

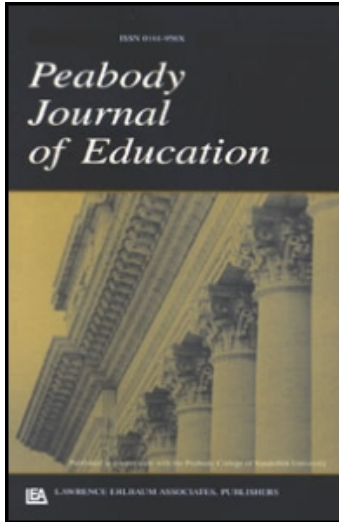
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### Opportunities and Options for Facilitating and Evaluating Access to the General Curriculum for Students With Disabilities

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# Opportunities and Options for Facilitating and Evaluating Access to the General Curriculum for Students With Disabilities

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Federal regulations concerning the development and implementation of alternate assessments based on modified achievement standards include a set of safeguards intended to ensure that eligible students have access to grade-level general curriculum. These regulations concerning curricular access and opportunity to learn for students with disabilities may prove difficult for educational researchers and policymakers to operationalize and evaluate. This article provides a historical and policy context for efforts to ensure curricular access. In addition, this article reviews research on potential indicators of (or ways of measuring) access to the general curriculum and opportunity to learn. Finally, best practices for facilitating and evaluating access to the general curriculum are discussed.

To create additional flexibility in measuring the achievement of certain students with disabilities, the U.S. Department of Education introduced changes to regulations under the No Child Left Behind Act and the Individuals with Disabilities Education Act (IDEA) in April 2007. These changes permitted states to (a) create modified achievement standards and (b) develop aligned achievement tests that are challenging “for a small group of students whose disability has prevented them from achieving grade-level proficiency and who likely will not reach grade-level achievement in the same timeframe as other students” (U.S. Department of Education, 2007). These aligned achievement tests, or alternate assessments based on modified academic achievement standards (AA-MAS), must measure a student’s mastery of grade-level content but may be less difficult than the general large-scale assessments administered by the state. In response to the AA-MAS guidelines, states will be expected to account for the ways in which they provide participating students with access to the general curriculum. In this article, we look at the ways access to the general curriculum has been defined and review the concepts’ historical, legislative, and legal foundations. Building on this information, we consider possible components of

students' educational experiences that might be examined to determine whether students who are eligible for an AA-MAS have had access and opportunity to learn the skills and concepts outlined in grade-level content standards.

Providing students with disabilities with access to the general curriculum is one of the central objectives of the new AA-MAS policy. In fact, one potentially high-impact feature of the new AA-MAS guidelines are a set of safeguards intended to ensure that eligible students have access to grade-level content standards. For example, the regulations concerning AA-MAS indicate "the [Individualized Education Program (IEP)] of a student assessed on the modified academic achievement standards include(s) IEP goals that are based on the academic content standards for the grade in which the student is enrolled, and (is) designed to monitor the student's progress in achieving the student's standards-based goals" (§200.1(f)(2)(ii)(A,B)). Similarly, the regulations include language that suggests educators must ensure that students who take an AA-MAS have "access to the curriculum, including instruction, for the grade in which (they are) enrolled" (§200.1(f)(2)(iii)). Furthermore, these regulations concerning the necessity of providing standards-based IEPs and access to the general curriculum for students with disabilities also appear to re-introduce a concept—opportunity to learn (OTL)—that, despite its attractiveness, has proven hard for educational researchers and policymakers to operationalize and evaluate. OTL is intended to describe what is "taking place in schools and classrooms to support students' learning and progress, particularly relative to new expectations for student performance" (Herman, Klein, & Abedi, 2000, p. 16). In this article, we take a closer look at OTL as a concept and discuss legal cases and legislation that have articulated OTL within the context of school reform and special education.

### LEGISLATIVE AND LEGAL FOUNDATIONS FOR CURRICULAR ACCESS AND OTL

Achieving universal opportunity to learn and curricular access have been important considerations and long-standing goals in educational reform. A number of judicial rulings as well as federal legislation have created a foundation for these efforts (see Table 1). For example, in 1954, the *Brown v. Board of Education* decision publicly acknowledged that the existence of segregated schools and education facilities create conditions that were inherently unequal, implying that African American students often did not receive the same access and opportunities as their White peers.

One of the first cases to explicitly consider the concepts of curricular access and OTL was *Debra P. v. Turlington* (1981). This case concerned achievement tests administered in Florida high schools, which students were expected to pass to obtain a diploma. In the *Debra P.* case, African American students who had failed these achievement tests challenged that the assessments were racially biased, given without adequate notice, and designed to re-segregate African American students into low-quality remedial programs (Buckendahl & Hunt, 2005). Moreover, the students and their families perceived the testing requirement as a violation of their rights under due process. Although the court found that Florida schools had provided adequate access to and instruction in the skills and content on the test, the ruling in *Debra P.* established that *all* students must have an equal opportunity to learn the material on high school graduation tests (Pullin & Haertel, 2008). Moreover, although the *Debra P.* case established a legal precedent for the need to align content

TABLE 1  
Significant Legislative and Legal Decisions Related to Curricular Access and Opportunity to Learn

1954	<i>Brown v. Board of Education</i> : Segregated schools and education facilities created unequal conditions that limited access and opportunities to learn for African American students.
1964	<i>Title IV of the Civil Rights Act</i> outlawed federal funding for school systems that treated students differently based on race, ethnicity, or national heritage.
1966	<i>Equality of Educational Opportunity</i> (“ <i>The Coleman Report</i> ”) found differences between predominantly White and African-American educational institutions. The report also found that low-SES African-Americans benefited from integrated classrooms.
1981	<i>Debra P. v. Burlington</i> : All students must have an equal opportunity to learn material prior to being tested on high school graduation exams.
1994	<i>Goals 2000 Educate America Act</i> defined opportunity to learn standards.
2001	<i>No Child Left Behind</i> (NCLB) reauthorized some federal education programs with a focus on (a) standards and increased accountability for states, schools, and school districts and (b) disaggregated assessment results to ensure all students academic progress.
2004	<i>Individuals with Disabilities Education Act</i> (IDEA) reaffirmed that all children with disabilities should receive free and appropriate public education in the least restrictive environment, and required public schools to create Individualized Education Programs that facilitated access the general curriculum for students with disabilities.
2007	<i>Alternate Assessments based on Modified Academic Achievement Standards</i> (AA-MAS) were permitted after the U.S. Department of Education introduced changes to NCLB and IDEA. States and district must ensure that students who qualify for an AA-MAS have had access grade-level curriculum.

of curriculum and instruction with the skills and concepts covered on achievement tests, it also illuminated the difficulty of defining and efficiently examining student’s curricular access and educational opportunities (Buckendahl & Hunt, 2005; Pullin & Haertel, 2008).

