Cir. 2003).
[24] WIPO Copyright Treaty art. 10, Dec. 20, 196, S. Treaty Doc. No. 105-12, 36 I.L.M. 65, 83 (1997); WIPO Performances and Phonograms Treaty art. 16, Dec. 20, 1996, S. Treaty Doc. No. 105-17, 36 I.L.M. 76, 85-86 (1997). These treaties technically do not preclude the U.S. from imposing broader exceptions with respect to works of its own authors, but in this case such a distinction would likely be unworkable, as providers of accessible instructional materials could not easily determine whether a work is a United States work or a Berne Convention work.
[25] Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakech Agreement Establishing the World Trade Organization, Annex 1C, Legal Instruments – Results of the Uruguay Round vol. 31, 33 I.L.M. 81 (1994).
[26] A WTO panel ruling that § 110(5) of the U.S. Copyright Act violates the three-step test is currently the authoritative interpretation of component parts of that test. Panel Report, United States – Section 105(5) of the

U.S. Copyright Act, WT/DS160/R (June 15, 2000). *See also* 1 SAM RICKETSON & JANE C. GINSBURG, INTERNATIONAL COPYRIGHT AND NEIGHBOURING RIGHTS 759-778 (Oxford Univ. Press 2006). For a condensed description of the ruling, see THE REGISTER OF COPYRIGHTS, REPORT ON ORPHAN WORKS 61-65 (2006), *available at* http://www.copyright.gov/orphan/orphan-reportfull.pdf.

[27] *See, e.g.*, American Geophysical Union v. Texaco, Inc., 60 F.3d 913, 930 (2d Cir. 1994) ("it is appropriate that potential licensing revenues for photocopying be considered in a fair use analysis").

[28] 17 U.S.C. §§ 502, 503.

[29] 17 U.S.C. §§ 412, 505.

[30] 17 U.S.C. §§ 412, 504.

[31] If the circumventor goes on to make an infringing use of the protected work, he or she will be liable under copyright law. With current technologies, however, there is not always a clear line between access controls and rights controls. *See, e.g.*, Memorandum from Marybeth Peters, Register of Copyrights, to James H. Billington, Librarian of Congress, 44-45 (Oct. 27, 2003) (setting forth the Register's recommendations related to the rulemaking on exemptions

[32] 37 C.F.R. § 201.40(b)(6).

[33] *See* Folsom v. Marsh, 9 F. Cas. 342 (1841).

[34] 17 U.S.C. § 107.

[35] 17 U.S.C. § 121(a).

[36] 17 U.S.C. § 121(d)(1).

[37] 17 U.S.C. § 121(d)(4)(A).

[38] 17 U.S.C. § 121(d)(4)(B).

[39] 17 U.S.C. § 121(d)(2); 2 U.S.C. § 135a.

[40] 17 U.S.C. § 121(d)(2); 2 U.S.C. § 135a.

[41] This standard is known as the National Instructional Materials Accessibility Standard and the repository is the National Instructional Materials Access Center. 17 U.S.C. § 121(c).

[42] Association of American Publishers, *AAP Publishers Report Strong Growth in Year-to-Year, Year-End Book Sales*, Feb. 16, 2011, *available at* http://publishers.org/press/24/.

The Advisory Commission on Accessible Instructional Materials in Postsecondary Education for Students with Disabilities

Appendix E: AIM Barriers

Legal Issues

For Users

- Legal limits on individual's use of content protected by copyright; requires working with DSS office or with authorized entities to obtain alternate formats

For Large Textbook Publishers

- Copyright for some embedded content may permit inclusion only in the original work and thereby limit publisher's ability to provide complete files or to grant complete permissions

For Small and Other Publishers

- Copyright for some embedded content may permit inclusion only in the original work and thereby limit publisher's ability to provide complete files or to grant complete permissions

For DSS Offices

- DSS must abide by copyright law, while also honoring civil rights
- Lack of knowledge (possible fear) of copyright law

Implementation/Process Issues

For Users

- Need to receive materials quickly
- Unclear lines of communication (i.e., process, procedure, timing, who-does-what)
- Accessible materials not always available
- Lack of clarity in how to order materials
- Faculty don't identify materials in time

For Large Textbook Publishers

- Large number of requests in peak periods
- Uninformed requests
- Short-notice requests
- Variety of copyrights within a single textbook
- Number of versions and variations of a single title
- Willingness of students to settle for non-current editions
- Older works lack digital files

For Small and Other Publishers

- Limited number of requests
- Uninformed requests
- Short-notice requests
- Variety of copyrights within a single textbook
- Number of versions and variations of a single title
- Willingness of students to settle for non-current editions
- Older works lack digital files

For DSS Offices

- Variety of requests
- Requests occur on short notice from both faculty and students
- Institutional issues of adjunct faculty/timeliness
- Discrepancy between “required” and “recommended” materials

Production Issues

For Users

- Cannot convert files individually
- Reliant on DSS office or publisher
- Students often cannot purchase a book in a timely manner for alternative production

For Large Textbook Publishers

- Need to modify basic production workflows
- Increased production costs when fulfilling request happens outside production flow
- Varying difficulty in reproducing images and graphics
- Lack of copyright for embedded materials
- Cost and difficulty of producing accessible STEM content

For Small and Other Publishers

- Need to modify basic production workflows
- Increased production costs when fulfilling request happens outside production flow
- Lack of technical knowledge or skill in production
- Difficulty in reproducing images and graphics
- Lack of copyright for embedded materials
- Cost and difficulty of producing accessible STEM content

For DSS Offices

- Lack of capacity (e.g., staff, technology, funding)
- Increased production times
- Increased cost of retro-fitting
- Files are difficult to reproduce
- High cost of technology required for production

Technical Issues

For Users

- Files not in preferred formats
- Dependent on device/software that will play the file
- Varying skill levels with specific assistive technologies
- Students outside of vocational rehabilitation (sometimes within) lack necessary technology
- Equitable access to technology that is institutionally owned

For Large Textbook Publishers

- Creation of STEM materials
- Cost of developing the ability to produce an additional, special-purpose standardized file format

For Small and Other Publishers

- Creation of STEM materials
- Cost of developing the ability to produce an additional, special-purpose standardized file format
- Lack of knowledge about possible formats
- Lack of knowledge of how to create accessible content

For DSS Offices

- Creation of STEM materials
- Materials must be in a student's preferred medium (uncertain legal basis: "must give consideration ... but are not bound by it")
- Knowing how to make materials accessible and the meaning of "student-ready"
- Publisher-supplied files are not typically student-ready files

Educational Issues

For Users

- People who do not see the utility in accessibility
- Lack of knowledge about possible formats
- Lack of self-advocacy ability/knowledge
- Lack of understanding of the functional impact of one's disability
- Lack of knowledge of how to use assistive technology
- Prefer what they like vs. what is "best" for them

For Large Textbook Publishers

- Lack of agreement on a set of default formats for DSS inhibits the development of efficient publisher production system

For Small and Other Publishers

- People who do not see the utility in accessibility
- Lack of knowledge of how to serve DSS/student needs efficiently

For DSS Offices

- People who do not see the utility in accessibility
- Lack of knowledge about what is "accessible" and what is not
- Lack of knowledge regarding accessibility of CMs's
- Preferences for what DSS supports or is familiar with rather than what a student requests or is "best" for them

Other Issues

For Large Textbook Publishers

- Strong concern that content provided for altewrnate formats could be redistributed without authorization, resulting in economic and legal damage to publisher and content creators

For Small and Other Publishers

- Strong concern that content provided for altewrnate formats could be redistributed without authorization, resulting in economic and legal damage to publisher and content creators

For DSS Offices

- A perception on the part of institutions that accessibility of materials, systems, and operations is not an overall institutional responsibility but rather one of a select office or individual

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Appendix F: Joint "Dear Colleague" Letter

A letter from the U.S. Department of Justice, dated June 29, 2010, is appended.

U.S. Department of Justice
U.S. Department of Education
Civil Rights Division
Office for Civil Rights

June 29, 2010

Dear College or University President:

We write to express concern on the part of the Department of Justice and the Department of Education that colleges and universities are using electronic book readers that are not accessible to students who are blind or have low vision and to seek your help in ensuring that this emerging technology is used in classroom settings in a manner that is permissible under federal law. A serious problem with some of these devices is that they lack an accessible text-to-speech function. Requiring use of an emerging technology in a classroom environment when the technology is inaccessible to an entire population of individuals with disabilities—individuals with visual disabilities—is discrimination prohibited by the Americans with Disabilities Act of 1990 (ADA) and Section 504 of the Rehabilitation Act of 1973 (Section 504) unless those individuals are provided accommodations or modifications that permit them to receive all the educational benefits provided by the technology in an equally effective and equally integrated manner.

The Departments of Justice and Education share responsibility for protecting the rights of college and university students with disabilities. The Department of Justice is responsible for enforcement and implementation of title III of the ADA, which covers private colleges and universities, and the Departments of Justice and Education both have enforcement authority under title II of the ADA, which covers public universities. In addition, the Department of Education enforces Section 504 with respect to public and private colleges and universities that receive federal financial assistance from the Department of Education. As discussed below, the general requirements of Section 504 and the ADA reach equipment and technological devices when they are used by public entities or places of public accommodation as part of their programs, services, activities, goods, advantages, privileges, or accommodations.

