

ELDA/Mac II Conversion Analysis

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In 2007, Arkansas began to use the English Language Development Assessment (ELDA) to assess the English language acquisition progress of English language learners (ELLs). Up until that time, Arkansas had used the Maculitis Edition II (Mac II). In order to assess growth of individual students over time, it is therefore necessary to be able to express scores on the two tests on a common scale so that scores on the Mac II can be expressed as ELDA scores or ELDA scores can be expressed as Mac II scores.

To convert scores from one test to the other, Measurement Incorporated (MI) used an equipercentile equating procedure. This procedure is based on the notion that the percentile rank of a score on one test will be equivalent to a score on the parallel test at the same percentile rank. Thus, for example, for the Mac II test given to fifth graders, a scale score at the 74th percentile would have equivalent value to a scale score at the 74th percentile on the corresponding ELDA test. We used a program called LEGS, produced by the Center for Advanced Studies in Measurement and Assessment (CASMA) at the University of Iowa). Using this program, we produced 60 separate conversion tables, one for each grade/subject combination and grade-cluster/subject combination. In addition, we have produced a summary table showing the comparative cut scores for five levels (ranging from pre-functional or Level 1 to Fully English Proficient or Level 5). These tables are in the attached Microsoft Excel workbook.

In general, ELDA presents a greater challenge to Arkansas ELLs. Specifically, far fewer students reach Level 5 on any of the ELDA subtests than had reached this level on the corresponding Mac II subtests. Figures 1-4 show the percentile ranks for Level 5 for each of the four subtests (Listening, Speaking, Reading, and Writing). In general, about 15 percent of students at any grade would qualify for Level 5 with ELDA, as opposed to roughly 50 percent with Mac II.