Federal policy also has influenced the concepts of OTL and curricular access. For example, Title IV of the Civil Rights Act of 1964 outlawed the administration of federal funds to school systems that were segregated or treated students differently based on race, ethnicity, or national heritage (Venezia & Maxwell-Jolly, 2007). In addition, §402 of Title IV required the government to “conduct a survey and make a report to the President and the Congress, within two years of the enactment of this title, concerning the lack of availability of equal educational opportunities” for students in the nation’s public schools. Commissioned by the U.S. Office of Education in accordance with the Civil Rights Act, *Equality of Educational Opportunity* (Coleman, 1966; often referred to as “*The Coleman Report*”) was intended to examine the similarities and differences in the programming and resources in schools that served either predominantly White and African American populations. The report included data from 600,000 students and teachers across the nation and indicated that there was a very strong difference in the quality of educational institutions mainly attended by African Americans. Furthermore, the study indicated African American students from low socioeconomic status (SES) households appeared to benefit academically from integrated classrooms (Kiviat, 2000; Venezia & Maxwell-Jolly, 2007).

Since the landmark Civil Rights Act, lawmakers have implemented federal policies intended to reduce educational inequities. Nearing the end of his term, president George H.W. Bush signed the *Goals 2000 Educate America Act*, which highlighted a number of policy goals that the nation’s schools would accomplish by the year 2000. *Goals 2000* specifically addressed opportunity to learn standards and defined them as “the criteria for, and the basis of assessing the sufficiency or

quality of the resources, practices, and conditions necessary at each level of the education system to provide all students with the opportunity to learn the material in voluntary national content standards or state content standards" (§3(a)(7)). Within this federal policy, the development of OTL standards was intended to facilitate equity in school resources and programming (Carleton, 2001). The proposed OTL standards, however, resulted in considerable disagreement among stakeholders and legislators. Some interest groups claimed Goals 2000's provisions were too weak to address the massive inequities among the nation's schools and school districts, whereas others criticized the potential costs of providing the material resources necessary to fully implement the OTL standards. Because of these disagreements, the OTL standards eventually were made "voluntary" in the reauthorization of the Elementary and Secondary Education Act (Bolt & Roach, 2008; Ysseldyke, Thurlow, & Shin, 1995).

### THE CHALLENGE OF CURRICULAR ACCESS AND OTL IN THE CONTEXT OF AA-MAS

The current movement to develop and implement AA-MAS eligibility guidelines and assessment strategies places enormous pressure on states to identify methods for facilitating and evaluating curricular access and opportunity to learn for students with disabilities. As the nonregulatory guidance indicated, states should "ensure that students have access to grade level content *before* they are assessed . . . and receive instruction in grade-level content *after* they are assessed" (U.S. Department of Education, 2007). Verifying students' curricular access presents a challenge for educators, policymakers, and researchers interested in supporting the implementation of an AA-MAS.

A variety of features and components of the educational system may be evaluated to ensure curricular access and OTL for students who qualify for an AA-MAS (Figure 1). The OTL standards previously outlined in Goals 2000 are one starting point for developing evaluative framework. In the sections that follow, we consider the viability of some of the previously proposed OTL standards including

- Alignment of curriculum, instructional practices, and assessments with content standards
- Teachers' capability
- Access to instructional materials and technologies

In addition, we consider and expand upon the constructs of student engagement and academic engaged time. Multiple researchers have "proposed to use these as an index of (opportunity to learn)" (Ysseldyke et al., 1995, p. 5). Finally, we review the potential effectiveness of two tactics unique to special education: (a) including students with disabilities in a general education setting, and (b) developing standards-based IEP goals.

### ALIGNMENT OF CURRICULUM, INSTRUCTIONAL PRACTICES, AND ASSESSMENTS WITH CONTENT STANDARDS

One approach to facilitating OTL and curricular access to the general curriculum is by examining the extent to which the content of instructional programs, state content standards, and assessments

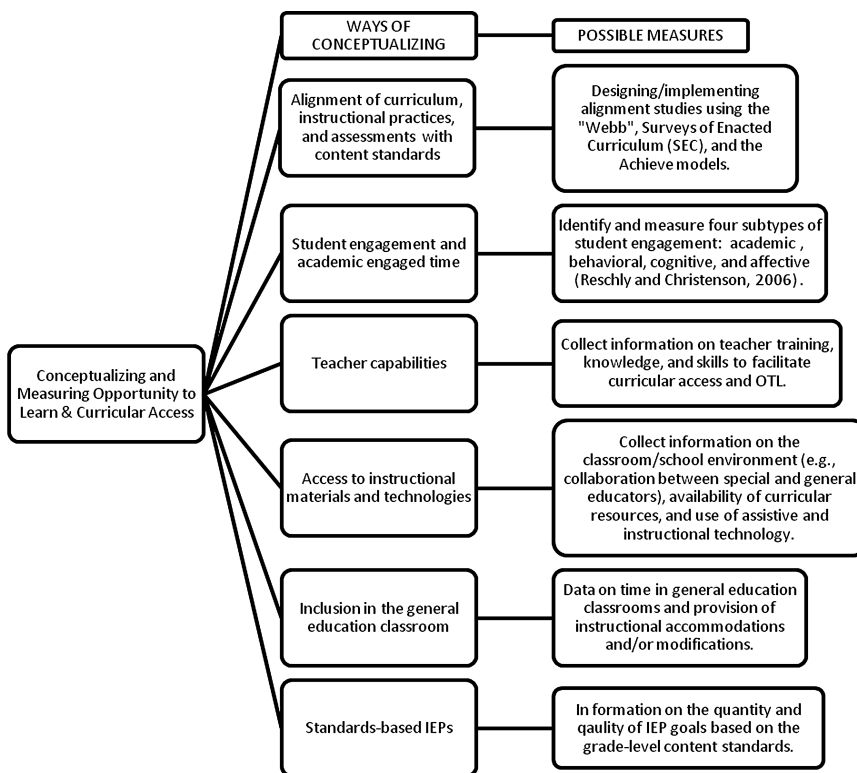


FIGURE 1 Ways of conceptualizing and measuring opportunity to learn (OTL) and curricular access. *Note.* IEP = Individualized Education Program.

correspond to one another. Standards-based reform and accountability programs generally assume that educational improvement demands coordination in the development and implementation of three components of the educational environment: curriculum, instruction, and assessment (Elliott, Braden, & White, 2001; Webb, 1997, 2002). The degree to which these components work together to facilitate educators' work and students' learning is often referred to as alignment (Roach, Niebling, & Kurz, 2008).

