Understanding the NIMAS and NIMAC Provisions of IDEA: Analysis of the Term “Reading Disability Resulting from Organic Dysfunction” and its Relationship to the IDEA Category of “Specific Learning Disability”

Paper prepared for the National Center on Accessible Instructional Materials

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Executive Summary

This paper discusses the meaning of the term “reading disability resulting from organic dysfunction,” one of the four disability categories that determine eligibility for instructional materials that have been developed from National Instructional Materials Accessibility Standard (NIMAS) files obtained through the National Instructional Materials Access Center (NIMAC) under the Individuals with Disabilities Education Act (IDEA). This disability category, which is specified in regulations that were originally issued by the Library of Congress (LOC) in 1974, also helps determine eligibility for the population of individuals with disabilities served under the 1996 Chafee Amendment to the U.S. Copyright Act.

The LOC regulations state that, while the other three disability categories (blind persons, visual disability, and physical limitations) may be certified by any number of individuals, including therapists, social workers, counselors, and rehabilitation teachers, a “reading disability resulting from organic dysfunction” must be certified by “doctors of medicine who may consult with colleagues in associated disciplines.” The LOC has explained that the term “reading disability resulting from organic dysfunction” means that the cause of the disability must be physically based in the central nervous system.

The term “reading disability resulting from organic dysfunction” reflects a medical perspective and follows a long history of research that used the word “organic” to refer to a biological impairment in the central nervous system that was not the result of emotional or environmental (i.e., nonorganic) factors. The use of the word “dysfunction” dates back to the 1960s and 1970s when the term “minimal brain dysfunction” was prevalent. Medical researchers during these years used the word “dysfunction” in place of the word “damage” to suggest that the impairment may be associated with genetic factors or maturational lag. Proponents of the concept of “minimal brain dysfunction” found acceptable those deviations in the central nervous system that reflected not only hard, but also soft/subtle, neurological signs. In connecting the medical term “organic dysfunction” to “reading disability,” it is not clear whether the LOC was referring only to those deviations that were “grossly obvious” (i.e., hard signs) or whether the LOC intended to allow for a continuum of deviations, including those that were more subtle and borderline (i.e., soft signs). The term “reading disability resulting from organic dysfunction” is not typically used today.

While the disability category “reading disability resulting from organic dysfunction” in the LOC regulations reflects a medical perspective and requires certification by a medical doctor, the definition of “specific learning disability” under IDEA grew out of an educational perspective that rejected the use of medical terminology and etiology as unhelpful in an educational context. The term “reading disability resulting from organic dysfunction” does not appear in IDEA or the disability civil rights statutes, Section 504 of the Rehabilitation Act of 1973 (Section 504) or the Americans with Disabilities Act (ADA). Determination of eligibility for a “specific learning disability” under IDEA is made by a special education team, based on the results of a comprehensive evaluation conducted by school personnel. IDEA does not require certification by a medical doctor for eligibility with respect to “specific learning disability.” At the same time, the definition of “specific learning disability” under IDEA excludes learning problems that are primarily the result of emotional, environmental, cultural, or economic factors, as do the LOC regulations.
The use of outdated terminology in the LOC regulations and the difference in perspectives between the LOC regulations and IDEA has led to confusion on the part of educators and families with respect to the eligibility of students with learning disabilities for materials developed from NIMAS files through the NIMAC. Some students with learning disabilities who are entitled to receive accessible instructional materials under IDEA may not be found eligible to receive these materials through NIMAS/NIMAC. Although SEAs and LEAs are obligated to ensure that these students receive the accessible instructional materials they need in a timely manner, the provision of accessible instructional materials in ways other than through NIMAS/NIMAC is difficult.

In the years since the passage of the LOC regulations in 1974, researchers have noted, with the help of technological advances, irregularities in the brain images of children with learning disabilities, in particular those with reading disabilities. Both Learning Ally and Bookshare, two major Accessible Media Producers (AMPS), believe that the LOC regulations can be interpreted to mean that because of the physiological basis of learning disabilities, students with learning disabilities may be certified by any competent authority that is permitted under the category of “physical limitations,” including special education teachers or school psychologists. States have also been grappling with the implementation of the LOC criteria in the context of IDEA.

The American Association of Publishers (AAP) has pointed out that, according to the legislative history to the Chafee Amendment, Congress intentionally limited the scope of this amendment to a specific population of individuals with disabilities that would not result in economic hardship for publishers. The AAP has also acknowledged, however, that there have been practical implementation challenges resulting from changing perspectives on disability as well as technological advances and has raised the question of whether the regulatory approach of Chafee may, in fact, be delaying the introduction of a market-based model.

According to a market-based model, publishers would compete with each other to develop their own versions of accessible instructional materials, including works that are universally designed.

Implementation of a full market-based approach for accessible instructional materials would ultimately render the need to establish eligibility criteria for receipt of NIMAS-based materials through the NIMAC obsolete. Such an approach has the potential to benefit all students, both with and without disabilities. Because attainment of the goal of a full market model is likely far in the future, however, the question of eligibility for accessible instructional materials developed from NIMAS files obtained through the NIMAC may need to be revisited.
Introduction

The 2004 re-authorization of the Individuals with Disabilities Education Act (IDEA) introduced important provisions that have the potential to improve the delivery of accessible instructional materials (AIM) to blind students and other students with print disabilities.\footnote{See generally 20 U.S.C. §§ 1412(a)(23), 1413(a)(6), 1474(e); 34 C.F.R. §§ 300.172, 300.210.} Under IDEA, states must adopt the National Instructional Materials Accessibility Standard (NIMAS) for use in the preparation of electronic files suitable and employed solely for efficient conversion of print instructional materials for blind or other students with print disabilities into specialized formats—namely, braille, audio, digital text, or large print.\footnote{20 U.S.C. §§ 1412(a)(23)(A), 1474(e)(3)(B); 34 C.F.R. § 300.172(a).} In addition, state educational agencies (SEAs) and local educational agencies (LEAs) may choose to coordinate with the National Instructional Materials Access Center (NIMAC), a national repository for NIMAS filesets.\footnote{Id. § 1474(e)(3)(D) (incorporating by reference 17 U.S.C. § 121(d)(3), current version at § 121(d)(4)).}

Students who are eligible to receive materials that have been developed from NIMAS files through the NIMAC are those who: (1) are served under IDEA and (2) may qualify in accordance with “An Act to provide books for the adult blind,” approved March 3, 1931.\footnote{Id. § 1474(e)(3)(A) (citing 2 U.S.C. § 135a).} To qualify under the latter, students must fall into one of four eligibility categories specified in regulations issued by the Library of Congress (LOC).\footnote{36 C.F.R. § 701.6(b)(1) (2011) (implementing 2 U.S.C. § 135a).} These categories determine eligibility for participation in a national library program administered by the LOC’s National Library Service for the Blind and Physically Handicapped (NLS).\footnote{Id. § 701.6(a).} The LOC regulations also state that an individual must be certified by “competent authority” as meeting the eligibility criteria.\footnote{Id. at § 701.6(b)(2)(ii).} Table 1 presents the eligibility categories and corresponding competent authority specified in the LOC regulations.

