TRADITIONAL AND INNOVATIVE ASSESSMENT TECHNIQUES FOR STUDENTS WITH DISABILITIES

Edited by Festus E. Obiakor
and Jeffrey P. Bakken

ADVANCES IN
SPECIAL EDUCATION

VOLUME 36

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ADVANCES IN SPECIAL EDUCATION

Series Editors: Festus E. Obiakor and Jeffrey P. Bakken

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Howard House, Wagon Lane, Bingley BD16 1WA, UK

First edition 2021

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library

ISBN: 978-1-83909-891-8 (Print)
ISBN: 978-1-83909-890-1 (Online)
ISBN: 978-1-83909-892-5 (Epub)

ISSN: 0270-4013

ISOQAR certified Management System, awarded to Emerald for adherence to Environmental standard ISO 14001:2004.

Certificate Number 1985
ISO 14001

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PREFACE

Assessments are critical ingredients, in general, and special education programs. They are legally required and help to define, determine, authenticate, and solidify programmatic integrity and fidelity at all strategic levels. In addition, they are engrained in the foundational workings of educational routines, especially in special education where they form the live wire of programmatic survival. In this book, *Traditional and Innovative Assessment Techniques for Students with Disabilities*, we recognize assessment as integral in the functional existence of special education. Our contributors who are also authorities in assessments elucidate this premise from multidimensional, student-focused, and categorical perspectives. Their chapters focused on students with learning disabilities, students with emotional and behavioral disorders, students with intellectual disabilities, students who are deaf/hard of hearing, students with visual impairments, students with autism/autistic spectrum disorders, students with extensive support needs, students with traumatic brain injuries, students with speech and language impairments, students from culturally and linguistically diverse (CLD) backgrounds, and students with physical and other health impairments.

As indicated, assessments are important informational tools that are usually standardized to buttress generalizability for subjects (in this case, students). This traditional role of assessments has not gone unchallenged. As a result, the cravings for innovative forms of assessments have become necessary. Why? While measurement tools have been used consistently to traditionally assess students and programs, their validity and reliability have also been traditionally questioned. Relevant questions include, but are not limited to: (1) Do these tools produce consistent and reliable results? (2) Do they measure what they validly purport to measure even they produce consistent results? (3) Do they address the concepts of interindividual and intraindividual differences of students? (4) Do they also address situations and circumstances that impinge upon the livelihoods of vulnerable populations? And, (5) do they address CLD backgrounds of students since they are Euro-centrically normalized? Based on these questions, it behooves general and special educators and related professionals to innovate, adapt, and modify assessment tools to do what they are supposed to do.

We do acknowledge that assessment tools can be diagnostically, formatively, and summatively used. We also know that these tools are necessary to meet the needs of students, parents, and teaching and related professionals, and, by so doing, they meet the needs of communities and state and federal governments. There are legitimate questions that come to play in assessments. What skills do students bring before they are tested? What skill and knowledge do they demonstrate during and after tests? What information do parents have about

their students? What roles are ancillary and community services playing to support students? Are assessment tools responding to the civil rights of students as stated by state and federal laws? These questions are critical to the sacred existence of students, teachers, programs, parents, and other related professionals. This means that how the roles of these important entities are tied to the roles of multidisciplinary teams is intensely critical.

On the whole, *Traditional and Innovative Assessment Techniques for Students with Disabilities* is uniquely crucial and written to address current assessment issues. We understand that no assessment is perfect; however, how we use it is important. From our perspective, using assessment tools to label, categorize, and place students defeats the purposes of these tools. In reality, we cannot afford to throw the baby away with the bath water. We can gain lots of important knowledge when we use these tools prudently and productively. As we respect tradition, we must also be innovative.

We believe this book is an excellent required or supplementary text for undergraduate and graduate students majoring in special education, psychology, and related fields. It is apparently beneficial to researchers and practitioners, in general, and special education and other related professions. We thank our contributors for sharing their wealth of knowledge in this book, and we especially thank the professionals at Emerald for their patience and support during this book project. Finally, we thank our family members for their unflinching love and support during this venture.

