

Evaluation Brief

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Using End-of-Grade Data For Self-Assessment and Improvement of Instructional Programs

Since a primary purpose of education is to help students progress from where they are to the attainment of more advanced goals, teachers need data that will help them evaluate their instructional programs. Based on the evaluation, teachers may make decisions about strengths of their programs and aspects that they may want to modify. The *Standard Course of Study* (SCS) provides the state's expectations for what students should know and be able to do for each grade and in each subject area. Individual school systems may also define additional goals beyond the SCS. End-of-Grade (EOG) test scores, as reported on Goal Summary Reports, provide trend data that can help teachers examine their own programs.

Quality Programs

A strong instructional program in English Language Arts and Mathematics incorporates all goals in the North Carolina *Standard Course of Study* (SCS). Quality programs help students develop conceptual understandings, master specific knowledge and skills, and apply their learning to create products and perform real-world tasks. In judging the strength of an instructional program, attention must be paid to both the up-front planning and the resulting student achievement.

Daily Lessons

One important element of reflecting on one's own teaching practices includes examining the quality of individual lessons. Teachers make choices about what is taught and how it is taught. These choices reflect what teachers value and should be made so that students are actively engaged in the learning process. Daily activities should be part of a larger unit of instruction to help students to understand the connections among the concepts they are learning and to accomplish what is essential for them to learn.

Units of Instruction

Units of instruction – clusters of lessons that are connected to a larger concept – should map to the SCS. Looking at which elements of the SCS are addressed by various units during the school year can provide information about whether instruction is adequately covering the material that students need to master in English Language Arts and Mathematics at each grade level.

EOG Data

The scores that are derived from EOG testing data in grades 3-8 are one source of formative information about the effectiveness of a teacher's instructional program. Goal Summary Reports provide specific breakdowns of EOG scores in reading and mathematics. In reading, the percent of test items answered correctly is reported for each of the three Goals in that subject area (Skill Development, Acquisition/Application, and Critical Analysis/Evaluation). The Acquisition/Application score is broken down further into three Objective scores. Scores are calculated somewhat differently for mathematics, however. In mathematics, percent of test items answered correctly is reported for Computation and Application as well as for the seven Goals shown in the table on page 3. Goal Summary Reports for the state are published annually by NCDPI. Goal Summary Reports for individual classrooms can be obtained from local test directors.

Interpretation

Using these Reports, teachers can engage in self-assessment by looking at how students in their classrooms have performed over time on the SCS, particularly in comparison to the state average. Looking at these data over multiple years is especially useful, since results in any one year may be due to special conditions, such as atypical groups of students. These trends provide a starting point for self-evaluation about potential strengths and weaknesses in an instructional program and for modifying units of instruction.

Care must be taken, however, in the interpretation of EOG data when it is broken down beyond the total reading or mathematics score, and also when percent of items correct is the measure used. While the overall tests are equally difficult from year to year, the groups of items associated with each Goal or Objective may not be of equal difficulty. Therefore, it is not appropriate to compare percent of items correct on one Goal or Objective to percent correct on a different Goal or Objective in the same year. Comparing scores on a Goal or Objective for a group of students to the state average for that same Goal or Objective is the best and most legitimate comparison, particularly when it is done across multiple years.