For the first three categories (blind persons, visual disability, and physical limitations), the regulations define “competent authority” as including “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).”\footnote{Id. § 701.6(b)(2).} For these three categories, the regulations also state the following: “In the absence of any of these [individuals to serve as competent authority], certification may be made by professional librarians or by any person whose competence under specific circumstances is acceptable to the Library of Congress.”\footnote{Id. at § 701.6(b)(2)(ii).} In contrast, for the fourth category, “reading disability resulting from organic dysfunction,” a “competent authority” is defined only as “doctors of medicine who may consult with colleagues in associated disciplines.”\footnote{Id. § 701.6(b)(1).}
Table 1. Eligibility under the LOC Regulations at 36 C.F.R. § 701.6(b)

<table>
<thead>
<tr>
<th>Disability Category</th>
<th>Description of Disability</th>
<th>Description of Competent Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLIND PERSONS</td>
<td><em>Blind persons</em> whose visual acuity, as determined by competent authority, is 20/200 or less in the better eye with correcting glasses, or whose wide diameter if visual field subtends an angular distance no greater than 20 degrees.</td>
<td>Doctors of medicine, doctors of osteopathy, ophthalmologists, optometrists, registered nurses, therapists, 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 persons whose competence under specific circumstances is acceptable to the Library of Congress.</td>
</tr>
<tr>
<td>VISUAL DISABILITY</td>
<td>Persons whose visual disability, with correction and regardless of optical measurement, is certified by competent authority as preventing the reading of standard printed material.</td>
<td>SAME AS ABOVE</td>
</tr>
<tr>
<td>PHYSICAL LIMITATIONS</td>
<td>Persons certified by competent authority as unable to read or unable to use standard printed material as a result of physical limitations.</td>
<td>SAME AS ABOVE</td>
</tr>
<tr>
<td>READING DISABILITY RESULTING FROM ORGANIC DYSFUNCTION</td>
<td>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.</td>
<td>Doctors of medicine who may consult with colleagues in associated disciplines.</td>
</tr>
</tbody>
</table>

The provisions added to IDEA in 2004 regarding the establishment of the NIMAS and the NIMAC built on a 1996 amendment to the U.S. Copyright Act, commonly referred to as the Chafee Amendment (after its chief sponsor, Sen. John Chafee [R-RI]). The Chafee Amendment specifies:

> [I]t 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.\(^\text{13}\)

The Chafee Amendment defines the term “blind or other persons with disabilities” 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 (2 U.S.C. 135a; 46 Stat. 1487) to receive books and other publications produced in specialized formats.”\(^\text{14}\) Eligibility under the Chafee Amendment is therefore also determined based on criteria specified in the LOC’s NLS regulations.\(^\text{15}\)

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\(^{13}\) 17 U.S.C. § 121(a).

\(^{14}\) Id. § 121(d)(2).

\(^{15}\) See supra notes 7-12 and accompanying text.
This paper focuses on the fourth NLS eligibility category, “reading disability resulting from organic dysfunction.” Although this term appears in the LOC regulations, it reflects outdated terminology that is not typically used in current educational practice. The term is also not found in IDEA or the disability civil rights statutes, Section 504 of the Rehabilitation Act of 1973 (Section 504) or the Americans with Disabilities Act (ADA). Consequently, many educators and families are not familiar with the meaning of the term. In particular, questions have arisen with respect to eligibility for materials developed from NIMAS files through the NIMAC for students identified as having a “specific learning disability” under IDEA. The purpose of the present paper is to help clarify the meaning of the fourth NLS eligibility category, “reading disability resulting from organic dysfunction,” in particular in relation to the category of “specific learning disability” under IDEA.

Part I of this paper discusses the LOC’s explanation of the term “reading disability resulting from organic dysfunction.” Part II provides historical background for this term by examining medical and educational research in the years leading up to the publication of the LOC regulations of 1974 (the first time this term was used by the LOC). It will be shown that the term “reading disability resulting from organic dysfunction” emerged in the aftermath of a long history of research focusing on the relation between the brain and learning and behavior. This research helps shed light on the meaning of the words “organic” and “dysfunction.” Part III provides historical background for the incorporation of the term “specific learning disability” into IDEA. It will be shown that while the LOC regulations reflect a medical perspective, the IDEA definition of “specific learning disability” reflects an educational perspective that views medical terminology and etiology as unhelpful in the design of classroom instruction. The paper concludes with a discussion in Part IV of the implications of the difference in perspectives between the LOC regulations and IDEA for the provision of accessible instructional materials by means of NIMAS/NIMAC for students identified as having a “specific learning disability” under IDEA. Ultimately, the adoption of a market-based approach may obviate the challenges associated with the establishment of eligibility criteria to receive materials developed from NIMAS files obtained through the NIMAC. Until such time as a market model is fully realized, the question of eligibility may need to be revisited.

I. Explanation of “Organic Dysfunction” by the LOC

As noted, “An Act to provide books to the adult blind” was originally passed in 1931. Also known as the “Pratt-Smoot Act” after its sponsors Rep. Ruth Pratt (R-NY) and Sen. Reed Smoot (R-UT), this statute established a national library program, under the direction of the Librarian of Congress, to provide books for use by adult blind residents of the United States. The statute was subsequently revised

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16 The term “reading disability resulting from organic dysfunction” does not appear in Section 504 or the ADA; rather, regulations for both statutes use the term “specific learning disabilities.” See 34 C.F.R. § 104.3(j)(2)(ii)(B) (Section 504); 28 C.F.R. § 35.104 (Title II of the ADA). They also both include the term “organic brain syndrome,” which refers to a syndrome characterized by “disorientation for time, place, or person; impaired immediate recall; deficits in recent and remote memory; a weakening of intellectual functions; and defects in grasp and comprehension.” Toni Preston, When Words Fail, 73 AM. J. NURSING 2064, 2064 (1973). This syndrome is often associated with older adults who have difficulty “retaining and reacting to questions and commands.” Id.


several times—for example, in 1952, the program was expanded to include blind children. An amendment enacted in 1966 expanded eligibility to include, not only individuals who were blind, but also “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.” Following the 1966 Amendment to the statute, the LOC issued implementing regulations in 1970 establishing eligibility for the national library program for three categories of disabilities: “legally blind,” “visually handicapped,” and “physically handicapped.”

A. LOC Regulations of 1974

Four years later, in 1974, the LOC issued new regulations, in which a fourth category was added—namely, “persons certified by a 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.” The 1974 regulations also stated that for the first three categories, competent authority was “defined to include doctors of medicine, ophthalmologists, optometrists, registered nurses, therapists, and professional staff of hospitals, institutions, and public or welfare agencies (e.g., social workers, case workers, counselors, home teachers, and superintendents).” For the new, fourth category,
however, a different definition of competent authority was provided—namely, “a doctor of medicine who may consult with colleagues in associated disciplines.” The eligibility categories and the specification of competent authority in the 1974 regulations have remained essentially unchanged since that time.

In publishing the 1974 regulations in the Federal Register, the LOC noted the following: “Under the provisions of [“An Act to provide books for the adult blind”], as amended, the Library of Congress, through its Division for the Blind and Physically Handicapped, provides for the loan of library materials to blind and physically handicapped persons who are eligible. To be eligible, individuals must meet certain criteria set out in Library of Congress regulations.” The LOC further stated—

The Library recently learned that certain of those eligibility requirements [established under the 1970 regulations] used terms which were less than accurate diagnoses of specific conditions, and persons identified as competent to make judgments on eligibility criteria for one specific condition were not so qualified for others. To remedy this situation, the Library sought advice from nationally prominent individuals and institutions regarding authorities competent to judge the physical and organic basis of specific individual disabilities. As a result of that investigation, changes were made in the eligibility requirements.