Under title III, individuals with disabilities, including students with visual impairments, may not be discriminated against in the full and equal enjoyment of all of the goods and services of private colleges and universities; they must receive an equal opportunity to participate in and benefit from these goods and services; and they must not be provided different or separate goods or services unless doing so is necessary to ensure that access to the goods and services is equally as effective as that provided to others.[1] Under title II, qualified individuals with disabilities may not be excluded from participation in or denied the benefits of the services, programs, or activities of, nor subjected to discrimination by, public universities and colleges.[2]

Both title II and Section 504 prohibit colleges and universities from affording individuals with disabilities with an opportunity to participate in or benefit from college and university aids, benefits, and services that is unequal to the opportunity afforded others.[3] Similarly, individuals with disabilities must be provided

with aids, benefits, or services that provide an equal opportunity to achieve the same result or the same level of achievement as others.[4] A college or university may provide an individual with a disability, or a class of individuals with disabilities, with a different or separate aid, benefit, or service only if doing so is necessary to ensure that the aid, benefit, or service is as effective as that provided to others.[5]

The Department of Justice recently entered into settlement agreements with colleges and universities that used the Kindle DX, an inaccessible, electronic book reader, in the classroom as part of a pilot study with Amazon.com, Inc. In summary, the universities agreed not to purchase, require, or recommend use of the Kindle DX, or any other dedicated electronic book reader, unless or until the device is fully accessible to individuals who are blind or have low vision, or the universities provide reasonable accommodation or modification so that a student can acquire the same information, engage in the same interactions, and enjoy the same services as sighted students with substantially equivalent ease of use. The texts of these agreements may be viewed on the Department of Justice's ADA Web site, www.ada.gov. (To find these settlements on www.ada.gov, search for "Kindle.") Consistent with the relief obtained by the Department of Justice in those matters, the

As officials of the agencies charged with enforcement and interpretation of the ADA and Section 504, we ask that you take steps to ensure that your college or university refrains from requiring the use of any electronic book reader, or other similar technology, in a teaching or classroom environment as long as the device remains inaccessible to individuals who are blind or have low vision. It is unacceptable for universities to use emerging technology without insisting that this technology be accessible to all students.

Congress found when enacting the ADA that individuals with disabilities were uniquely disadvantaged in American society in critical areas such as education.[6] Providing individuals with disabilities full and equal access to educational opportunities is as essential today as it was when the ADA was passed. In a Proclamation for National Disability Employment Awareness Month, President Obama underscored the need to "strengthen and expand the educational opportunities for individuals with disabilities," noting that, "[i]f we are to build a world free from unnecessary barriers ... we must ensure that every American receives an education that prepares him or her for future success." http://www.whitehouse.gov/the-pressoffice/presidential-proclamation-national-disability-employment-awareness-month (September 30,2009) (emphasis added).

Technology is the hallmark of the future, and technological competency is essential to preparing all students for future success. Emerging technologies are an educational resource that enhances learning for everyone, and perhaps especially for students with disabilities. Technological innovations have opened a virtual world of commerce, information, and education to many individuals with disabilities for whom access to the physical world remains challenging. Ensuring equal access to emerging technology in university and college classrooms is a means to the goal of full integration and equal educational opportunity for this nation's students with disabilities. With technological advances, procuring electronic book readers that re accessible should be neither costly nor difficult.

We would like to work with you to ensure that America's technological advances are used for the benefit of all students.

The Department of Justice operates a toll-free, technical assistance line to answer questions with regard to the requirements of federal laws protecting the rights of individuals with disabilities. For technical assistance, please call (800) 514-0301 (voice) or (800) 514-0383 (TTY). Specialists are available Monday through Friday from 9:30 AM until 5:30 PM (ET) except for Thursday, when the hours are 12:30 PM until 5:30 PM. These specialists have been trained specifically to address questions regarding accessible

electronic book readers. Colleges, universities, and other stakeholders can also contact the Department of Education's Office for Civil Rights for technical assistance by going to OCR's Web site at http://wdcrobcolp01.ed.gov/CFAPPS/OCR/contactus.cfm.

We appreciate your consideration of this essential educational issue and look forward to working with you to ensure that our nation's colleges and universities are fully accessible to individuals with disabilities.

Sincerely,

[*Signature*]
Thomas E. Perez, Assistant
Attorney General
Civil Rights Division
U.S. Department of Justice

[*Signature*]
Russlynn Ali
Assistant Secretary
for Civil Rights
U.S. Department of Education

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[1] 28 C.F.R. § 36.201(a); 28 C.F.R. § 36.202(a); and 28 C.F.R. § 36.202(c) (2009).
[2] 28 C.F.R. § 35.130(a) (2009).
[3] 28 C.F.R. § 35.130(b)(1)(ii) and 34 C.F.R. § 104.4(b)(1)(ii) (2009).
[4] Cf. 28 C.F.R.§ 35.130(b)(1)(iii) and 34 C.F.R. § 104.4(b)(1)(iii) (2009).
[5] 28 C.F.R. § 35.130(b)(1)(iv) and 34 C.F.R. § 104.4(b)(1)(iv) (2009).
[6] 42 u.s.c. § 12101(a) (1990).

The Advisory Commission on Accessible Instructional Materials in Postsecondary Education for Students with Disabilities

Appendix G: Joint "Dear Colleague" Letter Frequently Asked Questions (FAQ)

A frequently asked questions document regarding the June 2010 joint "dear colleague" letter, dated May 26, 2011, is appended.

UNITED STATES DEPARTMENT OF EDUCATION
OFFICE FOR CIVIL RIGHTS

THE ASSISTANT SECRETARY

May 26, 2011

Frequently Asked Questions about the June 29, 2010, Dear Colleague Letter[1]

General Issues

1. Does the June 29, 2010, Dear Colleague Letter (DCL) on access to electronic book readers impose new legal obligations?

A: No. The DCL discusses long-standing law. Specifically, it addresses key principles of Federal disability discrimination law: the obligation to provide an equal opportunity to individuals with disabilities to participate in, and receive the benefits of, the educational program, and the obligation to provide accommodations or modifications when necessary to ensure equal treatment. Under Section 504 of the Rehabilitation Act of 1973 (Section 504), these legal standards apply to entities that receive Federal financial assistance, including elementary, secondary, and postsecondary institutions. (In this FAQ, the term "schools" refers to all these types of institutions.) Under Title II of the

Americans with Disabilities Act (ADA) of 1990 (Title II), these obligations apply to entities of state and local government, including public schools.[2]

The DCL outlines concerns on the part of the Department of Justice (DOJ) and the Department of Education (Department), raised in the context of their resolution of several cases, regarding compliance with these long-standing requirements.

Specifically, some postsecondary institutions were using electronic book readers that are inaccessible to students who are blind or have low vision. As explained by the DCL, application of our long-standing nondiscrimination requirements means that schools must provide an electronic book reader (i.e., the technology that the school uses to provide educational benefits, services, or opportunities) that is fully accessible to students who are blind or have low vision; otherwise schools must provide accommodations or modifications to ensure that the benefits of their educational program are provided to these students in an equally effective and equally integrated manner.

For the purposes of assessing whether accommodations or modifications in the context of emerging technology, and, more specifically, electronic book readers, meet the compliance requirements, the DCL provides a functional definition of accessibility for students who are blind or have low vision. Under this definition, these students must be afforded the opportunity to acquire the same information, engage in the same interactions, and enjoy the same services as sighted students. In addition, although this might not result in identical ease of use compared to that of students without disabilities, it still must ensure equal access to the educational benefits and opportunities afforded by the technology and equal treatment in the use of such technology. The DCL uses the term "substantially equivalent ease of use" to describe this concept. For more information and for examples that meet this standard, see Questions 11, 12, and 14.

2. Does the DCL apply in the context of students with other disabilities that affect the ability to use printed materials?

A. Yes. Other disabilities, such as specific learning disabilities, may make it difficult for students to get information from printed sources (often called "print disabilities"). In its provision of benefits, services, and opportunities, a school must ensure that these students are not discriminated against as a result of inaccessible technology.

Example: A student has a learning disability in reading but does not have impaired vision. The student is currently receiving audiobooks on cassette tape for her history class because she cannot readily process printed information. The school is replacing the history textbooks with electronic book readers as the principal means of conveying curriculum content, including all homework assignments. In this example, the electronic book readers provide greater functionality than audiobooks provide, with the result that an audiobook would not afford the benefits of the educational program in an equally effective and equally integrated manner. For this reason the school may not continue to rely on audiobooks to provide equal access to the curriculum. For more information on the differences between traditional alternative media, such as audiobooks, and emerging technology, such as electronic book readers, see Question 12.

3. Does the DCL mean that schools cannot use emerging technology?

A. No. On the contrary, the Department encourages schools to employ innovative learning tools. Because technology is evolving, it has the capability to enhance the academic experience for everyone, especially students with disabilities. Innovation and equal access can go hand in hand. The purpose of the DCL is to remind everyone that equal access for students with disabilities is the law and must be considered as new technology is integrated into the educational environment.

4. Does the DCL apply to elementary and secondary schools?

A. Yes. The DCL grew out of complaints filed with the Department's Office for Civil Rights (OCR) and DOJ that concerned postsecondary education. However, the principles underlying the DCL — equal opportunity, equal treatment, and the obligation to make accommodations or modifications to avoid disability-based discrimination — also apply to elementary and secondary schools under the general nondiscrimination provisions in Section 504 and the ADA. The application of these principles to elementary and secondary schools is also supported by the requirement to provide a free appropriate public education (FAPE) to students with disabilities. For more information, see Question 13.

5. Does the DCL apply to all school operations and all faculty and staff?

A Yes. All school operations are subject to the nondiscrimination requirements of Section 504 and the ADA. Thus, all faculty and staff must comply with these requirements.

