

5. COMPARATIVE CLASSICAL AND IRT STATS ACROSS YEARS FOR THE COMMON ITEMS USED IN GRADES 6-8

The p-values of common items were compared across the two years (2009 and 2010) for Grades 6 to 8 to collect information about how much a possible year-to-year linking common item had changed in consecutive years with regard to item difficulty. Grades 3-5 had no common items as this was the first year of administration.

Tables 5.1 to 5.3 provide both the p-values and the Rasch difficulties of the common items across the two years of administration for grades 6-8. Figures 5.1, 5.3, and 5.5 graphically display the shifts in p-values for the common items across the two years. Figures 5.2, 5.4 and 5.6 display the same for the Rasch item difficulty parameters prior to placing them on the common scale.

Table 5.1. P-Value and Unequated Rasch Difficulty Comparisons of Core Linking Items Year 2009 with Year 2010: Grade 6

| Item No. | Item CID | P-Value 2009 | P-Value 2010 | Difference in P-Values | Rasch Difficulty 2009 | Rasch Difficulty 2010 |
|------------|--------------|--------------|--------------|------------------------|-----------------------|-----------------------|
| 1 | 100000198185 | 0.38 | 0.41 | 0.03 | 0.3977 | 0.3028 |
| 2 | 100000099232 | 0.57 | 0.60 | 0.03 | -0.4626 | -0.5599 |
| 3 | 100000198162 | 0.40 | 0.43 | 0.03 | 0.3156 | 0.2080 |
| 4 | 100000198232 | 0.32 | 0.33 | 0.01 | 0.6694 | 0.6908 |
| 5 | 100000198210 | 0.38 | 0.35 | -0.03 | 0.3908 | 0.5815 |
| 6 | 100000198211 | 0.49 | 0.51 | 0.02 | -0.1220 | -0.1674 |
| 7 | 100000198212 | 0.66 | 0.63 | -0.03 | -0.8737 | -0.6721 |
| 8 | 100000187836 | 0.59 | 0.61 | 0.02 | -0.5550 | -0.5970 |
| 9 | 100000198178 | 0.45 | 0.47 | 0.02 | 0.0892 | 0.0166 |
| 10 | 100000198235 | 0.44 | 0.48 | 0.04 | 0.1385 | -0.0091 |
| 11 | 100000198186 | 0.40 | 0.35 | -0.05 | 0.3190 | 0.5872 |
| 12 | 100000099325 | 0.58 | 0.65 | 0.07 | -0.5054 | -0.7925 |
| 13 | 100000187852 | 0.55 | 0.60 | 0.05 | -0.3809 | -0.5283 |
| 14 | 100000198218 | 0.59 | 0.52 | -0.07 | -0.5584 | -0.1776 |
| 15 | 100000198220 | 0.56 | 0.53 | -0.03 | -0.4037 | -0.2235 |
| 16 | 100000198219 | 0.50 | 0.50 | 0.00 | -0.1446 | -0.1266 |
| 17 | 100000187841 | 0.48 | 0.60 | 0.12 | -0.0767 | -0.5441 |
| 18 | 100000198170 | 0.18 | 0.23 | 0.05 | 1.4827 | 1.2262 |
| 19 | 100000099236 | 0.54 | 0.62 | 0.08 | -0.3322 | -0.6559 |
| 20 | 100000198202 | 0.58 | 0.62 | 0.04 | -0.4955 | -0.6344 |
| 21 | 100000187850 | 0.65 | 0.66 | 0.01 | -0.7997 | -0.8372 |
| 22 | 100000099252 | 0.26 | 0.35 | 0.09 | 1.0009 | 0.5815 |
| 23 | 100000198165 | 0.47 | 0.44 | -0.03 | -0.0184 | 0.1662 |
| 24 | 100000187833 | 0.35 | 0.35 | 0.00 | 0.5310 | 0.5929 |
| 25 | 100000198174 | 0.42 | 0.40 | -0.02 | 0.1881 | 0.3347 |
| Mean Rasch | | | | | -0.0082 | -0.0495 |