Alignment is an area of policy and practice that has the potential to have a positive impact on *all* students' learning and achievement, including students who are eligible to take an AA-MAS. Certainly, if students with disabilities are not provided instruction on the skills and concepts on general grade-level assessments, they cannot be reasonably expected to demonstrate "proficiency" on a standards-based assessment (Roach et al., 2008).

A number of frameworks have been developed to evaluate the alignment among content standards, classroom instruction, and achievement tests. The Council of Chief State School Officers (2002) identified three "preferred" models for use in designing and implementing alignment studies: (a) the "Webb" model, (b) the Surveys of Enacted Curriculum (SEC) model, and (c) the Achieve model. Each model consists of a series of indices that provide a summary of the general

match or overlap between skills and knowledge presented in standards, assessments, and (in some cases) classroom instruction (Resnick, Rothman, Slattery, & Vranek, 2003; Roach et al., 2008). Because of its inclusion of data on classroom instructional practices, the SEC model holds the most promise for determining the extent to which students who participated in an AA-MAS have had access to the general grade-level curriculum.

In the SEC model, teacher surveys are used in the collection information regarding the content of classroom instruction (i.e., the “enacted curriculum,” the content of what teachers teach). The SEC teacher surveys ask teachers to describe the skills and concepts taught in their classrooms, and typically are completed at the end of the school year. Classroom teachers rate the amount of instructional emphasis (e.g., how many lessons taught) and levels of cognitive demand expected (i.e., complexity of tasks) for various curricular topics (Porter, 2002). Results from teacher surveys provide data that can be converted to proportions that describe the amount of time spent on each topic and at each level of cognitive demand. The data can then be compared to the content covered by assessments, standards, or instructional support materials and used to calculate alignment indices for evaluating curricular access or OTL (Roach et al., 2008).

Using the SEC (or a similar evaluative method) might allow states and school districts to gather descriptive data on classroom instruction and to examine the alignment of classroom instruction with skills and concepts outlined in grade-level standards and measured by large-scale assessment instruments. The alignment index (based on the SEC’s method) could also be used to quantify the content of classroom instruction provided to students with disabilities, thereby facilitating a direct quantitative analysis of how instructional content impacts their academic progress. In one study, Gamoran, Porter, Smithson, and White (1997) found that increased alignment between the classroom instruction and skills measured by a standardized mathematics test were associated with gains in achievement for low-achieving, low-socioeconomic high school students. In the same study, however, Gamoran and colleagues found that students in remedial classes received less standards-aligned instruction and typically had smaller gains in achievement scores when compared to their peers in general grade-level courses (Roach et al., 2008).

Two groups of researchers (Karvonen, Wakeman, Flowers, & Browder, 2007; Roach & Elliott, 2006) have attempted to modify or extend the SEC model for use with students with significant cognitive disabilities who take an alternate assessment based on alternate academic achievement standards (AA-AAS). Roach and Elliott created a curricular access questionnaire that included items specific to one states’ alternate assessment and extended curriculum framework for students with disabilities. This curricular access questionnaire asked whether particular performance indicators (i.e., objectives and rating scale items) were part of a student’s curriculum during the current or any previous school year. The curriculum access questionnaire was completed by students’ teachers and was subsequently included as one predictor of student performance in a study to examine the influence of curricular access on alternate assessment scores. Karvonen and colleagues (2007) developed a teacher self-report measure, Curriculum Indicators Survey (CIS), for use in determining the extent of curricular access for students with significant cognitive disabilities from preschool through 12th grade. The CIS includes two sections: (a) questions regarding teachers’ experiences, training, classroom characteristics, instructional materials, and assessment strategies, which the teacher answers in regard to their students, and (b) ratings of the intensity of instructional coverage for various topics in English/Language Arts and Mathematics, which are completed regarding the educational program provided to a particular student. The development and initial implementation of these instruments point to the potential utility of the

SEC model for evaluating access and exposure to the general curriculum for students who are eligible to take an AA-MAS.

## STUDENT ENGAGEMENT AND ACADEMIC ENGAGED TIME

Alignment methodologies capable of assessing the match between classroom instruction and content standards can provide a useful avenue for determining students' access to the general education curriculum as well as the OTL the content and skills on large-scale assessments (e.g., states' AA-MAS). One aspect missing from this approach, however, is the degree to which students are actually engaged with the enacted curriculum. Mere exposure to a well-aligned curriculum does not guarantee student engagement with instructional materials or in classroom activities, and without engagement students with disabilities cannot realize whatever opportunities may be provided to them. As such, educators' efforts to facilitate and evaluate OTL and curricular access for students who take an AA-MAS also should account for current developments in research on student engagement.

As noted by Furlong and Christenson (2008), consensus has been reached on conceptualizing student engagement as a multidimensional construct that accounts for students' thoughts, feelings, and behaviors (Fredericks, Blumenfeld, & Paris, 2004; Furlong et al., 2003). Affective, behavioral, and cognitive dimensions of engagement (e.g., Finn, 1989) exist alongside academic dimensions such as time on task or academic learning time (e.g., Gettinger, 1986). The latter has enjoyed sustained interest among practitioners for its consistent association with student achievement (Denham & Lieberman, 1980; C. W. Fisher & Berliner, 1985; Gettinger & Seibert, 2002). Academic learning time is defined as the amount of instructional time during which students are actively and productively engaged in learning (C. W. Fisher & Berliner, 1985). However, the academic dimension of student engagement was only recently incorporated into the construct's common three-part typology (e.g., Reschly & Christenson, 2006). Because all four dimensions can be considered relevant to provide students who participate in an AA-MAS with substantiate instructional opportunities, we briefly discuss each dimension.

Despite definitional and conceptual differences, research on student engagement has largely moved away from considering engagement a dichotomous student attribute and instead regards the dimensions of engagement to be mediated by contextual factors such as family, peers, and school (Appleton, Christenson, Kim, & Reschly, 2006). Reschly and Christenson's (2006) integrative model defines four subtypes of student engagement. Indicators of *academic engagement* include time on task, credits earned toward graduation, and amount of homework completed. *Behavioral engagement* pertains to indicators such as attendance, classroom participation, extracurricular activities, and utilizing extra credit options. Indicators of *cognitive engagement* refer to self-regulation, goal setting, utility value of school to future aspirations, and strategizing. *Affective engagement* comprises indicators such as school membership, identification with school, and sense of belonging. All four dimensions of student engagement can impact academic outcomes (e.g., AA-MAS results) as well as social and emotional competence (e.g., interpersonal relationships, conflict resolution skills).