Festus E. Obiakor
Jeffrey P. Bakken

TRADITIONAL AND INNOVATIVE ASSESSMENT TEHNIQUES FOR STUDENTS WITH DISABILITIES: AN INTRODUCTION

Jeffrey P. Bakken and Erik A. Dalmasso

ABSTRACT

This chapter addresses assessment of students with disabilities. It begins with brief analyses of purposes of assessment, especially with regard to their uses in classrooms. Next, it discusses both formal and informal assessment techniques, focuses on performance-based assessment, authentic assessment, portfolios, self-assessment, response to intervention, and teacher evaluation and/or accountability. Embedded in these discussions are implications of assessments on students with disabilities.

Keywords: Formal assessment; informal assessment; performance-based assessment; authentic assessment; portfolios; self-assessment; response to intervention

Assessment is a concept that is frequently tied to students and teachers. It is no surprise that this book and chapter focus on ways assessment is used by teachers and related professionals for students with and without disabilities. Assessment can provide valuable information about students (what they know and if they are making progress) as well as teachers (how effective is the teacher and if reteaching is needed). There are different ways to assess to garner different types of information since assessment is critical in education, and this chapter explicates many key assessment–related issues.

What is assessment? Why is assessment important to teachers, schools, and parents? What are different types of assessment? What assessments give the

Traditional and Innovative Assessment Techniques for Students with Disabilities
Advances in Special Education, Volume 36, 1–16

ISSN: 0270-4013/doi:10.1108/S0270-401320210000036001

best information to teachers in classrooms? Why should teachers incorporate assessment into their teaching? These are critical questions that deserve some answers. Teachers working in all types of classrooms consider different factors to become highly efficient and effective. Assessment is one of those highly important factors. Without a clear understanding of how to assess students with varying abilities, it is difficult to know how students are achieving and teachers are doing. Most teachers believe effective instruction and student learning are critical educational factors; however, without addressing assessment issues, the other two factors cannot be determined.

PURPOSES OF ASSESSMENT

There are three main purposes for conducting assessment within an educational environment, namely: (1) monitoring student progress, (2) making instructional decisions, and (3) evaluating student achievement.

Monitoring Student Progress

Effective teachers are able to determine what students know and what they do not know. They are able to figure out what students understand, what they are having problems with, and what might be the cause of the problems. This means that teachers must monitor students' overall progress and not just their individual knowledge of facts and skills. As a result, they gain insights into their thinking, not simply knowing whether their answers are right or wrong. This means that teachers need to use assessment to actually figure out why students are making mistakes. Error analysis can help teachers to make this determination. By definition, it is the study of the kind and quantity of errors that occur. For example, see the following problems.

38	55	47	44	98
+47	+36	+64	+38	+56
85	811	1011	82	1414
Correct	Incorrect	Incorrect	Correct	Incorrect

Sometimes, the student gets this type of problem correct and at other times he does not. If the teacher just marks them as correct and incorrect, the student will receive 2/5 correct. Using error analysis, the teacher can see that the student gets 2/5 correct; but for the three that are incorrect, the student has failed to perform the mathematical operation of "carrying" properly. Thus, the teacher can either assess more thoroughly or give this student more instruction and practice on carrying.

Making Instructional Decisions

Once teachers have a reasonable understanding of students' knowledge and skill levels, they can use this information to guide teaching practices. Understanding

exactly what students know and do not know can help them in making decisions about appropriate content, sequencing and pacing, and modifying activities for particular students. This is particularly important in general education classrooms where the abilities of students may fall across a larger range. By doing so, this makes instruction responsive to students' needs and should assist students to gain quality content knowledge and skills.

Teaching practices that are responsive to students' needs use moment-by-moment assessment to provide information for modifying instruction as it is taking place, for deciding whether to continue with a lesson/activity, to adapt or modify it, or to discontinue the instruction all together. Teachers can observe students as they work, question them about what they are learning, and look for other signs that might provide information on how learning is proceeding. Responsive teaching practice also uses more formal assessment strategies such as checklists, journal entries, work samples, exit problems, and quizzes to provide information ahead of time that may be useful for making instructional decisions.

Evaluating Student Achievement

Assessment becomes evaluation when the purpose is to communicate a student's learning to someone who is external to the classroom (e.g., parents). At regular intervals during the school year, teachers are expected to provide answers to the question: "How does each student's understanding at this time compare with the goals he/she is expected to achieve?" Answering that question entails evaluating students. This means that a teacher may collect a considerable amount of assessment information on individual students. The assessment tool implemented needs to match the purpose of assessing. From the point of view of evaluation, that information is of little use unless the teacher can communicate it to others in a comprehensible manner. Simply put, evaluating student achievement involves compressing a large amount of information into a digestible form that parents, students, and other educators can understand (Layton & Lock, 2008).