One Example

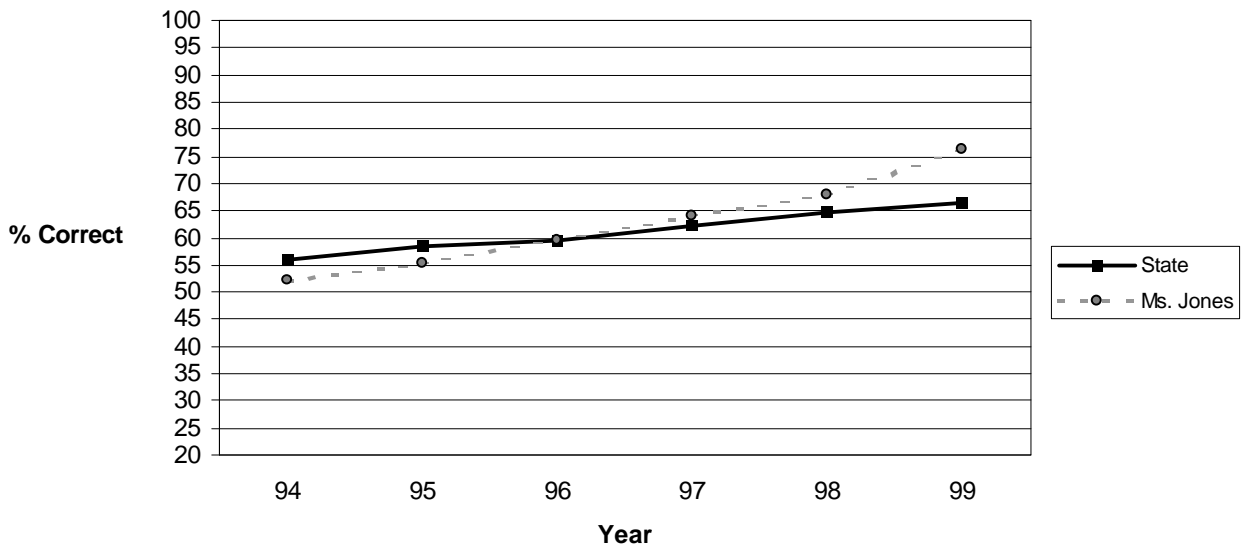
In this hypothetical example, "Ms. Jones" is a 5th grade teacher interested in how her students are performing in mathematics. After obtaining Goal Summary Reports for her class from 1994-99, Ms. Jones recorded the percentage of items her students answered correctly in both Computation and Application and also on each Goal from the mathematics EOG test over the past 6 years. She also obtained the corresponding statewide averages for those same 6 years.

Using the table below, Ms. Jones entered her students' data along with the state's data (Since these data are hypothetical, only the Numeration Goal is shown). Using the graph on page 3, Ms. Jones then plotted the data to see how her groups of students performed in the Numeration Goal over time, as well as compared to the state average.

Percent of Items Correct - 5th Grade Mathematics

MATH	94		95		96		97		98		99	
	State	Class	State	Class	State	Class	State	Class	State	Class	State	Class
	Computation											
Application												
Goal 1: Numeration	56.1	52.2	58.3	55.3	59.6	59.5	62.3	64.0	64.6	67.7	72.4	76.2
Goal 2: Geometry												
Goal 3: Patterns/Pre-Algebra												
Goal 4: Measurement												
Goal 5: Problem Solving												
Goal 6: Data/Probability												
Goal 7: Computation												

Content Area: Mathematics Grade: 5 Goal/Objective: Numeration



These data show that over the last several years, Ms. Jones' students' performance has improved in the Numeration Goal on the end-of-grade test compared to the overall state average. Her students' scores have been increasing each year, and her classes have surpassed the state average in this goal for the past 3 years. It might be inferred that Ms. Jones has worked to improve this aspect of her mathematics program and that her efforts are succeeding.

Interpreting Trends

Comparing classroom data with state averages over time will indicate if students in a teacher's program are performing on EOG tests at approximately the same level as other students across the state in a particular goal. Comparing performance over time across Goals or Objectives may indicate strengths and areas of need within the total program.

When the classroom trend line for a given Goal or Objective is consistently higher than the one for students across the state, it is possible to infer that this is a relative strength in the instructional program. If the classroom trend line is consistently lower than the trend line for the state, that area may need more emphasis. “Peaks and valleys” in the trend lines may require investigation: Were new materials used that were not as familiar or that strengthened the program? Was additional time (or less time) devoted to that area during the year? Were student groups during certain years different in some way? It is also important to remember, however, that scores for individual classes will always have more “fluctuation” than the state average. For this reason, looking at trends over time (and not just one year alone) is very important.

When examining data across the various Goals or Objectives, it is possible to note if the trend lines are further above or below the state averages. These comparisons focus on the instructional program as a whole rather than examining performance on one particular Goal or Objective.

Examining your Program

Included with this Brief is a four-page insert that gives step-by-step instructions for organizing and plotting your EOG reading and mathematics data. Tables on which to record data and graphs for plotting trends are also included. These tables and graphs can be copied so that you can record data from each Goal. If your system has many high-performing schools, the district averages may provide a more appropriate comparison than state averages.

Taking Action

Plotting and interpreting the data are only the first steps. Using the information to improve instruction is the most important part of the process. If the trend lines indicate that your students are consistently performing better than the state average, talk with colleagues about what you are doing. Although some student populations might be expected to obtain higher scores, successful strategies still need to be shared!

If your students are not doing as well as you would like, ask yourself how you can strengthen your program. Again, talking with colleagues can be helpful. Challenging student populations may require a greater array of instructional strategies. These strategies might include more time spent in certain areas of the curriculum, greater depth and emphasis on key ideas, more use of ongoing assessment strategies to guide daily instructional decisions, working more closely with colleagues, or enrolling in professional development.