Percentile Rank of Level 5 Score: Listening

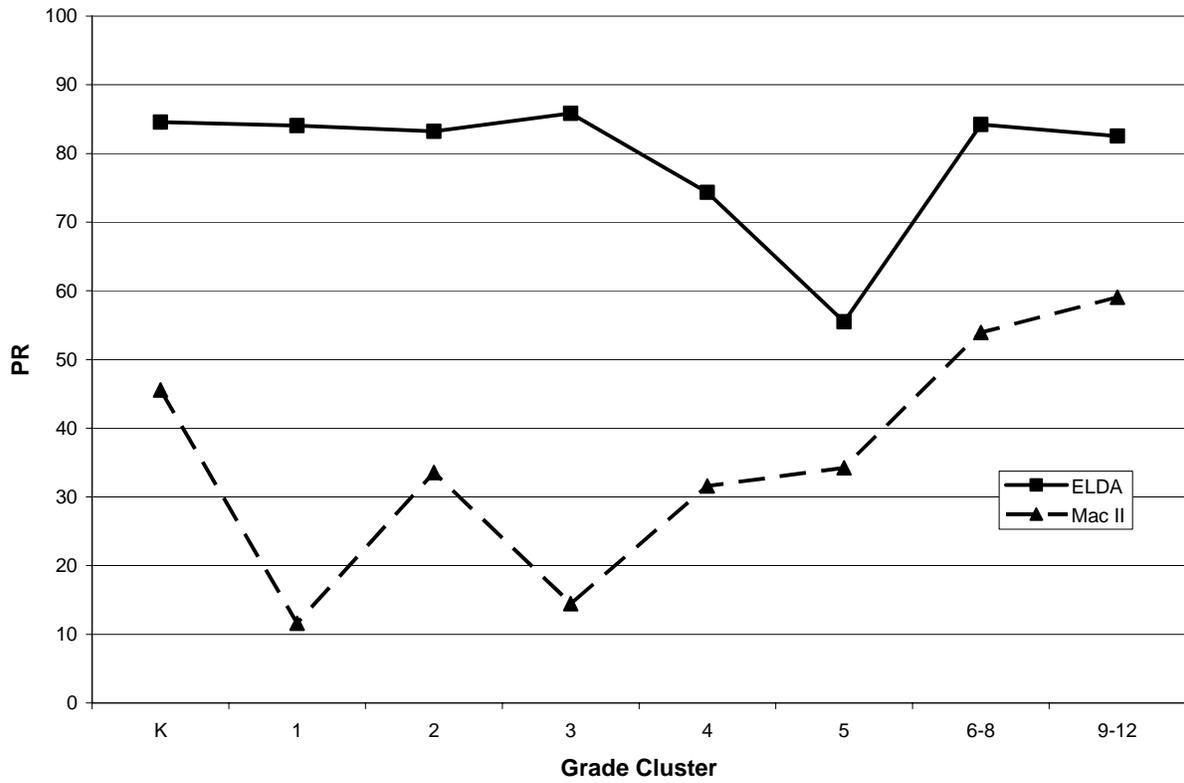


Figure 1. Percentile Rank of Level 5 Score: Listening

Percentile Rank of Level 5 Score: Speaking

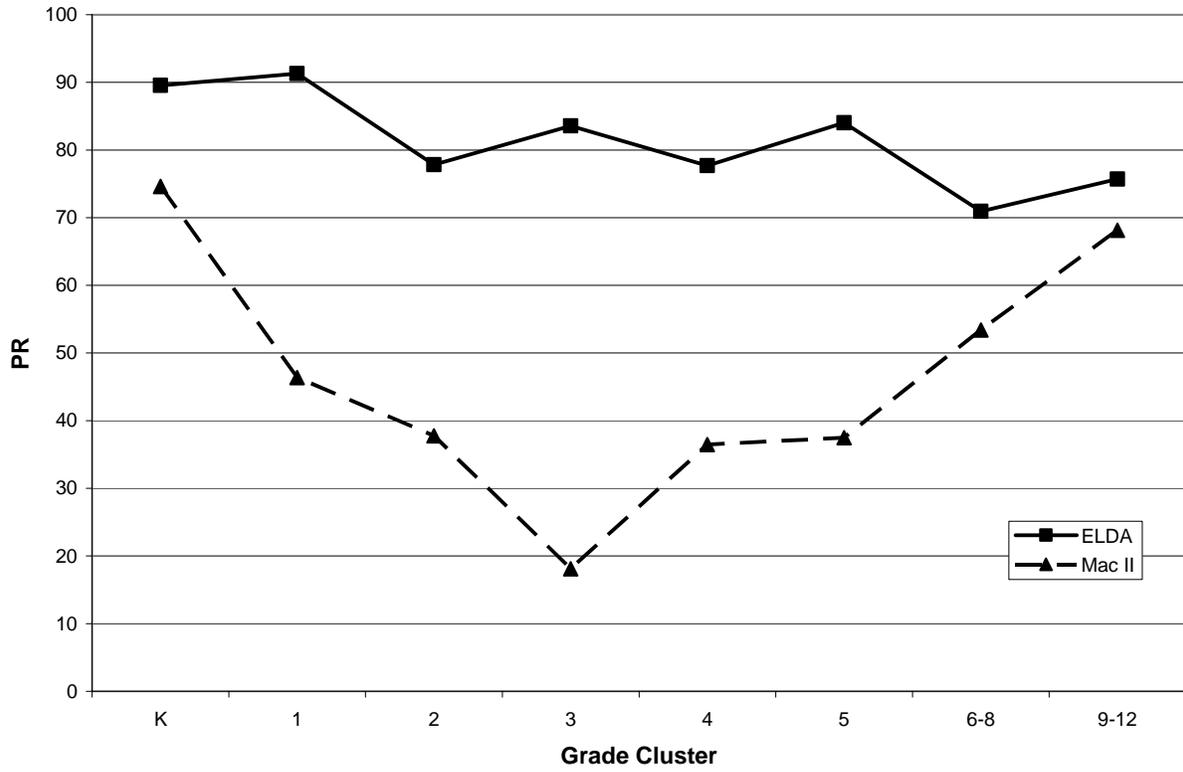


Figure 2. Percentile Rank of Level 5 Score: speaking

Percentile Rank of Level 5 Score: Reading

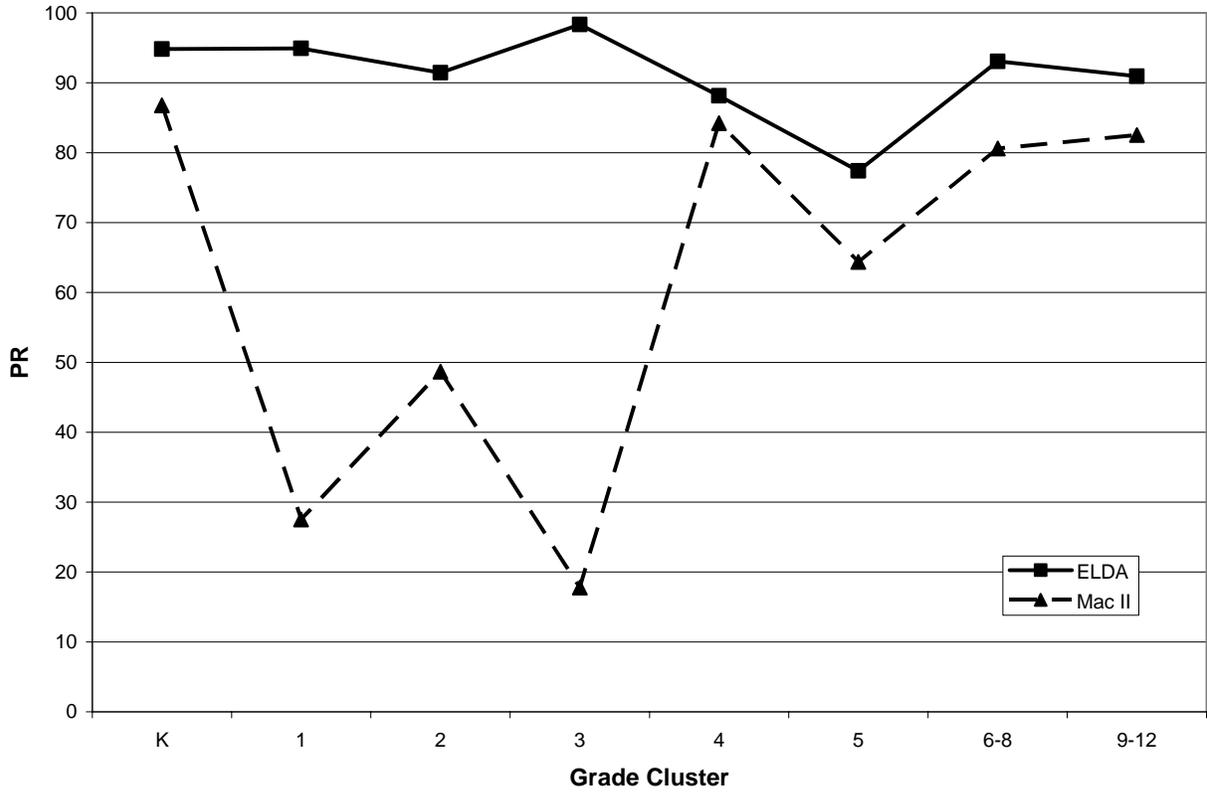


Figure 3. Percentile Rank of Level 5 Score: Reading

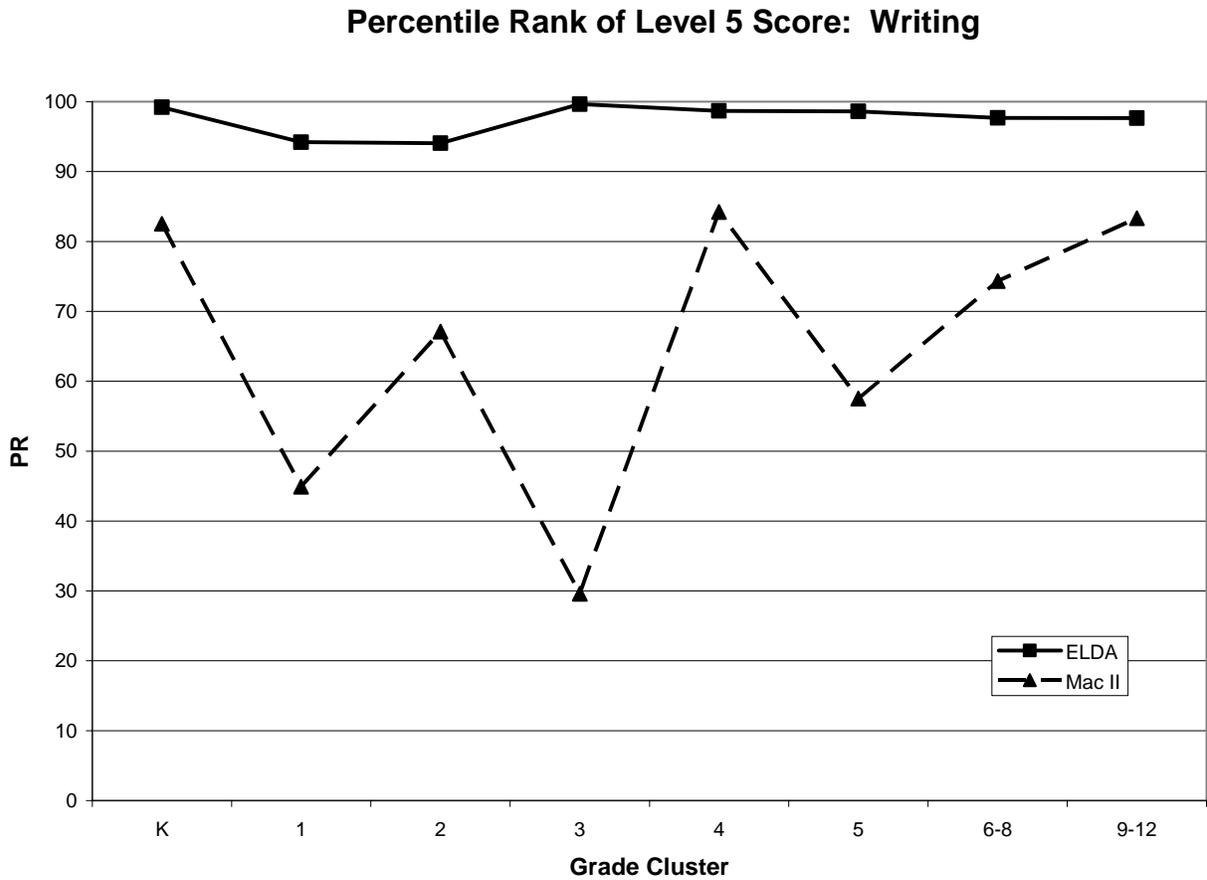


Figure 4. Percentile Rank of Level 5 Score: Writing

In addition to providing a higher standard for program exit, ELDA also appears to provide a smoother transition from grade to grade, as evidenced in Figures 1-4. In most instances, the percentile ranks are fairly consistent across grades or grade clusters for ELDA, while the ranks for Level 5 for Mac II are quite inconsistent.

Using the Attached Tables

The attached Microsoft Excel tables show the full range of scale scores and corresponding percentile ranks for ELDA and Mac II for 941 students who took both tests in the spring of 2007. In some instances, there were multiple comparisons because the division of Mac II test levels does not exactly match that of ELDA. We should also point out that for some tests, the score range was quite restricted. For example, in some of the lower grade tests, no student obtained a score below Level 3 on the Mac II, and in a few instances at the upper grades, no student obtained a score at Level 5 on the ELDA. Thus, the conversion tables are restricted to the range of obtained scores, rather than the range of possible scores.

