AEBG Math Crosswalk Meeting Notes

Monday, November 27, 2017

The purpose of this meeting was to develop a draft crosswalk between the updated math Educational Functioning Levels (EFL) associated with the National Reporting System (NRS) and the descriptors for CB21 levels, which are associated with California community college levels below a transfer-level course.

Once the new CASAS test is approved, this crosswalk will help to establish equivalencies between measurable skills gains associated with assessment test scores and the gains associated with moving from one level of the college basic skills sequence to the next, for the purpose of legislative reporting for the Adult Education Block Grant (AEBG). In addition, adult education consortia can leverage this crosswalk to support regional efforts to align adult schools' evolving curricula and determine placement methodologies. Finally, the findings of the group will be shared with the Chancellor's Office to highlight quantitative reasoning competencies that are present in the federal standards but are not described in CB21.

The meeting was attended by math faculty from K-12 adult education providers, community college noncredit programs, and community college credit programs. The crosswalk used the competencies associated with the community college Common Assessment Initiative (CAI) to create greater specificity than is provided in the revised EFL and CB21 descriptors. The meeting was then spent discussing whether the draft alignment was accurate.

Noncredit Math

The first portion of the day focused on mapping the noncredit CB21 levels. Overall the group found that the college noncredit levels were split across several federal levels as follows:

<table>
<tr><th>CB21</th><th>Revised EFLs</th></tr>
<tr><td>CB 21 Level D – Credit</td><td rowspan="2">EFL 3 (CCR Level C)</td></tr>
<tr><td rowspan="2">CB21 Level D - Noncredit</td><td>EFL 2 (CCR Level B)</td></tr>
<tr><td rowspan="3">EFL 1 (CCR Level A)</td></tr>
<tr><td>CB21 Level E</td></tr>
<tr><td>CB21 Level F</td></tr>
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The issue was complicated by the fact that there are two CB21 D levels covering arithmetic (one for credit and one for noncredit), which have different competencies. Furthermore, the lack of CAI competencies for the noncredit descriptors made it difficult to create a definitive crosswalk to the revised EFLs.

Overall, the group felt that CB21 D-Credit aligned better with the revised EFLs. Given the recent passage of AB705, which requires colleges to provide offerings that allow students to complete a transfer-level math course in their first year, the college faculty speculated that many colleges would no longer be teaching the lowest levels outlined in the noncredit CB21 descriptors. Both college and K12 faculty agreed that a student who had completed EFL level 1 (Beginning Literacy) would be too advanced to be placed into CB21 F (Numeric Literacy).

Credit Math

The second portion of the day was spent aligning the new EFLs to the credit CB21 sequence. As was the case with the current ELFs, the sequences do not align precisely, with some competencies taught in a different order. For example, students who had completed EFL level 2 (Beginning Basic) could master a number of the competencies taught in Pre-Algebra, such as writing expressions, but would not have learned some of the key skills required for linear equations and inequalities until completing EFL level 4 (Middle Intermediate).

In some cases, the faculty identified discrete CAI competencies that should not result in an adult student receiving a lower placement. For example, for Arithmetic (CB21 D-Credit), students are expected to "solve problems involving finding the whole, given a part and the percent and problems involving finding the part, given a percent and the whole." In the EFLs, percents are not taught until EFL level 4 (Middle Intermediate), but given the students' exposure to fractions, this specific knowledge gap should not require that a student be placed in Arithmetic (CB21 D).

In other cases, the faculty struggled to align competencies due to lack of specificity in the EFL descriptors or complex concepts alluded to in the CAI competencies. For example, for the CAI competency "convert between scientific notation and decimal notation," it was unclear whether the emphasis was on moving the decimal point or mastering the concept of scientific notation and exponents, which might influence whether the adult school student had mastered critical prerequisite skills.

Given that colleges may be moving to co-requisite models of instruction, adult education consortium could identify specific critical skillsets that could be offered in a companion course to its gateway courses, or taught in a bridge program, to enable adult education students to be placed in higher math courses.

Alignment of CB21 and Federal Standards

The group also examined competencies that appeared in the federal standards that are not in CB21, and noted the following:

- CB21 should be amended to include mathematical practices, which are spelled out at each level in the federal standards.

- For number sense and operations competencies, the CB21 descriptors do not include enough specifics. For example, at the lowest level, CB21 does not specify which operations should be mastered or whether single-digit computation is in service of multi-digit computation.

- Additional clarification about algebraic thinking is needed at the lowest levels of CB21. For example, students need to master the relationship between subtraction and negative numbers, which is a necessary skill for pre-algebra. The group also felt that mastery of the number line was introduced too late in the CB21 sequence.

- Geometry is not clearly scaffolded in CB21, appearing mostly as an application of algebraic content. For example, CB21 does not mention shapes and measurement. Additional descriptors are needed, particularly in cases where geometry plays a prominent role in contextualized math instruction, such as courses associated with construction crafts programs.
- CB21 also lacks specific descriptors about data analysis skills, given that jobs increasingly require the ability to work with data sets.
- The college practitioners emphasized the need to expand CB21 to include college-knowledge and other noncognitive skills that are embedded into many basic skills courses. With the transition to shorter remedial sequences, these skills may be critical to students' ultimate success.