The four-part typology brings together research linking indicators of cognitive and affective engagement to positive learning outcomes (National Research Council & Institute of Medicine, 2004), and research linking academic learning time to student achievement (C. W. Fisher &

Berliner, 1985). Overall, research has found student engagement to be a strong predictor of student achievement and behavior in school (e.g., Mounts & Steinberg, 1995; Voelkl, 1995), including higher grades and test scores (e.g., Willingham, Pollack, & Lewis, 2002; Roderick & Engle, 2001). Student engagement is further linked to lower dropout rates, and many researchers consider it the most promising theoretical model for understanding and addressing school dropout rates (e.g., Appleton et al., 2006; Finn, 1989). Last, student engagement has applicability to *all* students, regardless of ethnicity, SES level, or disability status. For instance, recent data from the 2006 High School Survey of Student Engagement indicated that approximately 28% of the more than 80,000 respondents across a wide range of geographic and demographic factors reported being unengaged in school (Yazzie-Mintz, 2007). Students were more likely to exhibit lower levels of engagement, if they were male, from an ethnic group other than White or Asian, from lower SES families and/or communities, or (most relevant for this discussion) received special education services.

The extent to which student engagement is applicable to evaluating curricular access and OTL is largely dependent on the definition of these constructs and the inferences to be drawn from potential evaluative strategies. Whether all or some of the discussed dimensions of student engagement should be incorporated into a measure of curricular access and OTL is subject to debate and will, at least in part, depend on practical considerations such as the availability of personnel and financial resources.

## TEACHER CAPABILITIES

Effective curricular access requires close examination of teacher training, as well as the relevant knowledge and skills teachers possess. Teachers, after all, play a critical role in ensuring OTL and curricular access for students who take the AA-MAS. Although standards-based reform has created significant movement toward unified rigorous student achievement outcomes, teacher certification requirements, preservice training programs, and access to quality professional development continue to vary across states and school districts (Darling-Hammond, 1999). Some states, however, have begun adopting rigorous teaching standards like those put forth by the Interstate New Teacher Assessment and Support Consortium and the National Council for Accreditation of Teacher Education (Wayne & Youngs, 2003). Attention to the quality of teacher education is particularly important because research has shown that adequate preparation and certification can positively impact teacher performance and effectiveness (Darling-Hammond, 1999; Darling-Hammond, 2000), and facilitate improvement in specific areas of student achievement (e.g., mathematics; see Wayne & Youngs, 2003).

Buell, Hallam, Gamel-McCormick, and Scheer (1999) indicated that “the meaningful education of students with and without disabilities relies on a partnership between [both special and general] educators” (p. 144). Indeed, minimal teacher collaboration and a need to clarify general and special educators’ roles in planning and implementing instruction may hinder curricular access for students with disabilities, including those who take an AA-MAS (Buell et al., 1999; Jackson, Harper, & Jackson, 2001; Otis-Wilborn, Winn, Griffin, & Kilgore, 2005). Parallel training programs for general and special educators often have resulted in separate approaches to education, without sufficient programming to ensure general educators’ buy-in to inclusive practices (Buell et al., 1999). General educators may express concern over insufficient support

in meeting the needs of students with disabilities in their classrooms, especially when it comes to appropriately adapting materials and handling behavioral issues (Agran, Alper, & Wehmeyer, 2002; Buell et al., 1999). By the same token, special educators often cite resistance from their general education colleagues as a significant barrier in ensuring students' OTL and curricular access (Agran et al., 2002). Several researchers have called for a more collaborative approach to educating students with disabilities by including both general and special educators in the planning and decision-making process, as well by providing more training and material supports for teachers (Agran et al., 2002; Buell et al., 1999; Jackson et al., 2001). Buell and colleagues concluded that providing appropriate resources and professional development for general education teachers will likely increase teachers' perception that they positively impact the school achievement of students with disabilities (Buell et al., 1999). In addition, special educators do not always have adequate knowledge of the general curriculum to provide the consultative support that would facilitate curricular access for students who take an AA-MAS (Otis-Wilborn et al., 2005).

A related issue identified by teachers and researchers concerns paraeducators who are expected to provide instructional support to students with disabilities in the classroom, but may not be sufficiently trained to facilitate curricular access (Agran et al., 2002). Therefore, *all* educators who provide instruction to students with disabilities should have the opportunity to participate in professional development regarding OTL and access to the general curriculum. To meet the AA-MAS regulations, states may need to explore methods of monitoring (e.g., surveys of teachers and paraprofessionals, review of course syllabi and training materials) the extent to which curricular access for students with disabilities is addressed in teacher preparation and professional development programs.

## ACCESS TO INSTRUCTIONAL MATERIALS AND TECHNOLOGIES

Effective curricular access is also dependent upon a school and classroom environment that supports it, including access to sufficient instructional resources. For example, the results of a recent study indicated special education teachers struggled to get access to the same curricular materials provided to their general education colleagues and that their physical location away from general education classrooms hindered efforts to provide access to the general education classroom and curricula. Students with disabilities had limited opportunity to interact with their peers, and the special educators found it difficult to interact and consult with each other and with general education teachers (Otis-Wilborn et al., 2005). Schools can help mitigate this by promoting shared, collaborative instructional contexts and by allowing time for shared planning between general and special educators (Jackson et al., 2001). To more fully understand curricular access for students participating in AA-MAS, states and school districts might gather data on the prevalence of collaboration and consultation between general and special educators.

Providing access to instructional and assistive technology also may help students with disabilities access general education instruction and curriculum in multiple ways (e.g., increasing student participation, providing more communication options, and creating cross-curricular connections; D. Fisher & Frey, 2001). Smith and Jones (1999) found that educators' discomfort with the use of assistive technology limited the extent to which students had access to it. They suggested that states and school districts provide educators with training in using such technologies as an

educational tool. Recent research by the National Alternate Assessment Center demonstrates the necessity of professional development in this area (Kleinert, Towles-Reeves, Kearns, & Kleinert, 2007). In a survey of educators regarding their students' ( $n = 7,075$ ) expressive and receptive communication, Kleinert and colleagues found that less than 50% of students with disabilities at a pre- or emerging symbolic communication level had access to augmentative and alternative communication devices. Although these students would be unlikely to take an AA-MAS, the lack of basic communication and instructional supports for this group calls into question the availability and use of assistive technology (e.g., transcribing software, audiobooks, calculators) for other students with disabilities. Collecting information regarding the implementation of assistive and instructional technology in general and special education contexts may be an important aspect of ensuring curricular access and opportunity to learn for students who take an AA-MAS.

### INCLUSION IN THE GENERAL EDUCATION CLASSROOM

One possible approach to facilitating OTL and curricular access for students participating in AA-MAS would be to monitor time spent in inclusive educational settings (e.g., general education classrooms). The IDEA (1997) required states and school districts to guarantee that "to the maximum extent appropriate, children with disabilities . . . are educated with children who are nondisabled" (§612, 11 Stat 61). The most recent reauthorization of IDEA expanded expectations for students with disabilities beyond mere presence in general education classrooms toward full participation with and mastery of academic content (Browder et al., 2007). As such, students who qualify for an AA-MAS need access to the instruction provided in general education classrooms with accommodations and/or modifications that will allow them to progress towards grade-level content and achievement standards.