B. LOC Guidance of 1997

Guidance concerning the meaning of the term “reading disability resulting from organic dysfunction” was provided by the LOC in a document issued in 1997. This document, titled NLS Factsheets: Talking Books and Reading Disabilities, explained that there are three requirements in the LOC regulations for an individual to be certified under the fourth eligibility category:

25 Id. (codified at 36 C.F.R. § 701.10(b)(2)(ii)). The 1970 regulations had included a definition of “competent authority” only for the category of “physically handicapped.” 35 Fed. Reg. 10589 (June 30, 1970) (codified at 44 C.F.R. § 501.10(b)(4)). This definition was virtually identical to the one that was subsequently applied to the first three eligibility categories in 1974. Id. With respect to the category of “legally blind,” the 1970 regulations had specified that the “degree of blindness shall be certified by a duly licensed physician, ophthalmologist, or optometrist.” Id. (codified at 44 C.F.R. § 501.10(b)(1)). With respect to those who were “visually handicapped,” the regulations stated that they were to be “certified as unable to read normal printed material,” but the regulations were silent as to which individuals were permitted to perform such certification. Id. (codified at 44 C.F.R. § 501.10(b)(2)).

26 As noted, minor changes were made to the regulations in 1981. See supra note 23. In 2005, regulation 36 C.F.R. § 701.10 was re-numbered as 36 C.F.R. § 701.6. See 70 Fed. Reg. 36843 (June 27, 2005).

27 The Division for the Blind and Physically Handicapped was re-named the National Library Service for the Blind and Physically Handicapped (NLS) in 1978. See National Library Service for the Blind and Physically Handicapped (NLS), Library of Congress, A History of the National Library Service for Blind and Handicapped Individuals, the Library of Congress, in That All May Read: Library Service for Blind and Physically Handicapped People 65, 156 (1983).


29 Id.

• The reading disability must be of **sufficient severity** to prevent reading regular or standard printed material in a normal manner,
• the cause of the disability must be **physically based**, that is, it must be an organic dysfunction, and
• the person certifying the application must be **medically able** to judge whether the disability has a physical or organic basis.\(^{31}\)

**Reading Disability Must Be of Sufficient Severity**
The first requirement was that the reading disability must be severe enough to prevent the individual from reading regular or standard printed material in a normal manner. This requirement likely derived from the language of the 1966 Amendment, which, as noted, expanded the library program to include individuals who were “unable to read normal printed material as a result of physical limitations.”\(^{32}\)

**Cause of Disability Must Be Physically Based**
The second requirement was that the cause of the reading disability must be physically-based—i.e., the cause must be an organic dysfunction. This requirement also derived from the language of the 1966 Amendment, which extended eligibility for the national library loan program to “physically handicapped readers.”\(^{33}\) In explaining the concept of “organic dysfunction,” the 1997 LOC factsheet made the distinction between “organic” and “nonorganic” factors, noting that “nonorganic factors—such as emotional or environmental causes, intellectual or educational deficiencies … must be ruled out.”\(^{34}\) In addition, the document stated that individuals with learning disabilities “are not automatically eligible for the NLS program … unless there is a specific accompanying visual or **physical handicap**.”\(^{35}\)

**Person Certifying Must Be Medically Able to Judge the Physical or Organic Basis of the Disability**
The third requirement for a “reading disability resulting from organic dysfunction” was that the certifying authority must be medically able to determine whether the disability had a physical or organic basis. The 1997 document explained:

> For most eligible people served by this program, the cause of the inability to read printed material—such as blindness, paralysis, loss of arms or hands, extreme weakness, or palsy—is readily observable. In these cases, professionals in various fields related to healthcare, education, or rehabilitation are acceptable as certifying authorities. With persons classified as reading disabled, usually only the effect is readily apparent. The cause, when physical, lies within the central nervous system, and, under the existing regulation, this cause can be determined only by competent medical authority.\(^{36}\)

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33 *Id.*
34 NLS, 1997 *supra* note 30.
35 *Id.* (emphasis added).
36 *Id.*
Thus, the reason given that only a medical doctor could serve as competent authority in the case of a “reading disability resulting from organic dysfunction” was that the “physical” or “organic” cause of the disability “lies within the central nervous system.” Unlike other disabilities that would be “readily observable,” the existence of a disability in the central nervous system could be determined only by a competent medical authority.

II. Historical Background for the Term “Reading Disability Resulting from Organic Dysfunction”

The present section examines the meaning of the term “reading disability resulting from organic dysfunction” from the standpoint of medical and educational research in the years leading up to the publication of the LOC regulations of 1974. The section begins with a review of early research on the brain in relation to language and reading difficulties dating back to the late eighteenth century and ends with a discussion of the term “minimal brain dysfunction” that was prevalent during the 1960s and 1970s.

A. Early Research on the Brain in Relation to Language and Reading Difficulties

Research on the relationship between the brain and language difficulties can be traced back to the end of the eighteenth and beginning of the nineteenth centuries. At this time, the German physician Franz Joseph Gall devised a new way to dissect the brain that led him to associate different areas of the brain (what he referred to as “organs”) with various intellectual functions, including language. Although Gall’s work with respect to phrenology was controversial and problematic, he is often credited with helping to establish the concept that the brain was the “organ” of the mind. Gall laid the foundation for subsequent European researchers, who focused on the brain in relation to language and reading difficulty.

37 See, e.g., Gunther Opp, Historical Roots of the Field of Learning Disabilities: Some Nineteenth-Century German Contributions, 27 J. LEARNING DISABILITIES 10, 10 (1994).
38 Id.
39 See MacDonald Critchley, Neurology’s Debt to F.J. Gall (1758-1828), 2 BRITISH MED. J. 775, 776-77 (1965).
40 See Robert M. Young, The Functions of the Brain: Gall to Ferrier (1808–1886), 59 ISIS 250, 254 (1968). See also Critchley, supra note 39, at 775; Opp, supra note 37, at 10; Pierre Schlag, Law and Phrenology, 110 HARV. L. REV. 877, 880 n. 15 (1997). Gall’s research called into question the mind-body dualism of Descartes, a philosophy that viewed the mind as separate from the physical body. See ANTONIO R. DAMASIO, DESCARTES’ ERROR: EMOTION, REASON, AND THE HUMAN BRAIN 14, 248, 250 (2000 ed); Young, at 251, 252.
B. Post-World War I Research Focusing on the Effect of “Brain Injury” on Behavior; Emphasis on the Word “Organic”

In the aftermath of an encephalitis outbreak that occurred at the end of World War I, a number of physicians and scientists began to discuss the concept of organicity in relation to behavior changes in post-encephalitic children.42 For example, in 1922, one physician wrote that although the behaviors in these children were typically identified as being purely “functional or psychobiological” (i.e., nonorganic), they were apparently “closely related with the organic alteration.”43 Another early use of the word “organic” can be seen in the work of Eugen Kahn and Louis Cohen, who, in 1934, identified the syndrome “organic drivenness.”44 They explained that the word “organic” denoted “a direct biological source,” while the word “drivenness” suggested an “extreme surplus of energy.”45

Also during these years, the German neurologist Kurt Goldstein conducted longitudinal studies of soldiers who had returned home from World War I with brain injuries.46 Goldstein explained that his patients, who had “cerebral lesions,” had an “organic disorder,” which was distinguishable from “nonorganic disorders” (i.e., “neuroses and psychoses” such as schizophrenia).47 He also frequently used the word the “organism” (the living being) and, in fact, titled his 1939 book The Organism.48 Building on Goldstein’s studies of brain injured soldiers, Alfred Strauss and Heinz Werner, began to examine brain injury in children with “mental retardation,” categorizing these children as “exogenous”—i.e., those believed to have a “brain lesion”—or “endogenous”—i.e., those assumed to have “mental retardation” as a result of hereditary or familial factors.49 Strauss and Werner found that the exogenous group exhibited the same characteristics of “organic behavior disturbance” that Goldstein had observed in brain-injured soldiers.50

In 1947, in the widely cited book titled, Psychopathology and Education of the Brain-Injured Child, Strauss and colleague Laura Lehtinen provided the following definition of a “brain-injured child,” in which they referred to a brain injury as an “organic impairment:”