FORMAL AND INFORMAL ASSESSMENTS

Formal Assessments

Formal assessments produce data which support the conclusions made from the test. We usually refer to these types of tests as standardized measures. A standardized test is a test that is administered and scored in a consistent or "standard" manner. Standardized tests are designed in such a way that the questions, conditions for administering, scoring procedures, and interpretations are consistent, administered, and scored in a predetermined, standard manner (Overton, 2006). These tests produce different types of scores (i.e., overall, clusters, and subtests) and compare the scores of the test taker to that of the norm sample that has already taken the test. This analysis can tell us if the student is doing better, the same, or worse than students in his same grade or same age. Examples of standardized tests include the KeyMath3, Woodcock

Reading Mastery Test-III, and the Woodcock-Johnson Tests of Achievement IV. Scores such as percentiles, stanines, or standard scores are commonly derived from these types of assessments.

Formal or standardized measures should be used to assess overall achievement, compare a student's performance with others at their age or grade level, or identify comparable strengths and weaknesses compared to peers (Pierangelo & Giuliani, 2006). Formal assessments are conventional methods of testing that we are all very familiar with from our school days. Tests such as the American College Testing (ACT) and Scholastic Assessment Test (SAT) are classified as formal assessments. These tests are generally used to assess overall achievement, compare a student's performance with those of peers, or find a student's strengths and weaknesses (Salvia, Ysseldyke, & Bolt, 2007). Formal assessments are further broken down into separate groups: norm-referenced tests and criterion-referenced tests.

Norm-referenced Tests

These tests have strict rules in their implementation. Since these tests are used for comparisons between one student and another or one group of students and another group, schools must implement them under specific and similar circumstances in each instance of test taking. The advantage of this is that students, parents, and teachers have the advantage of knowing how each student compares to their peers (i.e., students at their own age, gender, or grade level). This can give all those involved a good look at what needs to be retaught, relearned, or reviewed, as well as showing what lessons and instructions that were most effective throughout the learning process. Another advantage of norm-referenced tests is that, although they are so highly specific in implementation, they are easily administered. All the materials are ready, all the materials are the same, and since each time taking the test must also be the same, there is little to worry about. Students and teachers alike know what to expect from the test and just how the test will be conducted and graded. Likewise, each and every school will conduct the test in the same manner reducing such inaccuracies as time differences or environmental differences that may cause distractions to students. This also makes these assessments fairly accurate as far as results are concerned, a major advantage for a test (Salvia et al., 2007).

Norm-referenced tests, like any others, have distinct disadvantages. One specific disadvantage is the heavy reliance on multiple-choice questions. This makes it easy on the grader because he/she can use a machine to facilitate grading. Students are not challenged to come up with the answers themselves. They are not charged with specifically remembering the details. As such, the assessment may only measure a broad base of understanding and might not assess the depth of a student's knowledge.

Moreover, these kinds of standard-based assessments measure the level that students are currently performing at by measuring against where their peers are currently performing at instead of the level that all students should be at (Overton, 2006). Ideally, teachers should measure students from the standpoint of "this is where the student needs to be, and this is where the student is." However,

norm-referenced assessments miss that point and only show students and teachers how the student compares to other students. Although they are helpful in measuring a student, they are not enough to fully comprehend the student's level of achievement. In other words, they are not enough to fully measure what the child has learned and what he/she need to learn in order to reach essential standards mapped out for each grade level. This means that they measure whether a child is ahead of or behind his/her peers in areas of testing.

Criterion-referenced Tests

These tests help to make up for the lack of specific information of norm-referenced tests. Criterion-referenced tests measure a child's performance and compare it to a standard, instead of another student (LAIN, 2006). Essentially, these tests are able to actually track or measure a student's mastery of a specific skill, which is ideal for areas such as grammar and mathematics. An advantage is that these tests are able to measure specific skills a student has and very clearly identify his/her area of mastery. As one skill is tested against a standard, the student is measured against that standard and given an appropriate score. There is no gray line by which to misinterpret the results. The teacher and student are left with a very succinct picture of whether the student has or has not mastered the desired skill.