Section 504 and the ADA require that covered entities designate at least one person to coordinate their compliance efforts, and that they adopt and publish grievance procedures to resolve complaints of noncompliance. In addition, postsecondary schools often designate certain staff or offices (sometimes referred to as disability student-services offices) to assist students with disabilities.

The law applies to all faculty and staff, not just a Section 504 or ADA coordinator or staff members designated to assist students with disabilities. All faculty and staff must comply with the nondiscrimination requirements of Section 504 and the ADA in their professional interactions with

students, because these interactions are part of the operations of the school. So, for example, if an adjunct faculty member denies a student who is blind an equal opportunity to participate in a course by assigning inaccessible course content, the school can be held legally responsible for the faculty member's actions. Therefore, schools should provide, and faculty and staff should participate in, professional development about accessibility and emerging technology, and about the role of faculty and staff in helping the school to comply with disability discrimination laws.

Applying the DCL in Different Contexts

6. Does the DCL apply beyond electronic book readers to other forms of emerging technology?

A. Yes. The core principles underlying the DCL — equal opportunity, equal treatment, and the obligation to make modifications to avoid disability-based discrimination — are part of the general nondiscrimination requirements of Section 504 and the ADA. Therefore, all school programs or activities — whether in a "brick and mortar," online, or other "virtual" context — must be operated in a manner that complies with Federal disability discrimination laws.

7. Does the DCL apply to online courses and other online content, such as online applications for admission, class assignments, and housing?

A. Yes. The principles in the DCL apply to online programs that are part of the operations of the school, i.e., provided by the school directly or through contractual or other arrangements.

8. Does the DCL apply to pilot programs or other school programs that are of short duration?

A. Yes. The complaints discussed in the DCL were based on pilot programs that were part of the schools' operations. As noted in Question 5 above, all school programs and activities are subject to the nondiscrimination requirements of Section 504 and the ADA.

9. Does the DCL apply when planning to use an emerging technology in a class or school where no students with visual impairments are currently enrolled?

A: Yes. Schools that are covered under Section 504 and the ADA have a continuing obligation to comply with these laws. Therefore, the legal obligations described in the DCL always apply. Just as a school system would not design a new school without addressing physical accessibility, the implementation of an emerging technology should always include planning for accessibility. Given that tens of thousands of elementary, secondary, and postsecondary students have visual impairments and that the composition of the student body at a given school may change quickly and unexpectedly, the use of emerging technology at a school without currently enrolled students with visual impairments should include planning to ensure equal access to the educational opportunities and benefits afforded by the technology and equal treatment in the use of such technology. The planning should include identification of a means to provide immediate delivery of accessible devices or other technology necessary to ensure accessibility from the outset.

Putting the DCL's Principles into Practice

10. What questions should a school ask in determining whether emerging technology is accessible, or can be made accessible, to students with disabilities?

A: Schools should begin by considering accessibility issues up front, when they are deciding whether to create or acquire emerging technology and when they are planning how the technology will be used. To that end, schools should include accessibility requirements and analyses as part of their acquisition procedures. Schools should keep in mind their obligation to ensure that students with disabilities receive the benefits of the educational program in an equally effective and equally integrated manner. Among the questions a school should ask are:

• What educational opportunities and benefits does the school provide through the use of the technology?

• How will the technology provide these opportunities and benefits?

• Does the technology exist in a format that is accessible to individuals with disabilities?

• If the technology is not accessible, can it be modified (see Question 11 below about additional questions related to modifications), or is there a different technological device available, so that students with disabilities can obtain the educational opportunities and benefits in a timely, equally effective, and equally integrated manner?

Example: A school intends to establish a Web mail system so that students can: communicate with each other and with faculty and staff; receive important messages from the school (e.g., a message about a health or safety concern); and communicate with individuals outside the school. The school must ensure that the educational benefits, services, and opportunities provided to students through a Web mail system are provided in an equally effective and equally integrated manner. Before deciding what system to purchase, the school should make an initial inquiry into whether the system is accessible to students who are blind or have low vision, e.g., whether the system is compatible with screen readers and whether it gives users the option of using large fonts. If a system is not accessible as designed, the school must take further action to determine whether an accessible product is available, or whether the inaccessible product can be modified so that it is accessible to students who are blind or have low vision.

11. The DCL states that where accessible technology is not available, a school can comply with Section 504 and the ADA if it provides students with disabilities "accommodations or modifications that permit them to receive all the educational benefits provided by the technology in an equally effective and equally integrated manner." From a practical standpoint, what questions should schools ask to determine if this standard can be met?

A: In making this determination, the questions a school should ask include:

• What educational opportunities and benefits does the school provide through the use of this technology?

• What can the school do to provide students with disabilities equal access to the educational benefits or opportunities provided through the use of the technology?

• How will the educational opportunities and benefits provided to students with disabilities compare to the opportunities and benefits that the technology provides to students without disabilities? Three relevant questions are:

• Are all the educational opportunities and benefits that are available through the use of the technology equally available to students with disabilities through the provision of accommodations or modifications (i.e., do students with disabilities have the opportunity to acquire the same information, engage in the same interactions, and enjoy the same services as sighted students)?

•Are the educational opportunities and benefits provided to students with disabilities in as timely a manner as those provided to students without disabilities (i.e., do the time frames under which opportunities and benefits are received by students meet the requirement that students with disabilities be provided benefits and opportunities in an equally effective and equally integrated manner)?

• Will it be more difficult for students with disabilities to obtain the educational opportunities and benefits than it is for students without disabilities (i.e., does ease of use for students with disabilities meet the requirement that students with disabilities be provided benefits and opportunities in an equally effective and equally integrated manner)?

Example: A high school teacher creates an online course that includes instruction, posting of assignments and other course content, and a forum where students can discuss their course work with the teacher and each other. The teacher would like to incorporate video clips into the course, but is unable to obtain the video clips with audio descriptions. As a modification, the teacher creates separate audio descriptions for each video clip that narrate what is taking place in the video, and places them in a separate section of the online course. The online course includes links that enable persons who use screen readers to bypass the video clips completely and instead listen to the audio descriptions. Here, the use of detailed audio descriptions that are a part of the online course would provide students with disabilities access to the same opportunities and benefits in an equally effective and equally integrated manner. Schools should also think about whether other accommodations may be needed to provide equal access. For example, a student who uses a screen reader may need extra time to take an online examination because it may take time for the screen reader to process information displayed on a screen and provide that information to the student.

12. Are there circumstances under which it would be appropriate for a school to provide traditional alternative media, such as books on tape, to a student who is blind or has low vision?

A. Yes. Traditional alternative media can still be used as an accommodation under appropriate circumstances. For example, if a school provides printed books to students in a class, books on tape may be an appropriate accommodation for a blind student. The DCL does not require schools to use emerging technology. If, however, a school chooses to provide emerging technology and proposes traditional alternative media as an accommodation or modification to provide equal access to the educational opportunities and benefits provided to all students, the alternative media must provide access to the benefits of technology in an equally effective and equally integrated manner. Some forms of emerging technology may readily offer students educational opportunities and benefits that traditional alternative media cannot replicate.

13. If a student who is blind or has low vision makes a request for a particular emerging technology, and that technology currently is not used for all students, must the school provide it?

A. Not necessarily, because such decisions are individualized. The DCL does not change the requirements and processes by which elementary and secondary schools must provide a free appropriate public education, or FAPE, to students with disabilities; nor does the DCL change the processes by which postsecondary schools provide academic adjustments and auxiliary aids to students with disabilities. Rather, the DCL discusses the issue of how Section 504 and the ADA apply if schools choose to incorporate emerging technology into their instruction or other programs or activities for all students.

At the elementary and secondary school levels, if parents believe that their child with a disability requires a particular emerging technology as part of the child's right to FAPE, even though that technology currently is not used for all students, an individualized decision about providing a specific technology should be made through the processes used by the school district to make educational decisions consistent with Section 504 or the Individuals with Disabilities Education Act as applicable. At the postsecondary level, a decision about whether to provide a particular emerging technology as an auxiliary aid or service, even though such technology currently is not used for all students, is an individualized one that should be made through any procedure that the school may have established to consider students' requests for auxiliary aids or services. Postsecondary institutions' procedures must comply with Section 504 and the ADA.

14. Must a school always provide the same form of emerging technology to a student who is blind or has low vision as it provides to all other students?

No: The legal duty imposed by Section 504 and Title II is to provide equal opportunity—that is, to provide the student who has a disability with access to the educational benefit at issue in an equally effective and equally integrated manner. As described more fully in Question 1, a school must apply this standard in determining whether the use of a particular technological device for a student with a visual impairment is appropriate.

Example: A school library plans to make electronic books available to students by loaning electronic book readers. The school does not, prior to purchase, make necessary inquiries about whether the book readers are accessible to students who are blind or have low vision.

The school subsequently determines that the book readers are not accessible. In an effort to ensure that the educational benefits, i.e., the same library books, are available in an equally effective and equally integrated manner to students with visual impairments, the school purchases a few small, light-weight tablet computers for the library. These tablet computers are designed to serve as a platform for electronic books, as well as other visual and audio media. If the tablet computers can access those electronic books and have accessible text-to-speech[3] functions that allow users to hear the on-screen content read aloud, navigate device controls, and select menu items with the same ease of use afforded by the electronic book readers to sighted students, the tablet computers will then provide the same content and functionality to students with visual impairments.[4] In this example, the tablet computers have those features. As a result, the accommodation or modification would meet the standards articulated in the DCL because it provides the opportunity to acquire the same information, engage in the same interactions, and enjoy the same services as sighted students, as well as meet the standards in the DCL for ease of use.