Figure 5 will serve as an illustration of how to use and interpret the spreadsheets. The order of columns is MAC, ELDA, Percentile Rank, MAC Level, and ELDA Level. This progression is repeated in order to conserve space. The first column (MAC) shows a Mac II scale score. The next column (ELDA) shows the corresponding ELDA scale score, obtained through equipercentile equating. The next column (Percentile Rank) shows the percentile rank of the scores in the first two columns. Thus, for example, the Mac II score of 173 corresponds to the ELDA scale score of 79, both of which are just below the first percentile of their respective score distributions (0.74th percentile to be exact). The final two columns (MAC Level and ELDA Level) show the proficiency level that the corresponding scale score would yield. In this particular example, the lowest score any student received on the Mac II was 79, which is at Level 3. The Mac II has lower scores, corresponding to Levels 1 and 2, but no one in the sample obtained these scores.

MAC	ELDA	Percentile Rank	MAC Level	ELDA Level		MAC	ELDA	Percentile Rank	MAC Level	ELDA Level
173	79	0.74	3	1		223	157	80.88	4	3
174	80	1.47	3	1		224	157	80.88	4	3
175	81	1.47	3	1		225	159	82.35	4	3
176	83	1.47	3	1		226	159	83.82	4	3
177	91	2.94	3	1		227	160	83.82	4	3
178	93	4.41	3	1		228	160	83.82	4	3
179	94	4.41	3	1		229	160	83.82	4	3
180	95	4.41	3	1		230	161	83.82	4	3
181	99	5.15	3	1		231	161	83.82	4	3
182	100	5.88	3	2		232	161	83.82	4	3
183	100	5.88	3	2		233	162	83.82	4	3
184	101	5.88	3	2		234	162	85.29	4	3
185	108	8.82	3	2		235	162	86.77	4	3
186	112	11.77	3	2		236	162	86.77	4	3
187	113	11.77	3	2		237	162	86.77	4	3
188	113	12.50	3	2		238	162	86.77	4	3
189	113	13.24	3	2		239	162	86.77	4	3
190	113	13.24	3	2		240	162	86.77	4	3
191	114	13.24	3	2		241	162	86.77	5	3

Figure 5. Sample Portion of a Mac II/ELDA Comparison Spreadsheet

The shading in the ELDA level and MAC Level columns is to set off the various levels (Levels 2 and 4 are shaded, while Levels 1, 3, and 5 are not). This shading also highlights similarities and differences in levels across the two test batteries. As noted previously, the ELDA is much more difficult for Arkansas ELL students. In Figure 5, for example, although no student obtained a Mac II score below Level 3, there were quite a few ELDA scores at Levels 1 and 2. Similarly, in the final two columns on the last row, we see that students begin to achieve Level 5 in the Mac II while they are still at Level 3 of the ELDA. We have provided these columns because we understand that while it is important to match scale scores, it is also important to know where students stand with regard to proficiency level on the respective tests.