Researchers have identified some significant trends pertaining to the effectiveness of inclusive classrooms and segregated pull-out programs for students with disabilities. Wehmeyer, Lattin, Lapp-Rincker, and Agran (2003) conducted an observational study of middle school students with mental retardation to determine amount of time that these students spent working on tasks that were linked to academic standards in both the special education and general education settings. Data collected showed that students with disabilities who were included in general education classrooms worked on tasks related (or "linked") to a content standard during 90% of observation intervals. Conversely, students with disabilities in segregated settings were engaged in tasks linked to content standards only 50% of the time (Wehmeyer et al., 2003). These results imply that (for students with mental retardation) inclusion in the general education classroom appeared to facilitate more time spent working on instructional tasks that are linked directly to state or district grade-level standards.

Based on their review of inclusion literature, D. Fisher, Roach, and Frey (2002) argued that "there is considerable evidence over the last 15 years to suggest that segregation of students in special education in separate classes is actually deleterious to their learning and that students in special education generally perform better on average in a regular classroom" (p. 71). For example, Fisher and colleagues cited a 1995 study by Stevens and Slavin that examined the performance of 76 students with learning disabilities. Forty of the students received their education in inclusive general education classrooms and 36 received their education in a pull-out service delivery model without inclusion. Although there were no significant pretest differences in reading/language

arts or mathematics performance (as measured by standardized tests), students in the inclusive classrooms demonstrated significantly higher posttest performance in reading vocabulary ( $F = 13.48, p < .01$ ), reading comprehension ( $F = 14.39, p < .01$ ), language expression ( $F = 11.41, p < .01$ ), math computation ( $F = 10.77, p < .01$ ), and math applications ( $F = 3.75, p < .05$ ).

Waldron and McLeskey (1998) compared the performance of 71 elementary students with learning disabilities educated in the inclusive settings with 73 students who were educated in the segregated settings. Pretest results indicated the two groups did not differ significantly in reading and mathematics scores or cognitive ability. Posttest results, however, indicated that students in inclusive classrooms made significant gains in reading compared to students in pull-out programs (in some cases approaching the rate of growth for their peers without disabilities). The same was not true in mathematics, however, where no significant differences were found between the achievement of the two groups of students with disabilities. One reason for these conflicting findings may be a lack of specialized instruction provided in some inclusive settings. In other words, access to general education classrooms may not be enough to produce changes in student performance. In their case studies regarding the educational experiences of five students with learning disabilities, Baker and Zigmond (1995) found that students with disabilities did appear to make some academic progress, but they often did not consistently receive instruction in inclusive settings that was specialized to address their individual educational needs. The findings from these two studies suggest that collecting data on the need for and provision of individualized instruction and modifications may be important in understanding the effectiveness of inclusion in general education contexts for students who take an AA-MAS.

Salend and Duhaney (1990) cited a survey conducted by the National Center for Restructuring and Inclusion (1995) that addressed the impact of inclusion on students with and without disabilities. This survey of school districts suggested that schools providing inclusive classrooms were more likely to report increased academic gains for students with disabilities, including improved standardized test scores, mastery of goals set forth in IEPs, improved grades, and increases in attentive and pro-social behavior. These results are promising because they indicate that inclusion in general education settings is perceived as beneficial by many educators. Unfortunately, these survey results can provide only the suggestion, rather than confirmation, that time spent in general education classrooms leads to improved access, opportunities, and outcomes for students with disabilities. In their review of the inclusion literature, D. Fisher et al. (2002) indicated that “surprising few studies have investigated the effect of inclusion on the academic achievement of students with disabilities” (p. 72). Thus, time in inclusive settings may be viewed as a precondition for providing OTL and access to the content standards for students who take an AA-MAS, but it is probably insufficient as an indicator of these outcomes.

## STANDARDS-BASED IEPs

Another option for ensuring curricular access and opportunity would be promoting the development of standards-based IEP goals for students who take an AA-MAS. The most recent reauthorization of IDEA requires that students' IEPs have (a) descriptions of a students' present level of educational performance, including how his or her disability affects involvement and progress in the general curriculum; (b) measureable annual goals referenced to grade-level general curriculum; (c) description of modifications or supports needed to facilitate access to and

progress in the general curriculum; and (d) a description of the extent that the student will participate in the general education classes and activities. Karger (2004) suggested that “the IEP can be viewed as the central mechanism, both legally and educationally, for ensuring access to the general education curriculum” (p. 6). The centrality of the IEP document and process, however, requires that IEP team members are prepared to plan and facilitate (a) students’ access to the general education classroom, (b) involvement with general education instructional materials and activities, and (c) progress toward understanding the skills and concepts in the general education content standards (Bolt & Roach, 2008; Hitchcock, 2001).

Unfortunately, existing research suggests that the current IEP process does not result consistently in improved access and involvement in the general education curriculum. In their case studies of students with disabilities, D. Fisher and Frey (2001) discovered a “disconnect” between students’ IEPs and the curriculum and instruction provided in general education classrooms. Teachers and family members both reported the goals and objectives included in students’ IEPs did not match the curriculum and instruction provided to students in inclusive environments. Fisher and Fry’s findings are consistent with other research on IEPs that found minimal coordination between special educators and general educators (Lipsky & Gartner, 1997) and difficulties developing measurable goals and objectives for student progress in the general education curriculum (Yell, 1998).

A recent study (Karvonen & Huynh, 2007) examining the relationship of the content of students’ ( $n = 292$ ) IEP objectives and achievement, as measured on an AA-AAS, provides some insights into using standards-focused IEP goals as an index of curricular access and opportunity to learn. Karvonen and Huynh found students who scored proficient on the AA-AAS in reading were more likely to have academic-focused IEP objectives than those who did not achieve proficiency (47% vs. 30%). Similarly, more of students who scored proficient on the AA-AAS in mathematics also had academic objectives on their IEPs (48% vs. 33%). Students who had IEPs that addressed reading comprehension content standards were more likely to score proficient (94% proficient or above) in English/Language Arts than their peers without similar content coverage (73% proficient or above). This relationship was not observed in mathematics; students with coverage of numbers and operations standards in their IEP goals were no more likely to be proficient in mathematics on the AA-AAS. These findings must be interpreted with caution, however, because the majority of the students’ IEP goals were rated as being at the lowest level of cognitive complexity (i.e., DOK 1). Moreover, approximately 50% of students did not have IEP goals that addressed reading comprehension objectives, and more than 33% did not have a goal that addressed number concepts objectives. Thus, it may be that the provision of standards-based IEP goals is related to students’ pre-existing ability levels or the severity of their disabilities.

