

Screening Briefs Series

Brief #4: Ensuring Fidelity of Assessment and Data Entry Procedures

This brief discusses the importance of fidelity within assessment administration, assessment evaluation, and data entry procedures. It also includes methods to maintain fidelity within these practices.

Schools can also learn more about the role of screening in NCRTI's Essential Components document (National Center on Response to Intervention, 2010), http://www.rti4success.org/pdf/rtiessentialcomponents_042710.pdf, and from Module 1 (Screening) of the NCRTI Implementer Series <http://www.rti4success.org/resource/type/rti-implementer-series-modules>.

All of the Screening Briefs in this series are available for download from NCRTI's website, www.rti4success.org.

Fidelity of Assessment and Data Entry Practices

The term *fidelity* is often used in educational contexts to describe the degree to which a practitioner follows the prescribed directions when delivering an instructional program (Sanetti & Kratochwill, 2009; Dane & Schneider, 1998). Within an RTI framework, the term *fidelity* also extends to assessment and data entry practices (Mellard & Johnson, 2007). Fidelity within an assessment context is important; without it, it is difficult to determine whether results are an accurate representation of performance or a consequence of measurement error caused by inaccurate delivery of the assessment (NCRTI, 2011).

Although all assessments have some measurement error, the amount of error often depends on the subjectivity of the assessment. Assessments requiring evaluation judgments are more susceptible to errors

than forced-choice assessments (e.g., where the student must choose a “right” or “wrong” answer). Minimizing the need for interpretation, and following standard procedures for delivering and scoring assessments, may help reduce this error (Sanetti & Kratochwill, 2009).

Three Common Fidelity Challenges

Problems with assessment fidelity typically come from three sources: assessment administration, assessment evaluation, and data entry (Taylor, 2009). Each category introduces a new type of measurement error into student scores, but it is possible to reduce the impact of this error through training.

Category 1: Inconsistent Assessment Administration

Unlike the other forms of assessment fidelity problems, administration errors tend to be systematic and can affect a large group of students. Administration errors occur when testers make mistakes while giving the assessment—for example, the tester gives incorrect instructions, provides inappropriate assistance, or alters assessment protocols (Taylor, 2009). A small protocol change—such as reducing time allocations or altering access to certain materials—may unnecessarily put some students at a disadvantage by making their scores appear inaccurately low. Conversely, providing additional assistance that violates administration instructions may inflate students' scores, which can create the impression that at-risk students are not at risk.

Administration errors often arise when individuals administering the assessment are unfamiliar with the



assessment or the assessment's specific objectives. Alternatively, the administrator may be very familiar with the assessment, and his or her overconfidence may result in careless administration of the assessment. Thus, it is important to review administration procedures regularly so that all staff administer assessments in a consistent manner.

Administration fidelity is improved by familiarizing the test administrator(s) with administration details and assessment objectives. This can be achieved through practice assessment sessions with a coach, or in a group session during professional development, followed by practice sessions with a coach. Using a checklist of the administration details also provides a review for administrator(s) prior to conducting the testing.

Assessment companies often provide test manuals that contain assistive scripts, detailed directions, and frequently asked questions to help test administrators maintain continuity across administrations. These manuals often include information about permissible accommodations. In cases where accommodations are required, school officials should determine and plan for appropriate accommodations well ahead of the actual test administration. Some students may have accommodations as part of their Individualized Education Program (IEP) or 504 plan. For more information about testing accommodations, contact the test vendor and your state department of special education.

Category 2: Errors in Scoring Assessments

Scoring errors occur in situations where the evaluator incorrectly scores a student's response, incorrectly interprets a student's response, or is more lenient in scoring certain responses. It is important to follow the test publishers' scoring rules to ensure consistency and minimize errors across evaluators. Evaluators can introduce bias while grading assessments—for

example, they may unconsciously project correct responses into student answers where none existed (Moskal & Leyden, 2000). Other errors may occur when two or more testers must evaluate an open-ended response. Here, even if steps have been taken to remove opportunities for interpretation, differences between testers may occur due to varying interpretations of the response. Even in cases where agreement has been established, scoring differences are likely to emerge as time passes (Moskal & Leyden, 2000).

There are a number of steps that can be taken to reduce errors that may occur due to evaluator differences :

- Code student names so that identification is difficult to prevent conscious or unconscious evaluation bias among testers.
- In scenarios that require two or more evaluators, they should establish and follow written protocols prior to evaluating the assessments.
- Assessment protocols should include rubrics for responses that require a degree of interpretation, and evaluators should be trained in the use of these rubrics with clear directions and assessment opportunities.
- Once trained, evaluators should demonstrate high interrater reliability, which is the degree to which two raters, scoring identical student responses, agree with one another.
- Evaluators should also periodically check to make sure they maintain high interrater agreement when scoring assessments.

Category 3: Data Entry Errors

Data entry errors are a third common source of assessment errors. Many assessment scores are now entered into databases via computer grading systems. Computer-based systems reduce many kinds of errors



and are generally the preferred method of data entry, although certain scenarios still require manual data entry. With manual data entry, scores may be incorrectly entered because of simple mistakes, but errors may also arise from disagreements in data entry procedures. A disagreement in data rounding procedures, for example, may lead to some students being categorized as at risk and others as making satisfactory progress.

Data entry errors can be reduced through periodic data checks. One method of verification involves data being checked throughout the entry process. Once the data have been completely entered, staff should plan to randomly select a portion of the scores (e.g., 10–20

percent) for verification. Should data entry errors surface during the verification process, a deeper analysis is required to ensure an error-free database.

Efforts to increase assessment fidelity of administration, scoring, and data entry will increase stakeholders' confidence in the assessment system and reduce preventable classification errors. Establishing a system that minimizes error requires sufficient and ongoing training of staff members. Schools should work with assessment companies to ensure that assessment systems are designed and implemented properly at all levels, and that procedures are checked on an ongoing basis, to prevent drift and ensure implementation fidelity over time.

References

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Through funding from the U.S. Department of Education's Office of Special Education Programs, the American Institutes for Research and researchers from Vanderbilt University and the University of Kansas have established the National Center on Response to Intervention. The Center provides technical assistance to states and districts and builds the capacity of states to assist districts in implementing proven response to intervention frameworks.



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