Furthermore, criterion-referenced tests provide students with very little ambiguity as far as what they are being tested on. Students are made aware of the topics, subjects, or areas they are being tested on beforehand and are, or should be, fully prepared for the exam. The teacher has to cover the material on the test, unlike other standardized exams which cover a broad range of material that occasionally have not been taught in a particular classroom. With a criterion-referenced test, students are sure to be provided with the same advantages as the other as they have all learned the same materials together. However, these sorts of tests are some of the most stressful tests that a student can take. Students find criterion-referenced tests as some of the most threatening tests (LAIN, 2006). Clearly, the tests put students right out in the open where a failure or low performance can be more readily chastised. Failing such tests can lead to a failing of a grade level or the repetition of an entire concept. With such high stakes, it is no wonder that students feel so threatened by taking these sorts of exams. There is always the question of how to deal with students who deal with pressure poorly since they are more likely to do poorly on an exam of this level than a more casual exam. Likewise, these sorts of tests are developmentally time consuming (LAIN, 2006). Since a specific area must be tested, the test must also be made highly specific. It can take a great deal of time to determine and map out the types of questions or the most appropriate questions to measure a student's mastery. As such, it can take a great deal of time before a test is updated or changed, and new students can end up taking the same tests their predecessors took.

Informal Assessments

Informal assessments help teachers to catalog immediate results from their students. They are used to inform instruction. The most effective teaching is

based on identifying performance objectives, instructions based on these objectives, and then assessing these objectives. In an inclusive classroom, students working from an individualized educational program (IEP) may work off performance objectives that differ from other students in the classroom. Moreover, for objectives not attained, intervention activities to reteach them need to be developed. Instead of being driven by data, informal assessments are centered on content and performance (Overton, 2006). Since informal assessments make up such a broad and open-ended range of assessments, there are a great number of different possibilities for assessments that fall under this category. Informal assessments aid the teacher by providing quick answers to the level of learning and understanding attained by students. For example, running records are informal assessments because they indicate how well a student is reading a specific book. Scores such as 10 correct out of 15, percent of words read correctly, and most rubric scores are given from this type of assessment.

Curriculum-based Measurement

Once an individual is found to be eligible and the IEP containing appropriate goals is used to guide placement decisions, assessments are necessary to provide ongoing indications of student performance, so that any necessary adjustments can be made in a timely and effective manner. The gold standard for such monitoring is curriculum-based measurement (CBM) (Deno, 1985, 2003). CBM involves three major elements. First, it employs brief (usually, one minute in length), easy to administer measures called probes that include standardized directions. Second, it measures the same skill using different examples, but at the same level of difficulty are repeated frequently over time according to their standardized directions to allow evaluation of progress. Third, because the measures are repeated over time and are of the same level of difficulty, teachers can graph and evaluate student performance to make decisions about instructional programs and methods (Lembke, Hampton, & Hendriker, 2013).

On the whole, CBM procedures are well developed for skills that require practice for mastery. Such skills are often basic behaviors that must be automatized to support higher-level performance. For example, oral reading fluency is not a goal in itself, but rather, a platform on which comprehension is built. The same can be said of factual recall fluency in arithmetic. In written language, total number of words written, number of words spelled correctly, correct word sequences, and, for more advanced students, correct minus incorrect word sequences appear to be useful indicators in CBM (McMaster & Espin, 2007). Domain-related vocabulary appears to be the superior indicator of performance in content area classes (Espin, Busch, Shin, & Kruschwitz, 2001; Espin, Shin, & Busch, 2005).

Data-based Decision-making

Student progress is determined by two measures – rate of growth and performance level. The rate of growth (slope) provides information about how the student's reading skills have improved over time and will help predict if a student will meet the established goal or benchmark (e.g. an end-of-year goal) (Vaughn &

Chard, 2006). Teachers should collect data for a minimum of eight weeks (and up to 12 weeks) using CBMs and then graph each student's scores. The rate of growth is calculated by determining the average performance across several weeks of data collection and the slope. Teachers will first establish a goal line which is the ideal performance level students should meet. The criteria against which students' progress will be compared will depend on the type of measure being used (Fuchs, Fuchs, Hintze, & Lembke, 2007). This information can be found by looking at benchmarks the measure has established according to the type of probe and grade level.