42 See Paul H. Wender, Minimal Brain Dysfunction in Children 37 (1971).
45 Id. at 749 n. 4. In 1949, Lauretta Bender, a child neuro-psychiatrist and author of the Bender Visual-Motor Gestalt Test, also used the term “organic” to refer to a brain disorder of biological origin. Lauretta Bender, Psychological Problems of Children with Organic Brain Disease, 19 Am. J. Orthopsychiatry 404, 405 (1949). She defined children with “organic brain disease” as those with “biologically determined” brain disorders and found that these children demonstrated problems with behavior in the areas of motor, perceptual, and emotional-social abilities. Id. Unlike Goldstein, Bender included children with schizophrenia in her category of organically- or biologically-based disabilities. Id. at 405, 412.
46 See Hallahan & Mercer, supra note 41, at 8; Kavale & Forness, supra note 41, at 41.
50 Id. at 168-69.
A brain-injured child is a child who before, during, or after birth has received an injury to or suffered an infection of the brain. As a result of such organic impairment, defects of the neuromotor system may be present or absent; however, such a child may show disturbances in perception, thinking, and emotional behavior, either separately or in combination. These disturbances can be demonstrated by specific tests. These disturbances prevent or impede a normal learning process. Special educational methods have been devised to remedy these specific handicaps.\footnote{51}

Strauss and Lehtinen stated that they took a “neurological viewpoint,” according to which the behavior manifestations of brain-injured children were viewed “as the outcome of the brain damage” and not due to “environmental” factors (i.e., were not of a “psychogenic or neurotic origin”).\footnote{52} They also noted that their work focused on “how the brain, the material \textit{organ} of psychological processes, will continue with its functioning … when portions of it are impaired or perhaps destroyed.”\footnote{53} They contrasted the “brain injured \textit{organism}” (i.e., the brain-injured child) with an “intact \textit{organism}” and used the word “organic” throughout to emphasize the existence of a “lesion in the central nervous system.”\footnote{54, 55}

Strauss and Lehtinen also extended their studies to “brain-injured” children who fell within the normal range of intellectual functioning. They noted the existence of “minor … neurological signs” in these children and began to use the term “minor brain damage,” concluding that “[b]ehavior and learning … may be affected by minimal brain injuries without apparent lowering of the intelligence level.”\footnote{56, 57}

In a subsequent work, Strauss and colleague Newell Kephart (1955) focused primarily on the population of children with brain injury in whom intellectual functioning remained at a normal level.\footnote{58} They noted that because traditional neurological examinations were not always able to detect underlying neurological impairment, it may be appropriate sometimes to diagnose “on the basis of functional rather than neurological signs.”\footnote{59} By “functional” signs, Strauss and Kephart were referring to evidence of behavior, even in the absence of positive neurological impairment as determined by a neurological examination and laboratory procedures.\footnote{60} They believed that functional signs were in fact “organic” and indicative of “organic impairment.”\footnote{61}

\footnote{51} \textsc{Alfred A. Strauss \\& Laura E. Lehtinen}, \textit{Psychopathology and Education of the Brain-Injured Child (Vol. I)} 106 (1947) 4 (emphasis added).
\footnote{52} \textit{Id.} at 77; \textit{see also id.} at 86, 93.
\footnote{53} \textsc{Strauss \\& Lehtinen}, \textit{ supra} note 51, at 18 (emphasis added).
\footnote{54} \textit{Id.} at 135 (emphasis added).
\footnote{55} \textit{Id.} at 110. For example, they referred to an “organic lesion,” “organic damage,” and “organic disturbances of behavior.” \textit{Id.} at 131, 135 (emphasis added).
\footnote{56} \textit{Id.} at 108.
\footnote{57} \textit{Id.} at 128.
\footnote{58} \textsc{Alfred A. Strauss \\& Newell C. Kephart}, \textit{Psychopathology and Education of the Brain-Injured Child (Vol. II: Progress in Theory and Clinic)} 2 (1955).
\footnote{59} \textit{Id.} at 42.
\footnote{60} \textit{Id.} at 41.
\footnote{61} \textit{Id.} at 42.
C. Introduction of the Term “Minimal Brain Dysfunction” in the 1960s; Further Clarification of the Words “Organic” and “Dysfunction”

The term “minimal brain dysfunction,” which was prominent during the 1960s and 1970s, is particularly helpful in understanding the meaning of the term “reading disability resulting from organic dysfunction.” One of the leading proponents of the term “minimal brain dysfunction” was Sam D. Clements, a professor of psychiatry at the Child Guidance Clinic at the University of Arkansas Medical Center. In a 1962 article, Clements, together with colleague John Peters, used the term “minimal brain dysfunction” to refer to learning and behavior problems in children that they attributed to “subtle organic and central nervous system deviations.”

They explained that the word “dysfunction” was intended to replace the earlier word “damage” in order to allow “for the possibility of deviation on a genetic basis or on the basis of a central nervous system maturational lag.” It is significant that the 1974 LOC regulations also used the word “dysfunction” rather than “damage.”

Clements and Peters further explained that they viewed impairments in the central nervous system as falling along a continuum and that the word “minimal” was intended to emphasize “mild” or “slight” deviations. In highlighting the existence of “subtle” organic deviations, Clements and Peters were referring to what they also called “soft” neurological signs. Unlike hard signs, which provided clear evidence of impairment in the central nervous system, soft signs identified during a neurological examination were “borderline” and more “equivocal” in nature and were often overlooked. Thus, the concept of “organicity” was understood to refer not only to “grossly obvious” signs of neurological impairment, but also to “subtle organic deviations” of the central nervous system.

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62 Sam D. Clements & John E. Peters, Minimal Brain Dysfunctions in the School-Age Child, 6 ARCHIVES OF GENERAL PSYCHIATRY 185, 185 (1962).
63 Id. at 187 (emphasis in the original). In 1957, Lauretta Bender explained that the concept of maturational lag “is based on a concept of functional areas of the brain and of personality which maturate according to a recognized pattern longitudinally. A maturational lag signifies a slow differentiation in this pattern. It does not indicate a structural defect, deficiency, or loss.” Lauretta Bender, Specific Reading Disability as a Maturational Lag: Problems in Conceptualization and Communication in Children with Developmental Alexia, 13 ANNALS OF DYSLEXIA 25, 30 (1957).
64 Clements & Peters, supra note 62, at 192, 194. In 1959, psychiatrists Hilda Knobloch and Benjamin Pasamanick, of Ohio State University, used the term “minimal cerebral damage” to describe “minor but clearly defined deviations from the normal neurological and behavioral developmental patterns....” Hilda Knobloch and Benjamin Pasamanick, Syndrome of Minimal Brain Damage in Infancy, 170 J. AM. MED. ASS’N 1384, 1384 (1959).
65 Clements & Peters, supra note 62, at 191. The first person to refer to “soft neurological signs” was Lauretta Bender who, in a 1947 article, used the term in relation to children with schizophrenia. See Lauretta Bender, Childhood Schizophrenia: Clinical Study of one Hundred Schizophrenic Children 17 AM. J. ORTHOPSYCHIATRY 40, 45 (1947).
66 Clements & Peters, supra note 62, at 186, 196. See also David E. Tupper, The Issues with “Soft Signs,” in SOFT NEUROLOGICAL SIGNS 1, 2-3 (David E. Tupper, ed., 1987). The view of Clements and Peters was similar to that of Strauss and Lehtinen who, as noted above, had used the terms “minimal” and “minor” to describe mild neurological impairment in children without lower intellectual functioning, as well as that of Strauss and Kephart who had focused their work primarily on this population of children. See supra notes 56-58 and accompanying text.
67 Clements & Peters, supra note 62, at 196.
In discussing the concept of minimal brain dysfunction, Clements and Peters emphasized the importance of identifying the “organic etiology” of the learning and behavior problems of the child. At the same time, they were critical of what they perceived as an artificial divide that had developed between a purely organic and a purely psychogenic approach, noting that “in the usual child guidance clinic evaluation ... a wide and false dichotomy has placed most workers in the position of being able to think in terms of only psychogenesis or only organicity.” They referred to the tendency to ignore “organic etiology unless it is grossly obvious” and “to assume psychogenicity when no easily recognizable organic deviation can be found in the child.”