In addition, the school purchases the tablet computers in sufficient numbers to loan them to students with visual impairments under the same terms and conditions as it provides the electronic book readers to sighted students. Here, the timely provision of electronic books on accessible tablet computers provides students with visual impairments access to the same educational opportunities and benefits in an equally effective and equally integrated manner.

An accommodation that would not be appropriate in this example would be simply providing a student with an aide to read an electronic book to the student. An aide who is available to read the electronic book to the student only at the school during designated times would not be equivalent to the access provided to sighted students using electronic book readers who would be able to read their library books any time and at any location.

Other Federal Guidance

15. Is there any other information available from the Federal government that offers additional guidance about accessibility and emerging technology?

A. Yes. Additional sources of guidance and information include:

U.S. Department of Education

• U.S. Department of Education Office of Educational Technology, National Education Technology Plan, http://www.ed.gov/technology/netp-2010.

• Advisory Commission on Accessible Instructional Materials in Postsecondary Education for Students with Disabilities, http://www2.ed.gov/about/bdscomm/list/aim/index.html.

U.S. Department of Education Grantees

Accessible Media Production and Dissemination

• National Instructional Materials Access Center (NIMAC), http://www.nimac.us.

• Bookshare for Education, http://www.bookshare.org.

• Described and Captioned Media Program, http://www.dcmp.org.

• Learning Ally (formerly Recording for the Blind & Dyslexic), http://www.learningally.org.

• National Instructional Materials Accessibility Standard Center (NIMAS Center), http://aim.cast.org/collaborate/NIMASCtr.

• The American Printing House for the Blind (APH), http://www.aph.org.

• The World Wide Web Consortium (W3C), http://www.w3.org/standards/.
• The Center for Implementing Technology in Education (CITEd), http://www.cited.org.

• The Family Center on Technology and Disability (FCTD), http://www.fctd.info.

Technical Assistance and Training

• National Center on Accessible Instructional Materials (AIM Center), http://aim.cast.org.

U.S. Department of Justice

• Advance Notice of Proposed Rulemaking, Nondiscrimination on the Basis of Disability: Accessibility of Web Information and Services of State and Local Government Entities and Public Accommodations, 75 Fed. Reg. 43,460 (July 26, 2010), available at http://www.regulations.gov/#!documentDetail;D=DOJ-CRT-2010-0005-0001.

• ADA Best Practices Tool Kit for State and Local Governments, Chapter 5: Website Accessibility Under Title II of the ADA, http://www.ada.gov/pcatoolkit/chap5toolkit.htm.

Architectural and Transportation Barriers Compliance Board (U.S. Access Board)

• Advance Notice of Proposed Rulemaking, Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Telecommunications Act Accessibility Guidelines; Electronic and Information Technology Accessibility Standards (regarding Section 508 of the Rehabilitation Act), 75 Fed. Reg. 13,457 (March 22, 2010), *available at* http://www.access-board.gov/sec508/refresh/notice.htm. (*Note:* Section 508 of the Rehabilitation Act applies only to the Federal government.)

U.S. General Services Administration

• Section 508.gov website, www.Section508.gov.

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[1] The Department of Education has determined that this document is a "significant guidance document" under the Office of Management and Budget's Final Bulletin for Agency Good Guidance Practices, 72 Fed. Reg. 3432 (Jan. 25, 2007), *available at* http://www.whitehouse.gov/sites/default/files/omb/assets/regulatory_matters_pdf/012507_good_guidance.pdf. OCR issues this and other policy guidance to provide recipients with information to assist them in meeting their obligations and to provide members of the public with information about their rights under the civil rights laws and implementing regulations that we enforce. OCR's legal authority is based on those laws and regulations. This document does not add requirements to applicable law, but provides information and examples to inform recipients about how OCR evaluates whether covered entities are complying with their legal obligations. If you are interested in commenting on this guidance, please send an e-mail with your comments to OCR@ed.gov, or write to us at the following address: Office for Civil Rights, U.S. Department of Education, 400 Maryland Avenue, SW, Washington, DC 20202.

[2] The Department of Justice is responsible for enforcing Title III of the ADA, which prohibits discrimination on the basis of disability by private schools, among other entities.

[3] A text-to-speech function is software that provides audio for the printed words, enabling a person to hear instead of having to see the printed material.

[4] The text-to-speech function of the tablet computers provides, for example: electronic book text that is accurate and presented in proper reading order; descriptions of graphical and other non-textual material (e.g., a narrative description of a photograph); and proper presentation of material contained in tables (e.g., properly associating row and column headers with their respective cell data).

The Advisory Commission on Accessible Instructional Materials in Postsecondary Education for Students with Disabilities

Appendix H: The Commission's Process

The Commission's Charge

The Higher Education Opportunity Act (2008) charged the Commission to make recommendations to Congress in five distinct areas: (I) to inform federal regulations and legislation; (II) to support model demonstration programs authorized under section 773; (III) to identify best practices in systems for collecting, maintaining, processing, and disseminating materials in specialized formats to students with print disabilities at costs comparable to instructional materials for postsecondary non-disabled students; (IV) to improve the effective use of such material by faculty and staff, while complying with applicable copyright law; and (V) to modify the definitions of instructional materials, authorized entities, and eligible students, as such terms are used in applicable federal law, for the purpose of improving services to students with disabilities.

Commission Logistics

The Commission held five in-person open meetings and four full-Commission teleconferences. The meeting dates and locations are as follows:

September 26 & 27, 2010; In Person; US Department of Education, Washington, DC.

December 9, 2010; Full Commission; Teleconference.

January 7, 2011; Full Commission; Teleconference.

February 24 & 25, 2011; In Person; Learning Disabilities Association of America National Conference, Jacksonville, FL.

April 1, 2011; Full Commission; Teleconference.

May 3 & 4, 2011; In Person; Multiple Perspectives on Access, Inclusion & Disability: Policy to Practice National Conference, Columbus, OH.

June 24, 2011; Full Commission; Teleconference.

July 11 & 12, 2011; In Person; Association on Higher Education and Disability National Conference, Seattle, WA.

August 12, 2011; Full Commission; Teleconference.

September 8 & 9, 2011; In Person; Library of Congress, Washington, DC.

October 31, 2011; Full Commission; Teleconference.

All Commission meetings were open to the public, in person and remotely via webinar, and all documents distributed to the Commission were made available to the public in print, digitally, and in braille. The Commission established two listservs, one for internal Commission communication and one for distribution and commentary to its list nearly two hundred subscribers.

At the inaugural September 2010 Commission meeting, Gaeir Dietrich, a Special Government Employee (SGE) named to the Commission to represent two-year colleges, was elected Commission Chair, and James Wendorf, the member representative from the National Center for Learning Disabilities, was elected Commission Vice Chair.

Additionally, to gain the perspective of public stakeholders, the Commission held fifteen hours of public hearings; five hours of public hearings in each of the Jacksonville, Columbus, and Seattle meetings; and recorded public testimony from fifty-six witnesses. Testimony was also submitted remotely via text, audio, and video from twenty-four individuals and organizations.

The Commission maintained two Commission web sites: http://www2.ed.gov/about/bdscomm/list/aim/index.html and http://aim.cast.org/collaborate/p-s_commission as well as two email addresses for public testimony and inquiries.

The Task Forces and Considerations

The Higher Education Opportunity Act (2008) required the Commission to address six considerations in its final recommendations. The six considerations are—

(I) how students with print disabilities may obtain instructional materials in accessible formats—

> (aa) within a timeframe comparable to the availability of instructional materials for non-disabled students; and (bb) to the maximum extent practicable, at costs comparable to the costs of such materials for non-disabled students;

(II) the feasibility and technical parameters of establishing standardized electronic file formats, such as the National Instructional Materials Accessibility Standard (NIMAS) as defined in section 674(e)(3) of the Individuals with Disabilities Education Act (IDEA), to be provided by publishers of instructional materials to producers of materials in specialized formats, institutions of higher education, and eligible students;

(III) the feasibility of establishing a national clearinghouse, repository, or file-sharing network for electronic files in specialized formats and files used in producing instructional materials in specialized formats, and a list of possible entities qualified to administer such clearinghouse, repository, or network;

(IV) the feasibility of establishing market-based solutions involving collaborations among publishers of instructional materials, producers of materials in specialized formats, and institutions of higher education;

(V) solutions utilizing universal design; and

(VI) solutions for low-incidence, high-cost requests for instructional materials in specialized formats.

To facilitate the recommendation development process and ensure that all six considerations were addressed within its final recommendations, the Commission established four task forces.

The Technology, Best Practices, and Market task forces each approached the six considerations in detail, while a fourth task force, Legal, was established to provide background information and guidance on existing statutory and regulatory requirements.

The work of the task forces began following the inaugural Commission meeting in the Fall of 2010. Research and document development was completed by the Commission's supporting grantee, the Center for Applied Special Technology (CAST) and staff at the Office of Special Education and Rehabilitative Services (OSERS). Approximately forty research analyses, summaries, and survey compilations were generated to support task force deliberations and a bibliography of three hundred ninety-seven citations was compiled.

The task force summaries that follow provide a snapshot of the work of each Task Force and the primary considerations that the task force focused on during the course of its study.