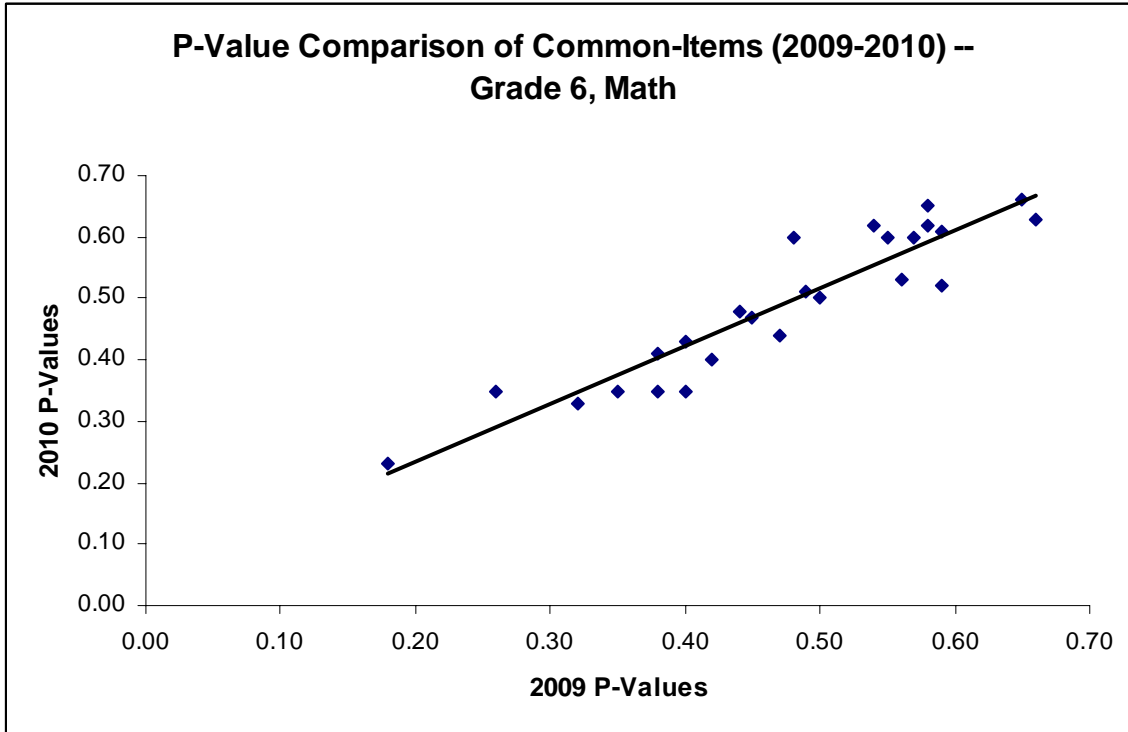


Figure 5.1. P-values of the common items for Grade 6, years 2009 and 2010

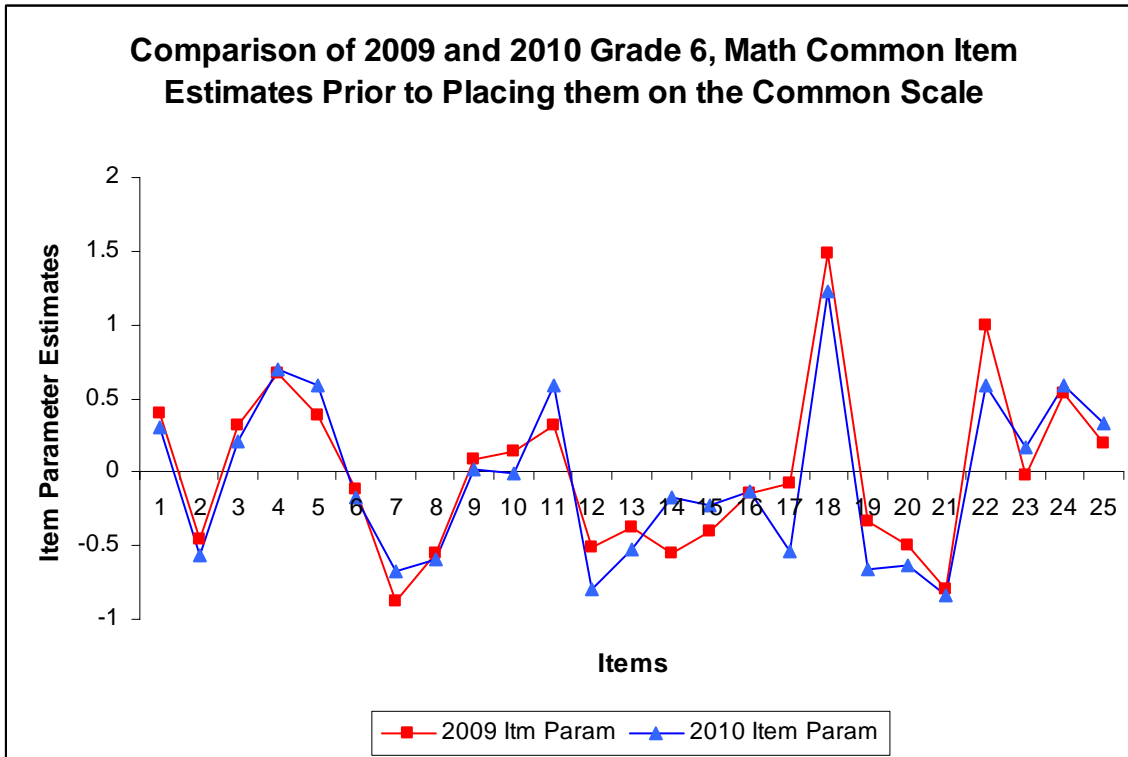


Figure 5.2. Rasch difficulty parameters for the common items, Grade 6, years 2009 and 2010

Table 5.2. P-Value and Rasch Difficulty Comparisons of Core Linking Items Year 2009 with Year 2010: Grade 7

| Item No. | Item CID | P-Value 2009 | P-Value 2010 | Difference in P-Values | Rasch Difficulty 2009 | Rasch Difficulty 2010 |
|------------|--------------|--------------|--------------|------------------------|-----------------------|-----------------------|
| 1 | 100000197499 | 0.58 | 0.59 | 0.01 | -0.4387 | -0.5594 |
| 2 | 100000197494 | 0.30 | 0.35 | 0.05 | 0.8482 | 0.4942 |
| 3 | 100000197496 | 0.19 | 0.21 | 0.02 | 1.4407 | 1.2821 |
| 4 | 100000099488 | 0.87 | 0.83 | -0.04 | -2.0862 | -1.8465 |
| 5 | 100000099420 | 0.70 | 0.63 | -0.07 | -1.0134 | -0.7346 |
| 6 | 100000099421 | 0.73 | 0.72 | -0.01 | -1.1523 | -1.1412 |
| 7 | 100000197528 | 0.38 | 0.34 | -0.04 | 0.4196 | 0.5750 |
| 8 | 100000374151 | 0.39 | 0.37 | -0.02 | 0.4109 | 0.4289 |