Clements and Peters also commented on the relationship between central nervous system dysfunction and reading disabilities. They noted that a reading disability based on nonorganic factors was rare, stating “that pure psychogenic reading disability ... is an unusual entity. We cannot accept alleged traumatic experiences, methods of teaching, or ‘emotional blocking’ ... as sole causes of reading disability. If the brain substrate essential for reading is intact and sufficiently mature, a child adequately exposed to reading will learn to read normally just as he matures to the point of walking normally.” On the other hand, they had “no difficulty in accepting the proposition that mild brain deviation in combination with emotional factors, traumatic experiences, etc., can lead to various degrees of reading problems.”

The explanation of Clements and Peters regarding “minimal brain dysfunction” is helpful in understanding the meaning of the LOC term “reading disability resulting from organic dysfunction.” Similar to Clements and Peters, the LOC (in 1974 and 1997) emphasized organic etiology (i.e., the LOC indicated that the reading disability must have an “organic basis” and that “the cause, when physical, lies within the central nervous system”). In addition, as noted, the LOC used the word “dysfunction” rather than “damage.” At the same time, it is significant that the LOC did not include the word “minimal,” considered important by Clements and Peters to refer to a disability characterized by “subtle” organic deviations. Clements and Peters rejected the artificial dichotomy between a purely organic and purely psychogenic approach and pointed out that a reading disability based on purely nonorganic factors was rare. In its 1997 factsheet, the LOC stated that a medical doctor was required to be the certifying authority in order to attest to the organic basis of the disability and to rule out “nonorganic factors—such as emotional or environmental causes, intellectual or educational deficiencies.” It is not clear from this language whether the LOC was following the purist point of view, rejected by Clements and Peters, that only organic deviations that were “grossly obvious” (i.e., based on hard signs) were necessary, or whether the LOC supported a broader notion of dysfunction that encompassed a range of central nervous system deviations, including those considered “subtle.”

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68 Id.
69 Id.
70 Id.
71 Id. at 185.
72 Clements & Peters, supra note 62, at 192-93.
73 Id. at 193.
74 See supra note 29 and accompanying text.
75 See supra note 36 and accompanying text.
76 See supra note 34 and accompanying text.
III. Historical Background for the Incorporation of the Term “Specific Learning Disability” into IDEA

The present section traces the origin of the term “specific learning disability,” as incorporated into the 1975 Education for All Handicapped Children Act (EAHCA), the precursor to IDEA. An examination of this process is helpful in understanding more fully the medical focus of the LOC regulations as compared to the educational focus of IDEA.

A. Initial Definition of the Term “Learning Disabilities” by Kirk (1962 and 1963)

In 1962, Dr. Samuel Kirk, a professor of special education at the University of Illinois, defined the term “learning disability” as follows:

>A learning disability refers to a retardation, disorder, or delayed development in one or more of the processes of speech, language, reading, spelling, writing, or arithmetic resulting from a possible cerebral dysfunction and/or emotional or behavioral disturbance and not from mental retardation, sensory deprivation, or cultural or instructional factors.  

It is significant that this definition de-emphasized the concept of organic etiology by stating that a learning disability may result from “possible” cerebral dysfunction. The emphasis was placed on the first part of the definition—namely, a disorder that affects one or more processes of speech, language, reading, etc. Cerebral dysfunction was secondary and did not need to be demonstrated; it was possibly, but not necessarily, a cause of the disorder. Kirk’s initial definition also included the phrase “and/or emotional or behavioral disturbance” as a possible cause and excluded disabilities resulting from “cultural or instructional factors.”

One year later, in 1963, in a speech before a group of parents, Kirk used the term “learning disabilities.” He questioned the usefulness of medical labels such as “brain injury, minimal brain damage, cerebral palsy, cerebral dysfunction, organic drivenness, organic behavior disorders, psychoneurological disorders, and a host of other terms.” He noted that although medical professionals try to “explain the behavioral manifestations [of children with learning and behavior problems] by finding the correlated brain dysfunction,” from an educational standpoint, there is no need to focus on “concepts relating to etiology of brain injury or cerebral dysfunction.” Rather,

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77 Samuel A. Kirk, Educating Exceptional Children 263 (1962), quoted in Kavale and Forness, supra note 41, at 59.
78 The definition of “specific learning disability” that was ultimately incorporated into IDEA also excluded learning problems resulting from emotional disturbance or environmental, cultural, or economic disadvantage. See infra note 117 and accompanying text.
80 Id. at 7.
81 Id. at 8.
educators need to be concerned “with the behavioral manifestations themselves and with the methods of management and training of the deviations in children.”

Thus, Kirk intentionally moved away from the emphasis in earlier research on organic causation as the basis of a diagnosis, arguing that such an emphasis was not relevant to a determination of educational programming to help ameliorate the child’s learning challenges.


The distinction between the medical term “minimal brain dysfunction” and the educational term “learning disabilities” became clearly evident in reports issued by two federal task forces in the mid-1960s that were convened to address the subject of the “Child with Minimal Brain Dysfunction.”

Task Force I consisted mainly of medical professionals, including Clements. In its report published in 1966, Task Force I provided the following definition of the term “minimal brain dysfunction,” which was consistent with Clements’ earlier work:

The term “minimal brain dysfunction syndrome” refers in this paper to children of near average, average, or above average general intelligence with certain learning or behavioral disabilities ranging from mild to severe, which are associated with deviations of function of the central nervous system. These deviations may manifest themselves by various combinations of impairment in perception, conceptualization, language, memory, and control of attention, impulse, or motor function.

Emphasizing the range of neurological impairment from mild to severe, Task Force I also stated: “Brain dysfunction can manifest itself in varying degrees of severity ... The term minimal brain dysfunction will be reserved for the child whose symptomatology appears in ... mild, borderline, or subclinical form....”

Also similar to Clements’ earlier work, Task Force I emphasized the importance of identifying the role played by organicity, but pointed out that although organicity is often acknowledged as a contributing factor to “minimal brain dysfunction,” “it is frequently ignored ... unless it is grossly obvious.”

82 Id.
83 See SAM D. CLEMENTS, MINIMAL BRAIN DYSFUNCTION IN CHILDREN: TERMINOLOGY AND IDENTIFICATION, PHASE ONE OF A THREE-PHASE PROJECT [NINDB Monograph No. 3; Pub. Health Serv. Publication No. 1415], at 3 (1966) [hereinafter TASK FORCE I REPORT, 1966]. The charge of Task Force I was to focus on terminology and identification, while that of Task Force II was to address services. Id. There was also a third task force that focused on research. Id. Task forces I and III were co-sponsored by the Easter Seal Research Foundation of the National Society for Crippled Children and Adults, Inc. and the National Institute of Neurological Diseases and Blindness of the National Institutes of Health. Task Force II was co-sponsored by the above organizations in cooperation with the Office of Education. Id.
84 Id. at 3-4.
85 Id. at 9-10.
86 Id. at 9 (emphasis added).
87 Id. at 6.
88 TASK FORCE I REPORT, supra note 83, at 6.
other words, unless there are hard neurological signs, the organic basis for the condition is ignored. Task Force I labeled this view as “purist,” according to which “[b]rain dysfunctioning can only be inferred [when] physiologic, biochemical, or structural alterations of the brain are demonstrated” (i.e., hard signs). Such an approach was contrasted with the “pragmatic” view, according to which behavioral manifestations were recognized as representative of “neurologic signs of a most meaningful kind.”