Task Force Summary—Legal

The work of the Legal Task Force, led by Maria Pallante of the United States Copyright Office, took place from the early fall of 2010 through the spring of 2011. Maria Pallante resigned from the Commission in September, 2011 (see Appendix A). Additional Legal Task Force members were Jim Fruchterman, Peter Givler, Bruce Hildebrand, Mark Riccobono, James Wendorf, and Elizabeth Wiegman (representative for Assistant Secretary Russlyn Ali). The Legal Task Force addressed the existing legal landscape that facilitates, prevents, or otherwise affects the creation, conversion, and/or distribution of accessible instructional materials (AIM) for postsecondary students with print disabilities. During its ten teleconferences, the Task Force researched and supported the creation of a detailed overview and discussion of copyright law, associated licensing, and disability-related exemptions; and incorporated discussions of civil rights law, state higher education e-text laws, and relevant K–12 legal aspects related to AIM.

The section below delineates the six considerations the Commission was asked to address in the context of the three remaining task forces.

Task Force Summary—Best Practices

The Best Practices Task Force was led by Tuck Tinsley of the American Printing House for the Blind (APH) and was comprised of Lizanne DeStefano, Gaeir Dietrich, Andrew Friedman, and Ashlee Kephart, with technical assistance provided by Julia Myers at APH. This Task Force focused on considerations one and six.

After considerable information gathering and discussion, the Task Force identified two types of specialized formats: braille (especially Nemeth math braille) and tactile graphics. The Task Force also focused on two content-area instructional materials as being the most labor-intensive and expensive to produce: (1) STEM (science, technology, engineering, and mathematics) and (2) foreign language resources. In addition, this Task Force crafted definitions for the terms "low-Incidence/high cost", "timely delivery", and "instructional materials," which are included in the Glossary section of this Report.

Task Force Summary—Technology

This Task Force was led by Jim Fruchterman. The membership of the Technology Task Force consisted of Gaeir Dietrich, Stephan Hamlin-Smith, Kurt Herzer, Bruce Hildebrand, Chester A. Finn, and Mark Riccobono. During its nine teleconferences and document and email exchanges, the Technology Task Force examined technical issues related to the Commission's Congressional charge. This Task Force perceived the Commission's work as deeply intertwined with both specific technical issues around accessibility and general technology trends in society that affect everyone, including students with disabilities. The Technology Task Force discussions and recommendations addressed considerations two and three.

The Task Force reached consensus on their two considerations rapidly. First, the Task Force recommended against a single, NIMAS-style source file format. Second, the members of this Task Force recommended against establishing a single, NIMAC-style national repository for accessible files for higher education.

In addition, the Technology Task Force recommended approaches for making science, engineering, technology, and mathematics (STEM) content more accessible and for how to take advantage of established specifications such as MathML; strongly supported a recommendation that digital rights management (DRM) technical protection measures should not interfere with assistive technologies; and regarding digital authoring applications for content creation—namely, that these should include built-in accessibility prompts and features that would facilitate accessible product development.

The Task Force further recommended a mandate to ensure that instructional materials are supplied to students in formats that permit a user with a print disability the opportunity to acquire the same information, engage in the same transactions, and enjoy the same services at the same time as users without disabilities.

With respect to accessible materials identification, location, and acquisition, the Technology Task Force was unanimous in its belief that a single repository solution was unlikely to address the scope of the challenge presented by postsecondary environments and that multiple sources of content are required. To facilitate content identification, the Task Force recommended that content metadata (information about the nature, structure, and intended use of content material) include a uniform set of accessibility information and that online "federated search" resources be established to locate content available from all sources: commercial vendors, accessible media producers (AMPs), and postsecondary institutions.

Task Force Summary—Market

The Market Task Force was led by George Kerscher, and its membership consisted of Andrew Friedman, Bruce Hildebrand, Ashlee Kephart, Maria Pallante, Linda Tessler, and James Wendorf. This Task Force addressed considerations four and five throughout its study, which consisted of nine teleconferences and a considerable amount of research and document development.

The focus of discussions within the Market Task Force identified recommendations to guide instructional materials development towards universal design. This Task Force was united in the belief that instructional materials should be accessible to a wide range of persons with disabilities at the time of sale, i.e., that products delivered to market should be accessible. With respect to print works, and initiatives underway to digitize the libraries of the world, universal design standards are essential to make digital libraries accessible to persons with disabilities.

In its study, the Task Force found that, with respect to instructional materials that are available in digital-only ("born digital") formats, disability/resource services offices (DR/S) and other providers used to acquire or create accessible versions of print works are unable to similarly retro-fit digital materials.

While Task Force members unanimously agreed that all postsecondary instructional materials should have accessibility designed into them, members disagreed on how best to achieve this outcome. Some Task Force members believe that accessibility should be a legislated mandate, while others believe that such would stifle the still-emerging market and drive up costs for all involved.

Overlapping with the Technology Task Force findings, the Market Task Force also recommended that authoring tools

contain embedded features to guide the production of accessible materials and that training be made available to all users of such products, including postsecondary faculty.

Full Commission Discussions and Deliberations

While the task forces were essential for ensuring that the Commission addressed its six key considerations within the body of its recommendations, the majority of recommendations development occurred during full Commission meetings and deliberations. Following the July 2011 full Commission meeting in Seattle, the work of the task forces was essentially complete. Each Task Force had submitted draft recommendations and the full Commission then began developing recommendations that reflected the view of the entire Commission. To help facilitate this process, the Chair and the Vice Chair established an editorial group. The editorial group members consisted of Lizanne DeStefano, Jim Fruchterman, Stephan Hamlin-Smith, Bruce Hildebrand, and George Kerscher. The editorial group was responsible for reviewing all members' comments and for preparing recommendations that reflected consensus from all members. The final draft of the Commission report was presented to the entire Commission on Friday, November 18, 2011 and all Commission members approved the report on Monday, November 22, 2011.

The Advisory Commission on Accessible Instructional Materials in Postsecondary Education for Students with Disabilities

Appendix I: Glossary

Academic Adjustments
Such modifications to the academic requirements as are necessary to ensure that such requirements do not discriminate, or have the effect of discriminating, on the basis of disability against a qualified applicant or student with a disability. Modifications may include changes in the length of time permitted for the completion of degree requirements, substitution of specific courses required for the completion of degree requirements, and adaptation of the manner in which specific courses are conducted.

Source: 4 C.F.R. § 104.44(a).

AccessText Network
The AccessText Network is a membership exchange network that facilitates and supports the nationwide delivery of alternative files for students with diagnosed print-related disabilities. AccessText serves as the national nucleus for postsecondary distribution of approved alternative textbook file exchanges, training, and technical support.

Source: http://www.accesstext.org/about.php

Accessible Media Access Center (AMAC)
AMAC is an initiative of the Board of Regents University System of Georgia and is committed to removing barriers for individuals with disabilities by improving the human condition through technology in academic and workplace environments. The AMAC team is charged with research and development of

products and services to support individuals with disabilities and their circle of support to become more independent and productive in their academic and workplace environments.

Source: http://www.amacusg.org/about.php

Accessible Instructional Materials (AIM)
Accessible instructional materials are specialized formats of curricular content that can be used by and with print-disabled learners and include braille, audio, large print, and electronic text.

Source: http://aim.cast.org/glossary#aim

Accessible Textbook Finder (ATF)
ATF searches multiple sources of accessible books and provides the results in a combined format. The ATF search includes eight accessible media producers and libraries. Search results and materials are provided by the individual sources.

Source: http://www.accesstext.org/fedsearch.php

Alternative Text Production Center (ATPC)
The ATPC is the first publicly funded, system-wide resource dedicated to serving the alternate media needs of the largest postsecondary educational system in the world. There are 112 community colleges in California and each of them has equal access to the media services provided by the ATPC.

From existing print or electronic documents, the ATPC creates alternate media products for use by California Community College students with print-related disabilities. These products consist of: electronic text files, electronic braille files, braille books and documents, and tactile graphics.

Source: http://www.atpc.net/

American Society of Composers, Authors, and Publishers (ASCAP)
ASCAP is a membership association of more than 410,000 U.S. composers, songwriters, lyricists, and music publishers of every kind of music. Through agreements with affiliated international societies, ASCAP also represents hundreds of thousands of music creators worldwide. ASCAP is the only U.S. performing rights organization created and controlled by composers, songwriters and music publishers, with a Board of Directors elected by and from the membership.

Source: http://www.ascap.com/about/

Architectural and Transportation Barriers Compliance Board (Access Board)
The Access Board is an independent Federal agency devoted to accessibility for people with disabilities. Created in 1973 to ensure access to federally funded facilities, the Board is now a

leading source of information on accessible design. The Board develops and maintains design criteria for the built environment, transit vehicles, telecommunications equipment, and for electronic and information technology. It also provides technical assistance and training on these requirements and on accessible design and continues to enforce accessibility standards that cover federally funded facilities.

Source: http://www.access-board.gov/about.htm

Assistive Technology

The term *assistive technology* means technology designed to be utilized in an assistive technology device or assistive technology service.

Source: http://www.section508.gov/index.cfm?fuseAction=AssistAct

Association on Higher Education and Disability (AHEAD)

AHEAD is a professional membership organization for individuals involved in the development of policy and in the provision of quality services to meet the needs of persons with disabilities involved in all areas of higher education.

Source: http://www.ahead.org/about

Authoring tool

Any software (or collection of software components) that can be used by authors (alone or collaboratively) to create or modify web content for use by other people (other authors or end users).

Source: http://www.w3.org/TR/ATAG20/#glossary

Authoring Tool Accessibility Guidelines

This specification provides guidelines for designing web content authoring tools that are both (1) more accessible to authors with disabilities and (2) designed to enable, support, and promote the production of accessible web content by all authors.The "Authoring Tool Accessibility Guidelines 2.0" (ATAG 2.0) is part of a series of accessibility guidelines published by the W3C Web Accessibility Initiative (WAI).