| 9 | 100000374152 | 0.45 | 0.41 | -0.04 | 0.1404 | 0.2299 |
| 10 | 100000196052 | 0.45 | 0.42 | -0.03 | 0.1294 | 0.1945 |
| 11 | 100000196055 | 0.35 | 0.33 | -0.02 | 0.5938 | 0.5846 |
| 12 | 100000197481 | 0.56 | 0.59 | 0.03 | -0.3334 | -0.5461 |
| 13 | 100000197501 | 0.39 | 0.46 | 0.07 | 0.3822 | 0.0026 |
| 14 | 100000099504 | 0.33 | 0.32 | -0.01 | 0.6547 | 0.6430 |
| 15 | 100000167818 | 0.58 | 0.63 | 0.05 | -0.4248 | -0.7209 |
| 16 | 100000099493 | 0.62 | 0.69 | 0.07 | -0.5911 | -1.0196 |
| 17 | 100000197524 | 0.17 | 0.19 | 0.02 | 1.6427 | 1.3751 |
| 18 | 100000099410 | 0.36 | 0.43 | 0.07 | 0.5339 | 0.1329 |
| 19 | 100000099413 | 0.25 | 0.25 | 0.00 | 1.0713 | 1.0332 |
| 20 | 100000099404 | 0.45 | 0.49 | 0.04 | 0.1073 | -0.1050 |
| 21 | 100000196255 | 0.57 | 0.55 | -0.02 | -0.3721 | -0.3932 |
| 22 | 100000197522 | 0.67 | 0.59 | -0.08 | -0.8505 | -0.5506 |
| 23 | 100000196257 | 0.40 | 0.37 | -0.03 | 0.3308 | 0.3967 |
| 24 | 100000196261 | 0.51 | 0.47 | -0.04 | -0.1444 | -0.0405 |
| 25 | 100000099490 | 0.41 | 0.46 | 0.05 | 0.2911 | 0.0069 |
| Mean Rasch | | | | | 0.0636 | -0.0111 |