The pragmatic viewpoint posited: “We cannot afford the luxury of waiting until causes can be unquestionably established by techniques yet to be developed.”

While Task Force I consisted primarily of medical professionals, Task Force II was comprised mainly of educational professionals. One of the members of Task Force II was Barbara Bateman, a former student of Samuel Kirk. The report of Task Force II discussed the problems associated with the use of the medical term “minimal brain dysfunction” in an educational context: “The term minimal brain dysfunction is an overall diagnostic term … However the existence of an underlying brain dysfunction is in most instances implied rather than proven. For this reason there are many—especially those involved in the education of children—who prefer to highlight the major problem and to use the term Learning Disabilities.”

In its report, Task Force II emphasized differences in the purpose of a medical and educational diagnosis as well as the terminology used by the two disciplines. Stating that it was uncomfortable operating within a medical framework, Task Force II noted that a school’s responsibility to a child exhibiting learning problems had always been to educate the child “regardless of the etiology of the child’s problem.” In addition, identification of the learning disability for the purposes of teaching and

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89 Id. The task force described the “purist” approach in the context of discussing the debate between organicity and the environment. Id. Organicity was defined to include “all factors which originate in or are inherent in pathology, including genetic variations, biochemical irregularities, perinatal brain insults, or the results of illnesses and injuries sustained during the years critical for the normal development and maturation of the central nervous system.” Id. The environment was described as “all factors related to the normal life experiences inherent in the social-economic-cultural milieu of the individual, his interpersonal relationships, and his personal psychological traumata and stresses.” Id.

90 TASK FORCE I REPORT, supra note 83, at 6.

91 Id. at 6-7.

92 MINIMAL BRAIN DYSFUNCTION IN CHILDREN: EDUCATIONAL, MEDICAL, AND HEALTH RELATED SERVICES, PHASE TWO OF A THREE PHASE PROJECT (N&SDCP MONOGRAPH; PUB. HEALTH SERV. PUBLICATION NO. 2015), at vi (Norris G. Haring, ed. 1969) [hereinafter TASK FORCE II REPORT, 1969].

93 Id.

94 Id. at iii.

95 Norris G. Haring & Barbara D. Bateman, Introduction, in TASK FORCE II REPORT, 1969, supra note 92, at 1. Citing Task Force I, Task Force II pointed out that from a medical perspective, the purpose of a diagnosis was to provide the physician with information relevant to remedying or preventing factors causing the disease or injury, whereas from an educational perspective, the purpose of a diagnosis was to identify and assess the learning disability of the child in order to provide appropriate instruction and training. Id.

96 Id. at 2.

97 Laura Lehtinen Rogan & Jean E. Lukens, Education, Administration, and Classroom Procedures, in TASK FORCE II REPORT, 1969, supra note 92, at 21-22. Task Force II similarly stated that “etiological factors may or may not be related to education programming.” Id. at 28.
remediation could be done successfully “without any reference to associations with functional deviations of the central nervous system” and “with or without positive neurological signs.” Moreover, the requirement that the diagnosis be based on positive neurological signs might lead to delay in or preclude necessary instruction and remediation. Thus, while Task Force I indicated that soft neurological signs were sufficient for a diagnosis, Task Force II did not want to require either hard or soft signs.

Unable to reach consensus on a single definition for the term “learning disabilities,” Task Force II proposed two definitions. Both stated that children with learning disabilities “may or may not show demonstrable deviation in central nervous system functioning.” Task Force II pointed out that the terminology used by different states at the time varied considerably, with only some states requiring direct evidence of central nervous system dysfunction.

It was also noted that although school administrators may have had “awareness of a possible relationship between minimal brain damage and learning difficulties,” they did not necessarily have in place specific educational programming that was based on a medical diagnosis of central nervous system deviations. Ultimately, the group questioned the “usefulness to the schools of a medical diagnosis as a basis for instructional grouping” and recommended that the legal structure of special education be reorganized to replace the emphasis on “etiology-based groupings.”


Also in the late 1960s, in addition to task forces I and II, the National Advisory Committee on Handicapped Children (NACHC) was convened by the U.S. Office of Education to examine the status of educational programs for students with disabilities and to make recommendations for improvements to such programs. In its first annual report in 1968, the NACHC, chaired by Samuel Kirk, proposed the following definition of learning disabilities that was consistent with Kirk's earlier definition:

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98 Haring & Bateman, supra note 95, in TASK FORCE II REPORT, 1969, supra note 92, at 2.
99 Id.
100 Id. at 3. The first definition stated, “Children with learning disabilities are those (1) who have educationally significant discrepancies among their sensory-motor, perceptual, cognitive, academic, or related developmental levels which interfere with the performance of educational tasks; (2) who may or may not show demonstrable deviation in central nervous system functioning; and (3) whose disabilities are not secondary to general mental retardation, sensory deprivation, or serious emotional disturbance.” Id. at 2-3. In contrast, the second definition stated, “Children with learning disabilities are those (1) who manifest an educationally significant discrepancy between estimated academic potential and actual level of academic functioning as related to dysfunctioning in the learning process; (2) may or may not show demonstrable deviation in central nervous system functioning; and (3) whose disabilities are not secondary to general mental retardation, cultural, sensory, and/or educational deprivation or environmentally produced serious emotional disturbance.” Id. at 3.
101 Rogan & Lukens, supra note 97, in TASK FORCE II REPORT, 1969, supra note 92, at 21.
103 Rogan & Lukens, supra note 97, in TASK FORCE II REPORT, 1969, supra note 92, at 22.
104 Id. at 24.
105 Id. at 30.
106 See U.S. OFFICE OF EDUCATION, DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, SPECIAL EDUCATION FOR HANDICAPPED CHILDREN: THE FIRST ANNUAL REPORT OF THE NATIONAL ADVISORY COMMITTEE ON HANDICAPPED CHILDREN 1 (1968) [hereinafter NACHC Report, 1968]. The NACHC had been created under Title VI of the Elementary and Secondary Education
Children with special [specific] learning disabilities exhibit a disorder in one or more of the basic psychological processes involved in understanding or in using spoken or written languages. These may be manifested in disorders of listening, thinking, talking, reading, writing, spelling or arithmetic. They include conditions which have been referred to as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, developmental aphasia, etc. They do not include learning problems which are due primarily to visual, hearing, or motor handicaps, to mental retardation, emotional disturbance, or to environmental disadvantage.\(^\text{107}\)

In recommending the above definition, the NACHC pointed out that “traditional categories under which special education programs have been organized tend to employ medical rather than educational terminology ... [and] often do not correspond to the types of programs required to meet the educational needs of the child.”\(^\text{108}\) The NACHC further noted that from “an educational standpoint,” it is necessary to identify children with learning disabilities based on a “psychological and educational diagnosis.”\(^\text{109}\) Thus, similar to Task Force II, the NACHC rejected an emphasis on medical etiology as being unhelpful for the development of educational programming.

