Excerpt from Proposal re: Linking to Grades 3-8

2.7.11 The contractor shall provide a study linking the established scale for Algebra I, English II, and Biology end-of-course assessments to similar content area MAP assessments for grades 3-8. The contractor shall provide the state agency with a report of the results of the linking study in both a paper and electronic format by January 1, 2009.

Riverside Publishing understands from the RFP that DESE would like a linkage to be established between the established score scale for Algebra I, English II, and Biology and the most similar MAP content-area tests. If this continues to be DESE's desire as these new tests are being developed, we proposed to this effort by including item sets, most likely from the MAP grade 8 tests in Mathematics, Communication Arts, and Science, in embedded field-test item positions in the End-of-Course test forms during the spring 2009 operational administration. By calibrating these items with the operationally scaled End-of-Course Assessments, we would be able to link or scale together the End-of-Course Assessments and the MAP grade 8 content-area tests.

While the concept of linking the three initial End-of-Course Assessments to the already existing MAP grade 8 content-area tests may make sense at a high level, we believe that DESE should consider whether it makes sense when looking at the specifics of such a linking process. One potential concern is the similarity of the construct involved. While keeping the linking only to those assessments that are most similar in content, DESE is clearly thinking about the issue. However, it may be worth further examination, given the much more specific content of the End-of-Course Assessments (e.g., Algebra I vs. grade 8 Mathematics, English II vs. grade 8 Communication Arts, Biology vs. grade 8 Science). To the extent that the specifications or constructs under measurement differ, the assumptions for linking will not hold and the resulting scaling work may not be appropriate or accurate.

An alternative approach for consideration by DESE is a prediction or projection study, predicting End-of-Course Assessment performance from student performance on the corresponding MAP grade 8 tests. Given that the test specifications for the MAP grade 8 tests and the corresponding End-of-Course Assessments may differ significantly,

prediction or projection may be the most appropriate form of linkage (Linn, 1993[1]). A prediction study would not require administering any additional tests or items. It would, however, require some effort in retrieving MAP grade 8 test scores for a sample of the students taking the End-of-Course Assessments operationally in spring 2009. Should DESE elect to use this approach, we will work with the state agency to select representative samples of about 1,500 students taking each of the spring 2009 operational End-of-Course Assessments in Algebra I, English II, and Biology. (If the same students were taking all three assessments, the total sample requirement would be 1,500.) We would then need to retrieve MAP grade 8 content-area scores for these same students, probably from the 2006 through 2008 administrations. This data set would then be used to estimate a predictive relationship between the End-of-Course Assessments and the MAP grade 8 tests, allowing for DESE to report an End-of-Course Assessments predicted score based on the MAP grade 8 test scores.

[1] Linn, R.L. (1993). Linking results of distinct assessments. *Applied Measurement in Education*, 6(1), 83–102.