A survey by the National Association of State Directors of Special Education (1999) of state-level administrators ( $n = 33$ ) identified numerous difficulties in using students’ IEPs as tools for facilitating access to the general curriculum. According to survey respondents,

1. IEP goals and objectives tended to address reading and mathematics, but not other subject domains (e.g., social studies, science).
2. State content standards were viewed as too broad and complex to serve as a focus for students’ IEP goals and objectives.
3. Parents and teachers needed additional information and training on how state standards apply to *all* students.

4. Both special and general educators needed professional development on how to link IEP goals and objectives to state content standards, large-scale assessments, and general curriculum materials.
5. Both special and general educators needed access to and professional development on curriculum-based assessments for tracking students' progress on IEP goals and objectives that are linked to the general curriculum (Bolt & Roach, 2008; Karger, 2004).

For the IEP to serve as the primary means of facilitating access to the general curriculum and improve academic outcomes for students who take an AA-MAS, states and school districts need to provide extensive professional development and increased monitoring to ensure that the goals and support services outlined in IEP documents are implemented as planned. In short, the requirement for educators to address general education content standards in IEP goals of students who take an AA-MAS represents a promising but not yet validated strategy for facilitating OTL and access to the general curriculum.

#### BEST PRACTICES IN MEASURING CURRICULAR ACCESS AND OPPORTUNITY TO LEARN FOR STUDENTS WHO ARE ELIGIBLE FOR AN AA-MAS

Although the federal guidelines for AA-MAS programs clearly address the need to create standards-based IEPs, establishing each of the components outlined in the previous sections may be necessary to create “true” access and opportunity to learn for students with disabilities. In fact, an argument could be made that the students eligible to participate in an AA-MAS (i.e., “persistently low-achieving students”) require access to enriched instructional resources, well-organized and safe classrooms, and the most skillful teachers to experience success with and progress in the general grade-level curriculum. At present, it is unclear whether the federal government, state departments of education, and local school districts have the political will and economic resources necessary to truly create curricular access and opportunity to learn for this group of students.

Because curricular access and opportunity to learn are such complex constructs, states and school districts are faced with a disorienting range of possibilities for facilitating and evaluating progress in these areas. Moreover, an additional concern for policymakers and educational leaders is the feasibility and technical adequacy of the various evaluative strategies. Although the previous sections provide some guidance for making decisions in this area, we would like to propose two approaches that we believe hold promise:

1. Development and validation of a measure of IEP quality.
2. Multidimensional measurement of students' engagement in general education classrooms and instruction.

In light of the centrality of standards-based IEP goals in the AA-MAS regulations, states and school districts should pursue efforts to evaluate the quality of students' IEP goals and their influence on curricular access and subsequent AA-MAS performance. As part of a current General Supervision Enhancement Grant [the Consortium for Modified Alternate Assessment

Development and Implementation (CMAADI)], the Indiana State Department of Education and researchers from Vanderbilt University and Georgia State University are currently engaged in the development of a tool for evaluating standards-based IEP goals. Creation of the CMAADI IEP tool was guided by Project Forum's *Seven-Step Process to Creating Standards-based IEPs* (Davis Holbrook, 2007) and an IEP development training module created by the Individualized Classroom Accountability Network Project. The CMAADI IEP tool provides a rubric to evaluate each IEP goal in the following areas: (a) addressing students' identified educational needs, (b) aligning to grade-level content standards, (c) identifying present level of performance, and (d) including adequate progress monitoring strategies. The current validation plan includes examining the relationship between the quality of IEP goals and curricular access (as measured on the CIS; Karvonen & Huynh, 2007) and performance on large-scale assessments. In addition, cases will be drawn from schools that have received Individualized Classroom Accountability Network Project training on IEP goal development as well as from comparison schools that have not yet received training. This will allow us to examine the effectiveness of training and access to professional resources regarding standards-based IEPs in facilitating curricular access for students with disabilities, including students who qualify for an AA-MAS.

If the latest AA-MAS regulations are to be viewed as articulating the expectation of common academic content standards for *all* students (Cortiella, 2007), then assessment of student engagement should clearly be incorporated into measures of curricular access and opportunity to learn. As previously noted, there is a long history of research (e.g., time-on-task, academic learning time) that suggests productive engagement with meaningful instructional tasks promotes academic achievement. Measurement of student engagement might differ depending on the dimensions of the construct being assessed. Cognitive and affective engagement feature less observable factors such as self-regulation, perceived utility value of school, and goal setting. Academic and behavioral engagement yield more overt indicators including attendance, time on task, and credits earned toward graduation. The former is thus more amenable to self-report measures, whereas the latter can draw from teacher reports, record reviews, and direct classroom observations. Examples and combinations of each option are available (e.g., Academic Competence Evaluation Scales, DiPerna & Elliott, 2000; Children's Engagement Questionnaire, McWilliam, 1991; Engagement Check II, McWilliam, 1999; HSSSE, Yazzie-Mintz, 2007; Student Engagement Instrument, Appleton & Christenson, 2004). However, examination of engagement subtypes in isolation, use of different informants, amalgamation of constructs of engagement, and issues related to inferences based on observation have resulted in concerns about psychometric soundness and construct validity of engagement measures (Appleton et al., 2006; Jimerson, Campos, & Greif, 2003). We believe the current AA-MAS provide a context and (perhaps) the resources for additional work to develop technically adequate measures of student engagement.

## CONCLUSION

The development and implementation of states' AA-MAS will allow a select group of students with disabilities to demonstrate their proficiency for accountability purposes. In addition, the AA-MAS policy appears intended to (a) facilitate students' inclusion and OTL and (b) motivate special educators to provide access to the grade-level content standards. The most recent *Standards for Educational and Psychological Testing* indicates that "tests (e.g., AA-MAS) are commonly

administered in the expectation that some benefit will be realized from the intended use of scores . . . . A fundamental purpose of validation is to determine whether these specific benefits are likely to be realized” (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 1999, p. 16). As states’ AA-MAS systems are fully developed and implemented, we believe careful consideration of a variety of indicators (e.g., students’ IEPs, test scores, teachers’ levels of training, etc.) will be necessary to provide compelling evidence regarding progress toward this goal.

In the past, many researchers and policymakers have struggled to articulate and evaluate OTL and curricular access. Federal policy and educational research has, at different times, highlighted various areas related to these two concepts including (a) alignment between standards, assessments, and instruction; (b) student time on task and engagement; (c) teachers’ professional preparation and access to resources; (d) inclusion in the general education classroom; and (e) development and implementation of standards-based IEPs. With the recent focus on curricular access as a precondition for participation in an AA-MAS, it is important to consider how historical precedent and existing research can help guide policymakers and educators in developing appropriate evaluative strategies and support materials to achieve this goal. In addition, researchers should be encouraged and supported in developing and validating new strategies to evaluate the provision of OTL and access to the general curriculum for students with disabilities.