Source: http://www.w3.org/TR/ATAG20/

Authorized Entity

The statute defines an "authorized entity" as a "nonprofit organization or a governmental agency that has a primary mission to provide specialized services relating to training, education, or adaptive reading or information access needs of blind or other persons with disabilities."

Source: From the Report

Auxiliary aids and services

Auxiliary aids and services include the following:

Qualified interpreters, on-site or through video remote interpreting (VRI) services; note takers; real-time computer-aided transcription services; written materials; exchange of written notes; telephone handset amplifiers; assistive listening devices; assistive listening systems; telephones compatible with hearing aids; closed caption decoders; open and closed captioning, including real-time captioning; voice, text, and video-based telecommunications products and systems, including text telephones (TTYs), videophones, and captioned telephones, or equally effective telecommunications devices; videotext displays; accessible electronic and information technology; or other effective methods of making aurally delivered information available to individuals who are deaf or hard of hearing;

(2) Qualified readers; taped texts; audio recordings; brailled materials and displays; screen reader software; magnification software; optical readers; secondary auditory programs (SAP); large print materials; accessible electronic and information technology; or other effective methods of making visually delivered materials available to individuals who are blind or have low vision;

(3) Acquisition or modification of equipment or devices; and

(4) Other similar services and actions.

Source: 28 C.F.R. § 35.104.

braille

braille is a tactile system of reading and writing made up of raised-dot patterns for letters, numbers, and punctuation marks. This format is used almost exclusively by people with visual impairments. braille may be either embossed (a permanent printed document) or refreshable (electronically generated and accessed via a braille display device).

Source: http://aim.cast.org/learn/accessiblemedia/allaboutaim/what

BRF

A BRF file type, also known as a braille intermediate format file, uses Grade II braille and can be used with common braille devices or braille printers.

Source: http://aim.cast.org/glossary#brf

Broadcast Music, Inc. (BMI)
BMI collects license fees on behalf of the more than 475,000 songwriters, composers, and music publishers it represents and distributes those fees as royalties to members whose works have been publicly performed.

Source: http://www.bmi.com/about/entry/538061

Captioning
Captions display spoken dialogue as printed words on a television screen. Captions are specifically designed for viewers who are deaf and hard of hearing; however, they allow anyone to follow along through carefully placed words that identify speakers, on- and off-screen sound effects, music, and laughter.
Source: http://main.wgbh.org/wgbh/pages/mag/captioning.html

Copyright Clearance Center (CCC)
The (CCC) is a global rights broker for the world's most sought after print and online content, from books, journals, and newspapers to blogs and images.

Source: http://www.copyright.com/content/cc3/en/toolbar/aboutUs.html

Course packs
Course packs may include an article, chapter, citation, image, or other limited portion of a resource in a print collection of material for student use in a specific course. A for-profit charge for a course pack is not permissible.

Source: http://www.lib.jmu.edu/about_us/policies/glossary.aspx

CourseSmart
CourseSmart is a venture supported by leading publishers in North American higher education. Founded in 2007, CourseSmart provides e-textbooks and digital learning tools to millions of student and faculty users.

Source: http://www.coursesmart.com/overview

Courseware management and delivery systems
CMSs, such as Blackboard, Elluminate, eCollege, Moodle, and approximately thirty-five other platforms provide online course access. Most include embedded student-to-student-to-instructor communication modules, assignments, quizzes, and exams.

Source: From the Report

DAISY
NISO/DAISY3 is the global digital talking book standard, supported by many leading libraries, assistive technology software and hardware manufacturers worldwide that serve those with disabilities. It provides the capability to distribute

books digitally with powerful indexing and bookmarking to easily move quickly from one part of a book to another.

Source: http://www.bookshare.org/ /help/faq/downloadingBooks

DAISY Consortium
The DAISY Consortium is an international association that develops, maintains and promotes international DAISY (Digital Accessible Information SYstem) standards. It is managed by a Board made up of representatives from all full member organizations. The Consortium is constituted as a not-for-profit association under Swiss law and is governed by its articles of association.

Source: http://www.daisy.org/about_us

Developer
Any entities or individuals responsible for programming an authoring tool can be referred to as a developer. This includes the programmers of any additional software components included by the Claimant in a conformance claim. In some cases, development of an authoring tool is complete before authors can use it to publish web content. However, in other cases (e.g., some web-based authoring tools), a developer may continue to modify an authoring tool even after content has been published, such that the content experienced by the end user is modified.

Source: http://www.w3.org/TR/ATAG20/#glossary

Digital rights management (DRM)
DRM normally refers to the technological measures applied to digital content that grant specific rights. DRM refers broadly to any strategy or tool that is used to control who can access digital content and how they can use it. DRM might be as simple as putting a copyright notice on a document, or it might go much farther and encrypt a document with a special code or key required to access the content. Encryption is an example of a technological protection measure (TPM) which is a kind of DRM, but the terms are often used interchangeably.

Source: http://www.daisy.org/glossary

Digital text (e-text)
Digital text is electronic text that can be delivered via a computer or by another device. A key accessibility consideration is that digital text is malleable and can be easily transformed in many different ways depending upon student needs and the technology being used for rendering. To accommodate the needs and preferences of a user, various features of the technology which control how the content is presented to the user can be manipulated such as size, fonts,

colors, contrast, highlighting, and text-to-speech, etc. When text-to-speech is used, there are both visual and audio outputs which may be displayed individually or together.

Source: http://aim.cast.org/learn/accessiblemedia/allaboutaim/what

Disability

With respect to an individual, the term "disability" means (A) a physical or mental impairment that substantially limits one or more of the major life activities of such individual; (B) a record of such an impairment; or (C) being regarded as having such an impairment. A person must meet the requirements of at least one of these three criteria to be an individual with a disability under the ADA and Section 504.

Source: 42 U.S.C. § 12102(2); see also 29 C.F.R. § 1630.2(g); 29 U.S.C. § 794; 29 U.S.C. § 705(20).

Disability Resources/Services Office (DR/S)

A DR/S office collaborates with students, faculty, staff, administrators, and external professional service providers to ensure students with disabilities are afforded equal and equitable access to all aspects of their postsecondary experience through—

- Implementation of universal environmental and instructional design;
- The coordination of appropriate auxiliary aids and services; and
- Advocacy, outreach, and education within the campus community.

DR/S offices are also referred to as disability support services, disability services, student disability services, disability resources, disability support office, and office of accessibility.

Source: http://ahead.org/resources

E-book

An electronic publication or electronic book, usually (but not necessarily) a digital media version of a print publication. There are many e-book formats, some of which have DRM and some of which must be read on a specific e-book reader.

Source: http://www.daisy.org/glossary

EDI*t*EUR

EDI*t*EUR is an international group coordinating development of the standards infrastructure for electronic commerce in the book, e-book, and serials sectors. EDI*t*EUR provides its membership with research, standards, and guidance in such diverse areas as—

- EDI and other e-commerce standards for book and serial transactions
- Bibliographic and product information

- The standards infrastructure for digital publishing
- Rights management and trading
- Radio frequency identification tags

Source: http://www.editeur.org/2/About/#Intro

ePUB
ePUB is the name and -.epub is the file extension of an XML format for reflowable digital books and publications. ePUB is composed of three open standards, the open publication structure (OPS), open packaging format (OPF) and open container format (OCF), produced by the IDPF.

Source: http://www.daisy.org/glossary

Federated search
Federated search is the process of performing a simultaneous real-time search of multiple diverse and distributed sources from a single search page, with a federated search engine acting as intermediary.

Source: http://deepwebtechblog.com/a-federated-search-primer-part-ii-of-iii/

HTML
"HTML is the language for describing the structure of web pages. HTML gives authors the means to—

- Publish online documents with headings, text, tables, lists, photos, etc.
- Retrieve online information via hypertext links, at the click of a button.
- Design forms for conducting transactions with remote services, for use in searching for information, making reservations, ordering products, etc.
- Include spreadsheets, video clips, sound clips, and other applications directly in HTML documents.
- With HTML, authors describe the structure of pages using mark-up. The elements of the HTML language label pieces of content such as "paragraph," "list," "table," and so on.

Source: http://www.w3.org/standards/webdesign/htmlcss

Individual Education Program (IEP)
An IEP is a written plan that is individually developed for students identified as having a disability under IDEA. The plan is developed, reviewed, and revised in accordance with IDEA regulations by a duly constituted IEP team of educators, parents, and student (when appropriate). An IEP is based on achievement, assessment, and evaluation data and contains the goals that will guide the delivery of special education and related services.

Source: http://aim.cast.org/glossary#iep

Institution of Higher Education

The term "institution of higher education" means an educational institution in any state that—

> "(1) admits as regular students only persons having a certificate of graduation from a school providing secondary education, or the recognized equivalent of such a certificate, or persons who meet the requirements of section 1091 (d)(3) of this title;
>
> "(2) is legally authorized within such state to provide a program of education beyond secondary education;
>
> "(3) provides an educational program for which the institution awards a bachelor's degree or provides not less than a 2-year program that is acceptable for full credit toward such a degree, or awards a degree that is acceptable for admission to a graduate or professional degree program, subject to review and approval by the Secretary;
>
> "(4) is a public or other nonprofit institution; and
>
> "(5) is accredited by a nationally recognized accrediting agency or association, or if not so accredited, is an institution that has been granted pre-accreditation status by such an agency or association that has been recognized by the Secretary for the granting of pre-accreditation status, and the Secretary has determined that there is satisfactory assurance that the institution will meet the accreditation standards of such an agency or association within a reasonable time."

