Data Analysis, Research and Reporting Services: Classroom Effectiveness Indices Analysis and Applications

Veronica Averhart Preston, Ph.D.

At-a-Glance

A Classroom Effectiveness Index, or CEI, is a value-added measure of the amount of academic progress that a teacher afforded his or her students after a year of instruction. CEIs evaluate a student’s performance on select summative, standardized tests by comparing his or her performance to that of similar students in the district. “Similar students” have the same demographic characteristics (i.e. gender, ethnicity, LEP status, socioeconomic status, and three neighborhood characteristics) and the same level of achievement on the same prior-year tests. An important feature of the CEIs is the use of a comparison group to measure relative progress. This measure of performance is in contrast to a system, such as the Academic Excellence Indicator System (AEIS), which evaluates students’ absolute progress against a pre-determined score criterion.

CEIs are computed at three levels. A teacher receives a CEI for each section, course, and division (or content area) he or she teaches. Reports containing all CEIs, as well as student-level information, are provided annually via MyData Portal to teachers, principals, and senior executive directors as a tool to guide instructional and professional development planning.

Background

During the 2010-11 school year, 6,586 teachers throughout the district taught CEI-eligible courses. Among those eligible, 5,804 teachers received CEIs during initial production. After the publication of CEI reports in September 2011, teachers had the opportunity to formally request investigations into their 2010-11 CEIs. Investigations were based on data quality issues including demographic, attendance, and assessment results. The adjustment request process was available for specific, documented adjustment requests. Even though there is a transition away from post-production corrections to the rosters of students, requests to include or exclude students were accepted if submitted with explanation and the principal’s approval.

2011-12 CEI Adjustment Process

Teachers used a standard form to request adjustments to their 2010-11 CEIs, which involved the verification of data used to compute individual CEIs, and where appropriate, the recalculation of CEIs. DARRS staff reviewed each request by examining appropriate information sources, such as the district’s student information system, preliminary CEI rosters maintained in DARRS databases, CEI training documents, and databases used in the calculation of CEIs and School Effectiveness Indices, or SEIs. CEIs were recalculated when data and roster discrepancies were confirmed. Additionally, an updated report containing the new or “adjusted” CEI was posted on MyData Portal. Teachers who submitted adjustment requests received memoranda explaining the outcome of the investigations. Principals were notified when teachers from their schools received any correspondence regarding their adjustment requests.

During the 2011-12 CEI adjustment period for 2010-11 CEIs, 51 traditional adjustment requests were submitted by teachers from 33 schools throughout the district.

There were three main types of issues presented in the 2010-11 CEI adjustment requests:

1) **Roster Corrections:** Submitted by teachers who felt that their report did not accurately reflect the students they taught during the 2010-11 school year. The improper correction of their rosters during the spring roster verification process was a common cause for this request. Teachers with students who were continuously enrolled in the course but not listed on the final CEI report also requested roster corrections.

2) **Policy Issues:** Submitted by teachers who wanted to refute the guidelines used to determine teachers’ eligibility for CEIs. Not calculating CEIs for teachers who are on
official leave for more than twenty working days during the school year or for teachers who have fewer than eight students who meet all CEI eligibility criteria were contested guidelines.

3) **Calculation of CEIs:** Submitted by teachers who questioned the validity of the methods and data used to compute CEIs.

![Figure 1](image1.png) **Figure 1.** Adjustment requests are differentiated by type based on the major issue described by the requester.

Thirteen official adjustments were completed during the 2011-12 CEI adjustment process. Six general types of adjustments were performed. The first type of adjustment added one or more students to a teacher’s course. The second type of adjustment calculated CEIs for teachers who did not receive them during their initial production because they were marked as not meeting one or more of the eligibility criteria. The third type of adjustment linked students to a teacher in one or more six-week periods. The fourth type of adjustment removed CEIs for teachers who received them in error. The fifth type of adjustment removed select students from a teacher’s course. The sixth type of adjustment updated the courses that were assigned to the teacher for the purposes of CEIs.

![Figure 2](image2.png) **Figure 2.** Adjustments were classified and counted by type of request.

Of the 51 adjustment requests submitted, 38 (74.5 percent) were not adjusted. Teachers who did not receive an adjustment were provided memoranda explaining why an adjustment was not necessary or appropriate. Principals received copies of the memoranda sent to teachers currently employed at their campuses.

There were five predominant issues addressed in the memoranda sent to teachers:

1) **Less Students on Report than Roster:** Described the difference between being enrolled in a teacher’s course and being CEI-eligible. Teachers were reminded that students had to be enrolled in their course for all six-week grading periods of the term (either semester or year) as well as meet all other eligibility criteria in order to be included in their CEI.

2) **Red bar/green bar:** Addressed teachers’ interpretations of their CEI results in relation to their students’ TAKS passing rates. It was explained that the CEI is a measure of students’ relative gain, not passing rate. In order for a student to have a high relative gain score, he must outperform the average score of his comparison group, whether that score is a “passing” or a “failing” value.

3) **Test Combination:** Reiterated the appropriateness of excluding students who lacked prior-year or current test scores from the calculation of teachers’ CEIs. The missing test combination of each student in question was confirmed and listed in this memorandum.

4) **Course vs. Division CEIs:** Focused on teachers’ perceived discrepancies between course CEIs and division CEIs as well as relative gain scores and TAKS Growth profiles. It was emphasized that a course CEI is the average fairness adjusted relative gain score standardized within grade and test for a course, while the division CEI is the average fairness adjusted relative gain score standardized within division. It was also explained that even though TAKS Growth Profiles and CEIs address students’ performance in comparison to members of their peer group, different types of data and formulas are used to calculate these values, and as a result, they do not provide the same measure of student performance.

5) **On Leave:** Explained to teachers who were on leave for more than 20 working days during the 2010-11 school year that they were not eligible to receive a CEI. This decision was made based on teacher input, which determined that it makes the indices fairer to teachers by only holding them accountable for students they were in contact with throughout the school year. As a result, teachers who are on leave for more than 20 days are ineligible to receive CEIs.
2011-12 Teachers’ CEI Report

To generate the 2011-12 Teacher’s CEI Report, two databases containing relevant teacher- and student-level data were created. Based on the information available in these databases, reports were produced for all teachers who taught at least one CEI-eligible course in which at least one student was linked to the teacher for a sufficient number of days during the term. Changes were made to the Teacher’s CEI Report for 2011-12, including the addition of information about students’ participation in the district’s talented and gifted (TAG) and special education (SPED) programs and a note about teachers’ submission of rosters during the second spring CEI Roster Verification period. The goal in making all changes was to increase teachers’ and principals’ understanding of CEIs and increase the overall usefulness of CEIs in instructional professional development planning. The sample teacher report was updated to include the new features of the report.

Recommendations

2011-12 CEI Adjustment Process

The CEI adjustment process should continue to provide an easily accessible and fair platform for teachers to dispute their CEIs. To accomplish this goal, it is recommended that DARRS continues to refine the adjustment process to increase its overall efficiency by

- Encouraging digital submission of adjustment requests to better track submissions
- Sending reminders to reduce the number of late submissions
- Collaborating with the Effectiveness Indices Advisory Council and other departments to determine the continued appropriateness and usefulness of certain CEI-related policies

2011-12 Teachers’ CEI Reports

The CEI report is a tool designed to provide clear and complete information about CEIs to teachers, principals, and senior executive directors. Presenting CEI-related information transparently in a user-friendly format should remain the main purpose of the CEI report. To aid in this, DARRS should aim to include more student information in the report, such as enrollment dates and additional reasons for exclusion.