## REFERENCES

- Agran, M., Alper, S., & Wehmeyer, M. (2002). Access to the general curriculum for students with significant disabilities: What it means to teachers. *Education and Training in Mental Retardation and Developmental Disabilities, 37*(2), 123–133.
- American Educational Research Association, American Psychological Association, & National Council on Measurement in Education. (1999). *The standards for educational and psychological testing*. Washington, DC: American Educational Research Association.
- Appleton, J. J., & Christenson, S. L. (2004). *Scale description and references for the student engagement instrument*. Unpublished manuscript.
- Appleton, J. J., Christenson, S. L., Kim, D., & Reschly, A. L. (2006). Measuring cognitive and psychological engagement: Validation of the Student Engagement Instrument. *Journal of School Psychology, 44*, 427–445.
- Baker, J. M., & Zigmond, N. (1995). The meaning and practice of inclusion for students with learning disabilities: themes and implications from five cases. *The Journal of Special Education, 29*, 163–180
- Bolt, S. E., & Roach, A. T. (2008). *Inclusive assessment and accountability: A guide to accommodations for students with diverse needs*. New York: Guilford.
- Browder, D. M., Wakeman, S. Y., Flowers, C., Rickelman, R., Pugalee, D., & Karvonen, M. (2007). Creating access to the general curriculum with links to grade level content for students with significant cognitive disabilities: An explication of the concept. *Journal of Special Education, 41*, 2–16.
- Brown v. Board of Education*, 347 U.S. 483 (1954).
- Buckendahl, C., & Hunt, R. (2005). Whose rules? The relation between the “rules” and “laws” of testing. In R. P. Phelps (Ed.), *Defending standardized testing* (pp. 147–158). Mahwah, NJ: Erlbaum.
- Buell, M. J., Hallam, R., Gamel-McCormick, M., & Scheer, S. (1999). A survey of general special education teachers’ perceptions and inservice needs concerning inclusion. *International Journal of Disability, Development, and Education, 46*(2), 143–156.
- Carleton, D. (2001). *The student’s guide to landmark congressional laws on education*. Santa Barbara, CA: Greenwood.
- Coleman, J. S. (1966). *Equality of educational opportunity*. Washington, DC: Office of Education.
- Cortiella, C. (2007). *Learning opportunities for your child through alternate assessments: Alternate assessments based on modified academic achievement standards*. Minneapolis: University of Minnesota, National Center on Educational Outcomes. Retrieved December 1, 2008, from <http://www.nceo.info/OnlinePubs/AAMAAParentGuide.pdf>

- Council of Chief State School Officers. (2002). *Models for alignment analysis and assistance to states*. Washington, DC: Author.
- Darling-Hammond, L. (1999). *Teacher quality and student achievement: A review of state policy evidence* (Document R-99-1). Seattle, WA: Center for the Study of Teaching and Policy.
- Darling-Hammond, L. (2000). How teacher education matters. *Journal of Teacher Education*, 51(3), 166–173.
- Davis Holbrook, M. (2007). *A seven-step process to creating standards-based IEPs*. Project Forum at NASDSE. Retrieved December 1, 2008, from <http://www.projectforum.org/docs/SevenStepProcessToCreatingStandards-basedIEPs.pdf>
- Debra P. v. Burlington*, 730 f.2d 1405 (11th Cir. 1984).
- Denham, C., & Lieberman, A. (1980). *Time to learn: A review of the beginning teacher evaluation study*. Sacramento: California State Commission for Teacher Preparation and Licensing. (ERIC Document Reproduction Service No. ED192454)
- DiPerna, J. C., & Elliott, S. N. (2000). *Academic Competence Evaluation Scales*. San Antonio, TX: The Psychological Corporation.
- Elliott, S. N., Braden, J. P., & White, J. L. (2001). Assessing one and all: Educational accountability for students with disabilities. Arlington, VA: Council for Exceptional Children.
- Finn, J. D. (1989). Withdrawing from school. *Review of Educational Research*, 59, 117–142.
- Fisher, C. W., & Berliner, D. C. (Eds.). (1985). *Perspectives on instructional time*. New York: Longman.
- Fisher, D., & Frey, N. (2001). Access to the core curriculum: Critical ingredients for student success. *Remedial and Special Education*, 22(3), 148–157.
- Fisher, D., Roach, V., & Frey, N. (2002). Examining the general programmatic benefits of inclusive schools. *International Journal of Inclusive Education*, 6(1), 63–78.
- Fredericks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, 74, 59–109.
- Furlong, M., & Christenson, S. (2008). Engaging students at school and with learning: A relevant construct for all students. *Psychology in the Schools*, 45(5), 365–368.
- Furlong, M. J., Whipple, A. D., St. Jean, G., Simental, J., Soliz, A., & Punthuna, S. (2003). Multiple contexts of school engagement: Moving toward a unifying framework for educational research and practice. *California School Psychologist*, 8, 99–114.
- Gamoran, A., Porter, A. C., Smithson, J., & White, P. A. (1997). Upgrading high school mathematics instruction: Improving learning opportunities for low-achieving, low-income youth. *Educational Evaluation and Policy Analysis*, 19(4), 325–338.
- Gettinger, M. (1986). Issues and trends in academic engaged time of students. *Special Services in the Schools*, 2(2), 1–17.
- Gettinger, M., & Seibert, J. K. (2002). Contributions of study skills to academic competence. *School Psychology Review*, 31, 350–365.
- Herman, J. L., Klein, D. C., & Abedi, J. (2000). Assessing students' opportunity to learn: Teacher and student perspectives. *Educational Measurement: Issues and Practice*, 19(4), 16–24.
- Hitchcock, C. (2001). Balanced instructional support and challenge in universally designed learning environments. *Journal of Special Education Technology*, 16(4). Available at <http://www.tamcec.org/jset/index>
- Individuals with Disabilities Education Act (IDEA) of 1997, 20 U.S.C. 1400 et. Seq. (1997)
- Jackson, R., Harper, K., & Jackson, J. (2001). *Effective teaching practices and the barriers limiting their use in accessing the curriculum: A review of recent literature*. Peabody, MA: Center for Applied Special Technology. Retrieved October 14, 2008, from [http://www.cast.org/publications/ncac/ncac\\_effectivetp.html](http://www.cast.org/publications/ncac/ncac_effectivetp.html)
- Jimerson, S. R., Campos, E., & Greif, J. L. (2003). Toward an understanding of definitions and measures of school engagement and related terms. *California School Psychologist*, 8, 7–27.
- Karger, J. (2004). *Access to the general curriculum for students with disabilities: the role of the IEP*. Wakefield, MA: National Center on Accessing the General Curriculum. Retrieved from [http://www.cast.org/publications/ncac/ncac\\_iep.html](http://www.cast.org/publications/ncac/ncac_iep.html)
- Karvonen, M., & Huynh, H. (2007). The relationship between IEP characteristics and test scores on alternate assessments for students with significant cognitive disabilities. *Applied Measurement in Education*, 20, 273–300.
- Karvonen, M., Wakeman, S., Flowers, C., & Browder, D. (2007). Measuring the enacted curriculum for students with significant cognitive disabilities. *Assessment for Effective Intervention*, 33(1), 29–38.
- Kiviat, J. (2000, April). The social side of schooling. *Johns Hopkins Magazine*. Retrieved May 2, 2009, from <http://www.jhu.edu/~jhumag/0400web/>