The term "institution of higher education" also includes—

> "(1) any school that provides not less than a 1-year program of training to prepare students for gainful employment in a recognized occupation and that meets the provision of paragraphs (1), (2), (4), and (5) of sub-section (a) of this section; and
> "(2) a public or nonprofit private educational institution in any state that, in lieu of the requirement in sub-section (a)(1), admits as regular students individuals—
>
> > "(A) who are beyond the age of compulsory school attendance in the State in which the institution is located; or
> >
> > "(B) who will be dually or concurrently enrolled in the institution and a secondary school.

Source: http://www.law.cornell.edu/uscode/20/usc_sec_20_00001001----000-.html

Instructional Materials
Instructional materials are the curricular content (printed and digital books, journals, course packs, articles, music, tests, videos, instructor-created PDFs and PowerPoint documents, web pages, etc.), as well as the technologies required (hardware, firmware, software and applications) for the manipulation, annotation, and dissemination of content. This definition also includes any other required instructional software and applications used to facilitate the teaching and learning process, including learning software, courseware/learning management systems, digital "learning objects," library databases, and others.

Source: Defined by the Commission

International Digital Publishing Forum (IDPF)
IDPF is a global trade and standards organization dedicated to the development and promotion of electronic publishing and content consumption.

The work of the IDPF promotes the development of electronic publishing applications and products that will benefit creators of content, makers of reading systems, and consumers. The IDPF develops and maintains the ePUB content publication standard that enables the creation and transport of reflowable digital books and other types of content as digital publications that are interoperable between disparate ePUB-compliant reading devices and applications.

Source: http://idpf.org/about-us

International Organization for Standardization (ISO)
ISO is the world's largest developer and publisher of international standards.

ISO is a network of the national standards institutes of 162 countries, one member per country, with a Central Secretariat in Geneva, Switzerland, that coordinates the system.

ISO is a non-governmental organization that forms a bridge between the public and private sectors. On the one hand, many of its member institutes are part of the governmental structure of their countries, or are mandated by their government. On the other hand, other members have their roots uniquely in the private sector, having been set up by national partnerships of industry associations.

Therefore, ISO enables a consensus to be reached on solutions that meet both the requirements of business and the broader needs of society.

Source: http://www.iso.org/iso/about.htm

Large print
Large print is generally defined as print that is larger than print sizes commonly used by the general population (8 to 12 points in size). Some use a guideline for defining large print as 18 point or larger. A document rendered in large print format usually has more white space and may or may not look like the original document but contains the same information. Large print may be printed on pages that are the same size as a standard textbook page or on pages of a larger size.

Source: http://aim.cast.org/learn/accessiblemedia/allaboutaim/what

Local Education Agency (LEA)
The term "local educational agency" means a public board of education or other public authority legally constituted within a state for either administrative control or direction of, or to perform a service function for, public elementary schools or secondary schools in a city, county, township, school district, or other political sub-division of a state, or of or for a combination of school districts or counties that is recognized in a state as an administrative agency for its public elementary schools or secondary schools.

Source: http://www.law.cornell.edu/uscode/html/uscode20/usc_sec_20_00007801----000-.html

LOUIS Database
LOUIS contains information on accessible print materials produced by approximately 160 organizations throughout the United States. These materials include books in braille, large print, audio, and electronic file format. LOUIS also lists products developed by APH.

LOUIS assists educators, administrators, and those who are visually impaired in locating accessible books and materials in an efficient manner.

Source: http://louis.aph.org/pages/about.aspx

Low-incidence/high cost
Disabilities such as visual impairments, deaf-blindness, significant physical disabilities, deafness/hard of hearing, and traumatic brain injury are examples of "low-incidence" disabilities. Cost factors associated with the provision of academic-related services and materials to students with low-incidence disabilities (extrapolated from K–12 special education data sources) indicate costs ranging from four times to one hundred times the costs associated with the provision of similar academic services to non-disabled students.

Source: Defined by the Commission

Mark-Up language
A system of text annotations (e.g., elements in HTML) and processing rules that may be used to specify the structure, presentation, or semantics of content. Examples of mark-up languages include HTML and SVG.

Source: http://www.w3.org/TR/ATAG20/#glossary

MathML
MathML is an XML application for describing mathematical notation and capturing both its structure and content. The goal of MathML is to enable mathematics to be served, received, and processed on the World Wide Web, just as HTML has enabled this functionality for text.

Source: http://www.w3.org/TR/MathML3/

Metadata
An element used to describe the content of a document, literally, 'data about data.' Metadata information describes and identifies [for example] a book or computer document for digital indexing and archival purposes. The end user is not necessarily aware of its presence.

Source: http://www.daisy.org/glossary

MP3
-.mp3 is the file extension for MPEG, audio layer 3 audio format. Layer 3 is one of three MPEG coding schemes (layer 1, layer 2, and layer 3) for the compression of audio signals. Layer 3 uses perceptual audio coding and psycho-acoustic compression to remove all superfluous information (more specifically, the redundant and irrelevant parts of a sound signal that the human ear does not hear). It also adds a modified discrete cosine transform (MDCT) that implements a filter bank, increasing the frequency resolution to 18 times higher than that of layer 2.

Source: http://www.daisy.org/glossary

National Center for Education Statistics
The National Center for Education Statistics fulfills a Congressional mandate to collect, collate, analyze, and report complete statistics on the condition of American education; conduct and publish reports; and review and report on education activities internationally.

Source: http://nces.ed.gov/about/

National Information Standards Organization (NISO)
NISO is a nonprofit association accredited by the American National Standards Institute (ANSI) that identifies, develops, maintains, and publishes technical standards to manage information in our changing and ever-more digital environment.

NISO standards apply both traditional and new technologies to the full range of information-related needs, including retrieval, re-purposing, storage, metadata, and preservation.

Source: http://www.niso.org/about/

National Library Service for the Blind and Physically Handicapped (NLS)

NLS, Library of Congress, administers a free program that loans recorded and braille books and magazines, music scores in braille and large print, and specially designed playback equipment to residents of the United States who are unable to read or use standard print materials because of visual or physical impairment.

NLS administers the program nationally, while direct service to eligible individuals and institutions is the responsibility of cooperating libraries in the various states, the District of Columbia, Puerto Rico, Guam, and the Virgin Islands. Service is also extended to eligible American citizens residing abroad.

Source: http://www.loc.gov/nls/aboutnls.html

National Longitudinal Transition Study–2 (NLTS2)

The NLTS2, commissioned to begin in 2001 by the U.S. Department of Education, Office of Special Education Programs (OSEP 2001–2011) and Institute of Education Sciences (IES 2000–2011), is a follow-up of the original National Longitudinal Transition Study. The original NLTS was designed and conducted by SRI International for OSEP from 1985 through 1993. NLTS2 includes 11,270 youth nationwide who were ages 13 through 16 at the start of the study (2000). Information was collected over 10 years from parents, youth, and schools and provided a national picture of the experiences and achievements of young people as they transition into early adulthood.

Source: http://www.nlts2.org/faq.html

Nemeth braille

Nemeth is a specialized braille code used for conveying mathematical and scientific notation. Its particular strength is in conveying mathematics in a linear way while still remaining compact enough to be practical.

Source: http://aim.cast.org/glossary#nemeth

ONIX

The ONIX family of metadata formats includes standards for books, serials and licensing terms (including RROs). All ONIX standards are designed to support computer-to-computer communication between parties involved in creating, distributing, licensing, or otherwise making available

intellectual property in published form, whether physical or digital. All are expressed in XML.

Source: http://www.editeur.org/8/ONIX/

Open Educational Resources (OER)

OER are teaching and learning materials that anyone may freely use and re-use, without charge. OER are different from other resources a teacher may use in that OER have been given limited or unrestricted licensing rights. That means they have been authored or created by an individual or organization that chooses to retain few, if any, ownership rights. For some of these resources, that means anyone can download the resource and share it with colleagues and students. For others, it may be permitted to download a resource, edit it in some way, and then re-post it as a re-mixed work. OER often have a Creative Commons or GNU license that states specifically how the material may be used, re-used, adapted, and shared.

Source: http://www.oercommons.org/about#what-are-open-educational-resources-oer

Open Source

Open source is a term that applies to software that is created and maintained using a license that makes the source code available for modification. There are a variety of licensing schemes that this term applies to. For example, general public license (GPL) or lesser general public license (LGPL)—there are many different types of licenses that are open source.

Source: http://www.daisy.org/glossary

Portable Document Format (PDF)

PDF , developed by Adobe Systems Incorporated, is described by Adobe as a general document representation language. PDF represents formatted, page-oriented documents. These documents may be structured or simple. They may contain text, images, graphics, and other multimedia content, such as video and audio. There is support for annotations, metadata, hypertext links, and bookmarks.

Source: http://www.digitalpreservation.gov/formats/fdd/fdd000030.shtml

Portable Document Format Universal Accessibility Group (PDF/UA)

This Committee is developing a specification for accessible PDF. The Committee's goal is to set standards for PDF authoring such that conforming PDF files are accessible and usable to all, including those who use assistive technology.

Source: http://pdf.editme.com/PDFUA

Qualified student with a disability
In the postsecondary context, a qualified student with a disability is an individual with a disability who, with or without reasonable modifications to rules, policies, or practices; the removal of architectural, communication, or transportation barriers; or the provision of auxiliary aids and services; meets the essential eligibility requirements for the receipt of services or the participation in programs or activities provided by the applicable educational institution.

Source: 28 C.F.R. § 35.104; *see also* 34 C.F.R. § 104.3(*l*).