In 1970, a definition of the term “children with specific learning disabilities” very similar to that proposed by the NACHC was incorporated into federal education legislation under Title VI of the Elementary and Secondary Education Amendments of 1970.\(^\text{110}\) At the time, “specific learning disabilities” was not recognized as a formal category; rather, Part G of Title VI authorized the awarding of discretionary grants to support research programs, professional training programs, and model centers for the benefit of children with specific learning disabilities.\(^\text{111}\) Subsequently, with the passage of the Education for All Handicapped Children Act of 1975 (EAHCA), the precursor to IDEA, “specific learning disabilities” was made into a formal category with respect to eligibility for services.\(^\text{112}\) In 1977, the U.S. Department of Education finalized the definition, which has remained essentially unchanged since that time.\(^\text{113}\)


\(^{108}\) NACHC Report, 1968, supra note 106, at 34.

\(^{109}\) Id. at 33.

\(^{110}\) Id. at 34.

\(^{111}\) Elementary and Secondary Education Amendments of 1970 (Elementary and Secondary Education Assistance Programs, Extension), Pub. L. No. 91-230, Title VI, § 602(15), 84 Stat. 121, 177 (1970). Title VI was titled the “Education of the Handicapped Act.”

\(^{112}\) Id., Title VI, § 661, 84 Stat. 121, 187-88.

\(^{113}\) See Pub. L. No. 94-142, §§ 602(1), 602(15), 620(b)(4)(A), 89 Stat. 773, 775, 794 (1975). The EAHCA modified the definition of “children with specific learning disabilities” slightly by adding to the list of learning problems that are not included, as follows: “cultural, or economic.” Id., § 602(15), 89 Stat. 773, 775.

D. Current Definition of “Specific Learning Disability” under IDEA

Definition of “Specific Learning Disability” under IDEA at 20 U.S.C. § 1401 (30)

Specific Learning Disability.
  (A) In general. The term ‘specific learning disability’ means a disorder in 1 or more of the basic psychological processes involved in understanding or in using language, spoken or written, which disorder may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations.
  (B) Disorders included. Such term includes such conditions as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia.
  (C) Disorders not included. Such term does not include a learning problem that is primarily the result of visual, hearing, or motor disabilities, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantage.

The definition of “specific learning disability” that was incorporated into the EAHCA in 1975 and the category of “reading disability resulting from organic dysfunction” that was included in the LOC regulations in 1974, although passed within one year of each other, reflected different perspectives and followed different trajectories. The EAHCA definition (ultimately the IDEA definition) reflects the perspective of educators such as Kirk and Bateman, whereas the LOC regulations were more consistent with the perspective of medical professionals such as Clements. While the IDEA definition of “specific learning disability,” similar to the LOC regulations, excludes “a learning problem that is primarily the result of ... emotional disturbance, or of environmental, cultural, or economic disadvantage,” the IDEA definition does not focus on organic etiology and, in fact, does not use the words “organic” or “physical” at all. The presence or absence of organic causation, the educators believed, had no bearing on the kind of instruction that should be provided. Moreover, although the IDEA definition includes disorders such as “brain injury” and “minimal brain dysfunction,” which prior researchers had used to refer to deviations in central nervous system functioning, there is no requirement for certification of central nervous system dysfunction by a doctor, or anyone else, as a prerequisite for eligibility under the category of “specific learning disability” of IDEA. Rather, determination of eligibility under IDEA is made by a student’s special education team, based on the results of a comprehensive evaluation conducted by school personnel.114 In contrast, the LOC regulations require certification by a medical authority because it was believed that the organic dysfunction in the central nervous system would not be visibly apparent.115 The fact that the LOC regulations refer to “reading disability”—an established term used by researchers in the field of reading for many decades—rather than the newer educational term of “learning disability,” is further evidence of the different paths taken by the LOC regulations and the definition of “specific learning disability” under IDEA.116

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115 See supra note 36 and accompanying text.
116 During the 1970s, some tension had arisen between those in the field of “reading disability” and those promoting the more recent concept of “learning disability.” The “reading disability” group did not know how to react to the new category of “learning disability.” Concerns included the heterogeneous nature of the learning disability population; the roles and responsibilities of various personnel, including reading specialists; and the development of appropriate plans for treatment. See ALBERT J. HARRIS & EDWARD R. SIPAY, HOW TO INCREASE READING
IV. Implications of the Differing Perspectives of the LOC Regulations and IDEA for the Provision of NIMAS/NIMAC Materials to Students with Learning Disabilities

Superimposing the medically based LOC framework on the educationally based framework of IDEA has resulted in confusion for educators and families. As noted, the term “reading disability resulting from organic dysfunction” does not appear in IDEA, Section 504, or the ADA, and is not used in current educational practice. These words reflect outdated terminology used primarily by medical researchers such as neurologists and psychiatrists in the 1960s and 1970s. In particular, challenges occur in relation to eligibility for students with learning disabilities for materials developed from NIMAS files obtained through the NIMAC. Under IDEA, students with disabilities who need accessible instructional materials in order to receive a free appropriate public education (FAPE) and to be involved with and progress in the general education curriculum must be provided these materials in a timely manner. Yet, only those students who meet the eligibility criteria of the LOC regulations are able to receive materials developed from NIMAS files through the NIMAC. Consequently, some students with disabilities who are entitled to receive accessible instructional materials under IDEA, but who have not been found eligible under the LOC criteria, will not be able to receive these materials through NIMAS/NIMAC.

The U.S. Department of Education’s implementing regulations to IDEA state that SEAs and LEAs are not relieved of their “responsibility to ensure that children with disabilities who need instructional materials in accessible formats, but are not included under [the eligibility criteria for NIMAS/NIMAC], or who need materials that cannot be produced from NIMAS files, receive those instructional materials in a timely manner.” OSEP has clarified that, for these students, SEAs and LEAs “must obtain the [accessible instructional] materials from other sources.” The problem, however, is that it is difficult and expensive for SEAs and LEAs to provide accessible instructional materials in ways other than through NIMAS/NIMAC. As a result, some students with learning disabilities may not be able to receive the materials they need in a timely manner. This outcome is unfortunate, given that the NIMAS/NIMAC provisions were included in IDEA in 2004 for the purpose of improving the delivery of accessible instructional materials to students with disabilities who are in need of such materials.


As noted earlier, regulations for Section 504 and the ADA do not use the term “reading disability resulting from organic dysfunction” but, rather, refer to the term “specific learning disabilities.” See supra note 16.


It is to be noted that in the more than 35 years since the passage of the LOC regulations in 1974 and the enactment of the EAHCA in 1975, research has evolved considerably. By the late 1980s, medical researchers began to move away from use of the term “organic” because of criticism of the artificial distinction between “organic” and “non-organic” disorders. Such researchers, for example, discussed the “gradual disintegration of the distinction between some of the disorders that were considered functional and those disorders considered organic” and argued that “the term ‘organic’ raises serious and intractable problems, since the connotative meaning of the term always returns to its historical roots, which imply an outmoded functional/structural, psychological/biological, and mind/body dualism.”

In 1994, the American Psychiatric Association’s DSM-IV removed the previously included category of “organic mental disorders” because the “accumulating knowledge about the biological factors that contribute to the traditionally nonorganic mental disorders has made this ‘organic’ versus ‘nonorganic’ dichotomy foolish and obsolete.”

Medical professionals today do not typically make the distinction, referred to by Goldstein, Strauss and Lehtinen, Clements, and others, between “organic” and “psychogenic” disorders.

Moreover, significant advancements in neuroimaging technology have occurred since the 1970s, including use of position emission tomography (PET), single photon emission computed tomography (SPECT), and functional magnetic resonance imaging (fMRI). Improvements have also been made in other areas of technology—for example, computerized electroencephalographic (EEG) recordings.