While providing instruction and collecting data for several weeks, the teacher can simultaneously graph the data to see how it compares to the goal line. When graphing students' scores, teachers can examine the slopes of each student in comparison with the expectations of growth (i.e., goal line). This information is useful in determining which students are responding to instruction and which students are not (McMaster, Fuchs, Fuchs, & Compton, 2005). Teachers can calculate the slope (growth rate) to visually see the difference from the goal line.

When Formal and Informal Assessments Are Appropriate?

Overall, every assessment whether formal or informal has advantages or disadvantages. No assessment is perfect, and many will argue that some forms of assessment contain biases. Additionally, informal and formal assessments, in their various forms, are best when used in conjunction with each other. No one form can provide all the information a teacher needs. When using multiple forms of assessment, teachers and students can receive the greatest benefit. These assessments combined can provide teachers with the insight they need to pinpoint areas of mastery and areas that students need additional help while also providing students with data as to their achievements, and the kind of help they need to meet the standards laid out by local and government education boards. Assessments are key to education; without them, both teachers and students suffer greatly (Overton, 2006).

PERFORMANCE-BASED ASSESSMENTS

Performance assessments are an alternative to traditional methods of testing student achievement. While traditional testing requires students to answer questions correctly (often on a multiple-choice test), performance assessments require students to demonstrate knowledge and skills, including the process by which they solve problems. Performance assessments measure skills such as the ability to integrate knowledge across disciplines, contribute to the work of a group, and develop a plan of action when confronted with a new situation. Performance assessments are also appropriate for determining if students are achieving higher standards set by states for all students.

Performance-based assessments are sometimes characterized by assessing real life, with students assuming responsibility for self-evaluation. Testing is "done" to a student, while performance assessment is done by the student as a form of self-reflection and self-assessment. The overriding philosophy of performance-based

assessment is that teachers should have access to information that can provide ways to improve achievement, demonstrate exactly what a student does or does not understand, relate learning experiences to instruction, and combine assessment with teaching (http://www.emtech.net/Alternative_Assessment.html). One key feature of all performance assessments is that they require students to be active participants. These assessments focus on how students arrive at their answers and require them to demonstrate the knowledge or skills needed to obtain correct answers. For example, if high school juniors are asked to demonstrate their understanding of interest rates by shopping for a used-car loan (i.e., comparing the interest rates of banks and other lending agencies and identifying the best deal), a teacher can easily see if students understand the concept of interest, know how it is calculated, and are able to perform mathematical operations accurately (http://www.projectappleseed.org/assesment.html).

STEM PRINCIPLES FOR ALTERNATIVE ASSESSMENT

Using technology and high touch experiences are possible in many areas of the general education classroom. Classes focused on the areas of Science, Technology, Engineering, and Math (STEM) can be natural extensions of alternative assessment. Following the engineering concept of "habits of mind," Katehi, Pearson, and Feder (2009) stated that "across the curriculum, schools should adopt a mindset of: (1) systems thinking, (2) creativity, (3) optimism, (4) collaboration, (5) communication, and (6) attention to ethics" (p. 5). Using these habits of mind allows instructional designers and students, alike, to consider big ideas. When these habits are established and communicated by educators, students are allowed to think beyond the means for completing a task (i.e., communication skills, group skills, questioning, problem-solving, and listening). Using these big ideas and principles that extend beyond the core curriculum, the general classroom setting allows students with learning disabilities (LD) to be immersed in an engaged environment (Basham & Marino, 2013).

With STEM principles across the curriculum, general educators can introduce multiple opportunities for progress monitoring and assessment. Working within a district's special education structure, general educators can build curriculum that is engaging for all levels of student learning. With alternative assessment using technology, games and visual aids can provide opportunities for all students to meet clear goals. The core curriculum content (i.e., science, math, and literature) is indeed important, but the opportunity to provide real-life situations, engaging computer tasks, order strategy, and broader conceptual problem-solving can benefit multiple levels of learner variability (Basham & Marino, 2013; Katehi et al., 2009). Clearly, the process of "habit of mind" is iterative and requires constant assessment and accountability. Recognizing, through data, what is successful versus unsuccessful is required learning for special educators. Continual gathering of data is vital to the promise of goal achievements within a variable learning environment. Within a universal design for learning (UDL) environment, STEM thinking recognizes that common content can deliver multiple levels of understanding for multiple students. This variability is not only