Refreshable braille display
Refreshable braille displays are electronic devices used to read text tactually that is otherwise typically displayed visually on a computer monitor. A refreshable braille display is connected to a computer by a serial or USB cable and produces braille output (with small plastic or metal pins that move up and down to display the braille characters) for the reader.

Source: http://www.afb.org/Section.asp?DocumentID=3652&SectionID=7&SubTopicID=97&TopicID=330

Rich media
This term is often used to describe media (text, audio, video, animation, etc.) that also includes interactivity, including dynamic prompt and response components that may be embedded in any of the listed media types.

Source: Defined by the Commission

Screen reader
A screen reader is software that attempts to identify and interpret what is being displayed on a computer screen. This interpretation is then re-presented to the user with text-to-speech, sound icons, or a braille output device.

Source: http://www.daisy.org/glossary

Society of European Stage Authors & Composers (SESAC)
SESAC, Inc. is a performing rights organization with headquarters in Nashville and offices in New York, Los Angeles, Atlanta, Miami, and London. Performing rights organizations (currently three in the U.S.) are businesses designed to represent songwriters and publishers and their right to be compensated for having their music performed in public.

Source: http://www.sesac.com/About/About.aspx

Specialized formats
Specialized formats is defined to mean "braille, audio, or digital text which is exclusively for use by blind or other persons with disabilities," and, in the case of "print instructional materials,

includes large print formats when such materials are distributed exclusively for use by blind or other persons with disabilities."

Source: From the Report

State Education Agency (SEA)

The term "state educational agency" means the agency primarily responsible for the state supervision of public elementary schools and secondary schools.

Source: http://www.law.cornell.edu/uscode/html/uscode20/usc_sec_20_00007801----000-.html

Summary of performance

Section 614 of the IDEA 2004 indicates that as of July 2005 all special education students who leave secondary education through graduation or by exceeding state age eligibility are to be provided with a summary of performance (SOP) to use as they pursue their transition goals. The SOP is to be developed in lieu of an exit IEP, with which many DSS personnel are familiar, and is designed to provide useful information to agencies and schools to which the exiting student might go next.

The language in Section 614 mandates secondary personnel to provide "recommendations on how to assist the child in meeting the child's postsecondary goals" [IDEA § 614, H.R.1350, (c)(5)(B)(ii)].

Source: http://www.ahead.org/resources/idea/introduction

Synthetic speech

Synthetic speech is artificial human speech which is produced by a computer. There are a number of different software applications through which this process can be achieved.

Some speech synthesizers use pre-recorded human speech and fit words together to form sentences (this is most often used in applications with a limited vocabulary, such as a talking clock). Other synthesizers are more complex in that they fit together tiny portions of speech (sounds) to form words and sentences.

Using this method, a synthesizer is able to produce an unlimited vocabulary, and can therefore read aloud virtually any text input. This is known as text-to-speech synthesis.

Source: http://www.rnib.org.uk/professionals/accessibleinformation/accessibleformats/audio/speech/Pages/synthetic_speech.aspx

Tactile graphics

Tactile graphics, sometimes referred to as the haptic sensory modality, deliver information through touch. They often

accompany braille textbooks to convey content in maps, charts, building layouts, schematic diagrams, and images of geometric figures.

Source: http://www.washington.edu/doit/articles?464

Text-to-Speech (TTS)
Text-to-speech or speech synthesis is the artificial production of human speech and is generally accomplished with special software and/or hardware. The quality of various speech generation engines can vary considerably. Some voices sound almost human while others sound more primitive and robotic. Robotic-sounding voices are considered desirable for achieving high rates of "reading" speed.

Source: http://aim.cast.org/glossary#tts

Textbooks
The term "college textbook" means a textbook or a set of textbooks used for, or in conjunction with, a course in postsecondary education at an institution of higher education.

Source: http://www.law.cornell.edu/uscode/20/usc_sec_20_00001015---b000-.html

Title IV institution
Institutions participating in Title IV federal student financial aid programs (such as Pell grants or Stafford loans) are accredited by an agency or organization recognized by the U.S. Department of Education, have a program of more than 300 clock hours or 8 credit hours, have been in business for at least 2 years, and have a signed Program Participation Agreement with the Office of Postsecondary Education (OPE), U.S. Department of Education.

Source: Raue, K., and Lewis, L. (2011). *Students With Disabilities at Degree-Granting Postsecondary Institutions* (NCES 2011-018). U.S. Department of Education, National Center for Educational Statistics. Washington, DC: U.S. Government Printing Office

United States Government Accountability Office (GAO)
The U.S. GAO is an independent, nonpartisan agency that works for Congress. Often called the "congressional watchdog," GAO investigates how the federal government spends taxpayer dollars.

Source: http://www.gao.gov/about/index.html

Universal Design
A concept or philosophy for designing and delivering products and services that are usable by people with the widest possible range of functional capabilities, which include products and

services that are directly accessible (without requiring assistive technologies) and products and services that are interoperable with assistive technologies.

Source: Assistive Technology Act, 2004, Section 3(19)

User Agent Accessibility Guidelines (UAAG)
UAAG 2.0 provides guidelines for designing user agents that lower barriers to web accessibility for people with disabilities. User agents include browsers and other types of software that retrieve and render web content. A user agent that conforms to these guidelines will promote accessibility through its own user interface and through other internal facilities, including its ability to communicate with other technologies (especially assistive technologies). Furthermore, all users, not just users with disabilities, should find conforming user agents to be more usable.

Source: http://www.w3.org/TR/UAAG20/

Web Accessibility Initiative (WAI)
WAI develops...

- guidelines widely regarded as the international standard for web accessibility
- support materials to help understand and implement web accessibility
- resources, through international collaboration

Source: http://www.w3.org/WAI/

Web Content Accessibility Guidelines (WCAG)
WCAG 2.0 covers a wide range of recommendations for making web content more accessible. Following these guidelines will make content accessible to a wider range of people with disabilities, including blindness and low vision, deafness and hearing loss, learning disabilities, cognitive limitations, limited movement, speech disabilities, photosensitivity, and combinations of these. Following these guidelines will also often make web content more usable to users in general.

Source: http://www.w3.org/TR/WCAG20/

World Intellectual Property Organization (WIPO)
WIPO is a specialized agency of the United Nations. It is dedicated to developing a balanced and accessible international intellectual property (IP) system, which rewards creativity, stimulates innovation, and contributes to economic development while safeguarding the public interest.
Source: http://www.wipo.int/about-wipo/en/what_is_wipo.html

World Wide Web Consortium (W3C)
The W3C is an international community where member organizations, a full-time staff, and the public work together to

develop web standards. Led by web inventor Tim Berners-Lee and CEO Jeffrey Jaffe, W3C's mission is to lead the web to its full potential.

Source: http://www.w3.org/Consortium/

EXtensible Mark-Up Language (XML)

XML is a simple text-based format for representing structured information: documents, data, configuration, books, transactions, invoices, and much more. It was derived from an older standard format called SGML (ISO 8879), in order to be more suitable for web use.

Source: http://www.w3.org/standards/xml/core

Acronyms and Abbreviations:

ADA: Americans with Disabilities Act

ADAAA: Americans with Disabilities Act Amendments Act

AE: Authorized Entity

AHEAD: Association on Higher Education and Disability

AIM: Accessible Instructional Materials

AMAC: Accessible Media Access Center

AMP: Accessible Media Producer

ASCAP: American Society of Composers, Authors, and Publishers

AT: Assistive Technology

ATAG: Authoring Tool Accessibility Guidelines

ATF: Accessible Textbook Finder

ATN: Access Text Network

ATPC: Alternative Text Production Center

BMI: Broadcast Music, Inc.

CAST: Center for Applied Special Technology

CCC: Copyright Clearance Center

DAISY: Digital Accessibility Information SYstem

DCL: *Dear Colleague* Letters

DMCA: Digital Millennium Copyright Act

DOJ: Department of Justice

DR/S: Disability Resource/Service Office

DRM: Digital Rights Management

ED: Department of Education

ePUB: Electronic Publication

GAO: United States Government Accountability Office

HEOA: Higher Education Opportunity Act of 2008

HTML: Hypertext Mark-Up Language

IDEA: Individuals with Disabilities Education Act of 2004

IDPF: International Digital Publishing Forum

IEP: Individual Education Program

IHE: Institution of Higher Education

ISO: International Organization for Standardization

IT: Information Technology

K–12: Kindergarten through Grade 12

LD: Learning Disability

LEA: Local Education Agency

LOC: Library of Congress

NCES: National Center for Education Statistics

NIMAC: National Instructional Materials Access Center

NIMAS: National Instructional Materials Accessibility Standard

NISO: National Information Standards Organization

NLS: National Library Service for the Blind and Physically Handicapped

NTLS2: National Longitudinal Transition Study-2

OCR: Office of Civil Rights

OER: Open Educational Resources

PDF: Portable Document Format

PDF/UA: Portable Document Format Universal Accessibility Group

PRO: Performance rights organization

SEA: State Education Agency

SOP: Summary of Performance

STEM: Science, Technology, Engineering, and Mathematics

SVG: Scalable Vector Graphics

TTS: Text-to-Speech

UAAG: User Agent Accessibility Guidelines

UD: Universal Design

VI: Visual Impairment

W3C: World Wide Web Consortium

WAI: Web Accessibility Initiative

WCAG: Web Content Accessibility Guidelines

WIPO: World Intellectual Property Organization

XHTML: EXtensible Hypertext Mark-Up Language

XML: EXtensible Mark-Up Language