- Kleinert, J., Towles-Reeves, E., Kearns, J., & Kleinert, H. (2007, November). *Communication characteristics of students in alternate assessments based on alternate achievement standards*. Paper presented at the annual meeting of the American Speech-Language Hearing Association, Boston.
- Lipsky, D., & Gartner, A. (1997). *Inclusion and school reform: Transforming America's classrooms*. Baltimore: Brookes.
- McWilliam, R. A. (1991). *Children's Engagement Questionnaire*. Chapel Hill: Frank Porter Graham Child Development Center, University of North Carolina at Chapel Hill.
- McWilliam, R. A. (1999). *Engagement Check II*. Chapel Hill: Frank Porter Graham Child Development Center, University of North Carolina at Chapel Hill.
- Mounts, N. S., & Steinberg, L. (1995). An ecological analysis of peer influence on adolescent grade point average and drug use. *Developmental Psychology, 31*, 915–922.
- National Association of State Directors of Special Education (1999). *Linkage of the IEP to the general education curriculum* (Project Forum Quick Turn Around). Alexandria, VA: Project FORUM at National Association of State Directors of Special Education.
- National Center for Educational Restructuring and Inclusion. (1995). *National study of inclusion*. New York: Author.
- National Research Council and Institute of Medicine. (2004). *Engaging schools: Fostering high school students' motivation to learn*. Washington, DC: The National Academies Press.
- Otis-Wilborn, A., Winn, J., Griffin, C., & Kilgore, K. (2005). Beginning special educators' forays into general education. *Teacher Education and Special Education, 28*(3/4), 143–152.
- Porter, A. C. (2002). Measuring the content of instruction: Uses in research and practice. *Educational Researcher, 31*, 3–14.
- Pullin, D., & Haertel, E. (2008). Assessment through the lens of "opportunity to learn." In P. A. Moss, D. C. Pullin, J. P. Gee, E. H. Haertel, & L. J. Young (Eds.), *Assessment, equity, and opportunity to learn* (pp. 17–41). New York: Cambridge University Press.
- Reschly, A., & Christenson, S. L. (2006). Research leading to a predictive model of dropout and completion among students with mild disabilities and the role of student engagement. *Remedial and Special Education, 27*, 276–292.
- Resnick, L. B., Rothman, R., Slattery, J. B., & Vranek, J. L. (2003). Benchmarking and alignment of standards and testing. *Educational Assessment, 9*, 1–27.
- Roach, A. T., & Elliott, S. N. (2006). The influence of access to the general education curriculum on the alternate assessment performance of students with severe cognitive disabilities. *Educational Evaluation and Policy Analysis, 28*, 181–194.
- Roach, A. T., Niebling, B. C., & Kurz, A. (2008). Evaluating the alignment among curriculum, instruction, and assessment: Implications and applications for research and practice. *Psychology in the Schools, 45*, 158–176.
- Roderick, M., & Engle, M. (2001). The grasshopper and the ant: Motivational responses of low achieving students to high-stakes testing. *Educational Evaluation and Policy Analysis, 23*(3), 197–227.
- Salend, S., & Duhaney, L. (1999). The impact of inclusion on students with and without disabilities and their educators. *Remedial and Special Education, 20*(2), 114–126.
- Smith, S. J., & Jones, E. D. (1999). The Obligation to provide assistive technology: Enhancing general curriculum access. *Journal of Law and Education, 28*(2), 247–265.
- U.S. Department of Education. (2007, April 9). *Final Rule 34 CFR Parts 200 and 300: Title I—Improving the Academic Achievement of the Disadvantaged; Individuals with Disabilities Education Act (IDEA)*. Federal Register. 72(67). Washington, DC: Author. Retrieved January 2, 2009, from <http://cehd.umn.edu/NCEO/2percentReg/Federal-RegApril9TwoPercent.pdf>
- Voelkl, K. E. (1995). School warmth, student participation, and achievement. *Journal of Experimental Education, 63*, 127–138.
- Waldron, N. L., & McLeskey, J. (1998). The effects of an inclusive school program on students with mild and severe learning disabilities. *Exceptional Children, 64*, 395–405.
- Wayne, A. J. & Youngs, P. (2003). Teacher characteristics and student achievement gains: A Review. *Review of Educational Research, 73*(1), 89–122.
- Webb, N. L. (1997). *Criteria for alignment of expectations and assessments in mathematics and science education* (NISE Research Monograph No. 6). Madison: University of Wisconsin–Madison, National Institute for Science Education.
- Webb, N. L. (2002, April). *An analysis of the alignment between mathematics standards and assessments for three states*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

- Wehmeyer, M. L., Lattin, D. L., Lapp-Rincker, G., & Agran, M. (2003). Access to the general curriculum of middle school students with mental retardation. *Remedial and Special Education, 24*(5), 262–272.
- Willingham, W. W., Pollack, J. M., & Lewis, C. (2002). Grades and test scores: Accounting for observed differences. *Journal of Educational Measurement, 39*(1), 1–37.
- Venezia, A., & Maxwell-Jolly, J. (2007). *The unequal opportunity to learn in California's schools: Crafting standards to track quality*. Retrieved February 2, 2009, from <http://pace.berkeley.edu/reports/WP.07-2.pdf>
- Yazzie-Mintz, E. (2007). *Voices of students on engagement: A report on the 2006 High School Survey of Student Engagement*. Bloomington: Center for Evaluation & Education Policy, Indiana University. Retrieved from December 1, 2008, from [http://ceep.indiana.edu/hssse/pdf/HSSSE\\_2006\\_Report.pdf](http://ceep.indiana.edu/hssse/pdf/HSSSE_2006_Report.pdf)
- Yell, M. L. (1998). *The law and special education*. Upper Saddle River, NJ: Merrill.
- Ysseldyke, J., Thurlow, M., & Shin H. (1995). *Opportunity-to-learn standards* (Policy Directions No. 4). Minneapolis: University of Minnesota, National Center on Educational Outcomes. Retrieved December 1, 2008 from <http://education.umn.edu/NCEO/OnlinePubs/Policy4.html>