Studies utilizing the above techniques have begun to demonstrate irregularities in the brain functioning of children with learning disabilities, in particular those with reading disabilities. Research has also

124 The World Health Organization International Classification of Diseases (ICD-10) still uses the term “organic” in relation to “mental disorders.” The ICD-10, however, is currently in the process of revision, and some have urged that the term “organic” be removed as part of this process. See, e.g., Jose-Alberto Palma, The Persistence of the “Organic” Problem, 23 J. NEUROPSYCHIATRY CLINICAL NEUROSCI. 9E (2011).
127 The majority of technological studies examining the neurological basis of learning disabilities have focused on dyslexia. The term dyslexia is sometimes used interchangeably with reading disability. See Bigler, Lajiness-O’Neill, & Howes, supra note 126, at 67, 79. See also, e.g., Usha Goswami, Reading, Dyslexia, and the Brain, 50 EDUC. RES. 135, 141-46 (2000); Jane Joseph, Kimberly Noble, & Guinevere Eden, The Neurobiological Basis of Reading, 34 J. LEARNING DISABILITIES 566, 568-77 (2001); Sally E. Shaywitz & Bennett A. Shaywitz, Reading Disability & the Brain 61 EDUC. LEADERSHIP 7, 8 (2004).
began to show genetic influences on learning disabilities. The definition of learning disabilities put forth by the National Joint Committee on Learning Disabilities (NJCLD) in 1981 states that such disabilities “are intrinsic to the individual and presumed to be due to the central nervous system.”

It is significant that Learning Ally (formerly Recording for the Blind & Dyslexic, or RFB&D) and Bookshare, two major accessible media producers (AMPs) that convert instructional materials into student-ready specialized formats, believe that the LOC regulations can be interpreted to mean that students with learning disabilities do not have to be certified by a medical doctor because of the now generally accepted physiological basis of learning disabilities. Both organizations allow students with learning disabilities to be certified by individuals who may serve as competent authority for the category of “physical limitations,” including school personnel such as a special education teacher or a school psychologist. In discussing this approach, a representative from Learning Ally made the following statement: “We have certainly taken the position that certain students with learning disabilities qualify under the physical limitations clause based on our understanding from the research that learning disabilities are based on physiological impairments.”

The American Association of Publishers (AAP) has also commented on the disability category “reading disability resulting from organic dysfunction.” Referencing the legislative history of the Chafee Amendment, the AAP has stated that Congress intentionally limited the scope of this amendment to serve the needs of a specific population of individuals with disabilities that did not represent a “viable commercial market” for the publishing community. Accordingly, the copyright exemption would not result in economic hardship for publishers. The AAP has similarly stated that “the Chafee Amendment only addresses the needs of individuals with print disabilities based on some physical or organic dysfunction—i.e., its narrow focus does not address ‘learning disabilities’ as defined under [IDEA].”

131 See Learning Ally, supra note 130; Bookshare, supra note 130.
133 See Comments from Allan Adler, Vice President for Legal & Government Affairs, Association of American Publishers to the Office of Policy and International Affairs, U.S. Copyright Office, in Response to Notice of Inquiry on Facilitating Access to Copyrighted Works for the Blind or Persons with Other Disabilities 8 (Apr. 21, 2009) [hereinafter AAP, 2009].
134 Id. (noting that the inclusion of individuals with learning disabilities—a large, heterogeneous group—would extend the reach of Chafee from the intended few hundred thousand beneficiaries to millions of individuals and would create an economic burden for publishers).
At the same time, the AAP has acknowledged practical implementation challenges that have emerged in the years since the passage of the Chafee Amendment, noting—

Definitional limitations on the applicability of the Chafee Amendment, which have generated a number of practical implementation issues in the field since the exemption was first enacted, are now producing more complicated issues as government authorities and advocacy groups raise their goals and seek to meet the educational needs of a much broader population of students with diverse ‘learning disabilities’ by fully utilizing the capabilities of new digital technologies. 136

Similarly, the AAP has pointed out that changing perspectives on disability, coupled with technological advances, have called into question the underlying assumptions of the regulatory approach of the Chafee Amendment.137, 138 The AAP has further noted that the regulatory approach of Chafee may, in fact, be serving to delay the introduction of a market-based approach.139

According to a market-based model, publishers would compete with each other to develop their own versions of accessible instructional materials, including works that are universally designed. Implementation of a full market-based approach for accessible instructional materials would ultimately render the need to establish eligibility criteria for receipt of NIMAS-based materials through the NIMAC obsolete. A market-based approach has the potential to benefit all students, both with and without disabilities. Because attainment of the goal of a full market model is likely far in the future, however, the question of eligibility for accessible instructional materials developed from NIMAS files obtained through the NIMAC may need to be revisited.

**Conclusion**

This paper has shown that use of the term “reading disability resulting from organic dysfunction” in the 1974 LOC regulations occurred following a long history of research that used the word “organic” to refer to a biological impairment in the central nervous system that was not the result of emotional or environmental (i.e., nonorganic) factors. In the years since the passage of the LOC regulations in 1974, medical professionals have largely moved away from the distinction between “organic” and “psychogenic” conditions. In addition, technological advances have begun to show irregularities in the brain images of children with learning disabilities, in particular those with reading disabilities.

While the term “reading disability resulting from organic dysfunction” in the LOC regulations reflects a medical perspective and requires certification by a medical doctor, the definition of “specific learning disability” under IDEA grew out of an educational perspective that rejected the use of medical terminology and etiology as unhelpful in an educational context. Determination of eligibility for a “specific learning disability” under IDEA is made by a special education team, based on the results of a comprehensive evaluation conducted by school personnel. IDEA does not require certification by a

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136 Id. at 2.
137 For example, the AAP has taken the position that “digital talking books,” which the AAP acknowledges are currently the “preferred choice among specialized formats,” were not envisioned at the time of the enactment of the Chafee Amendment to be part of the copyright exemption. AAP, 2009, supra note 133, at 8.
138 Id. at 7.
139 Id. at 8-9.
medical doctor for eligibility with respect to “specific learning disability.” At the same time, the definition of “specific learning disability” under IDEA excludes learning problems that are primarily the result of emotional, environmental, cultural, or economic factors, as do the LOC regulations.

The use of outdated terminology in the LOC regulations and the difference in perspectives between the LOC regulations and IDEA has led to confusion on the part of educators and families with respect to the eligibility of students with learning disabilities for materials developed from NIMAS files through the NIMAC. Some students with learning disabilities who are entitled to receive accessible instructional materials under IDEA may not be found eligible to receive these materials through NIMAS/NIMAC. Although SEAs and LEAs are obligated to ensure that these students receive the accessible materials they need in a timely manner, the provision of accessible materials in ways other than through NIMAS/NIMAC is difficult.

Both Learning Ally and Bookshare, two major AMPs, believe that the LOC regulations can be interpreted to mean that because of the physiological basis of learning disabilities, students with learning disabilities may be certified by any competent authority that is permitted under the category of “physical limitations,” including special education teachers or school psychologists. States have also been struggling with the implementation of the LOC criteria in the context of IDEA.

The AAP has argued that, in drafting the Chafee Amendment, Congress intentionally limited the beneficiary population and did not include all individuals with learning disabilities in order to avoid an economic hardship for publishers. At the same time, the AAP has also acknowledged that evolving perspectives on disability and new technological advances challenge the underlying assumptions of the regulatory approach of the Chafee Amendment. The AAP has further raised the question of whether Chafee, in fact, serves to delay the introduction of a market-based approach.

Under a market-based model, publishers would compete with each other to develop their own versions of accessible instructional materials, including works that are universally designed. Such an approach would obviate the need to establish eligibility criteria for students to receive materials through NIMAS/NIMAC and has the potential to benefit all students, both those with and those without disabilities. While the implementation of a market-based model may ultimately be the best solution, because such an approach is likely far off in the future, it may be necessary to revisit the question of eligibility for materials developed from NIMAS files through the NIMAC.