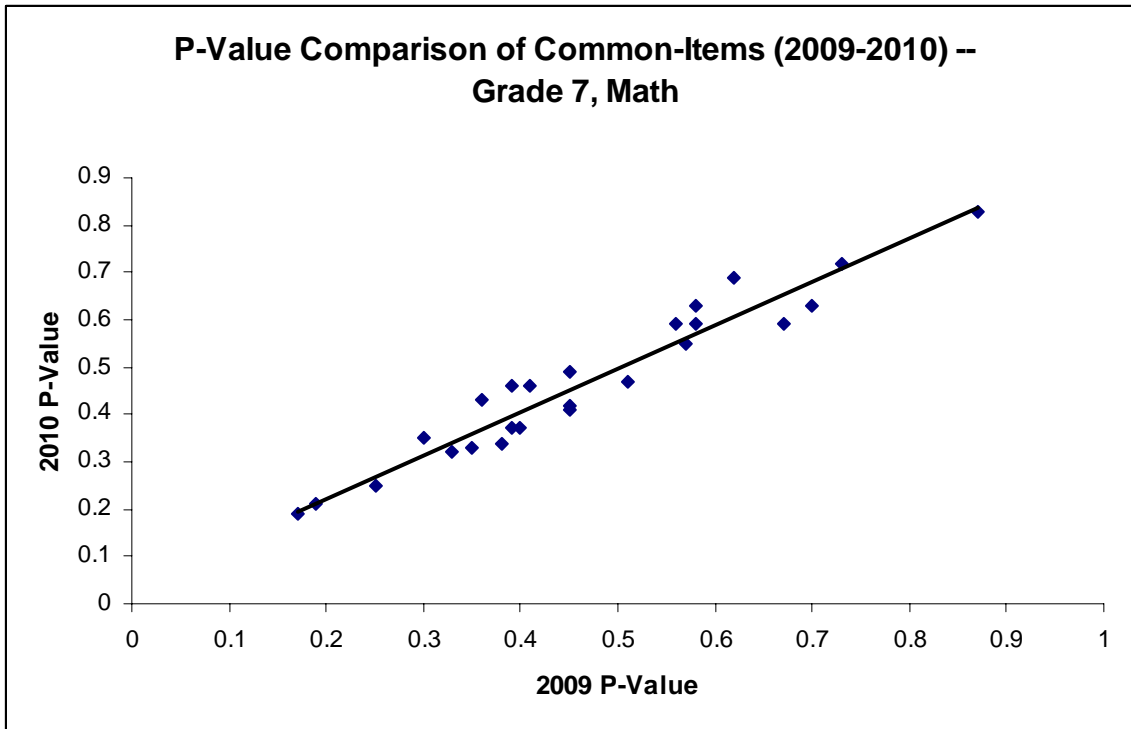


Figure 5.3. P-values of the common items for Grade 7, years 2009 and 2010

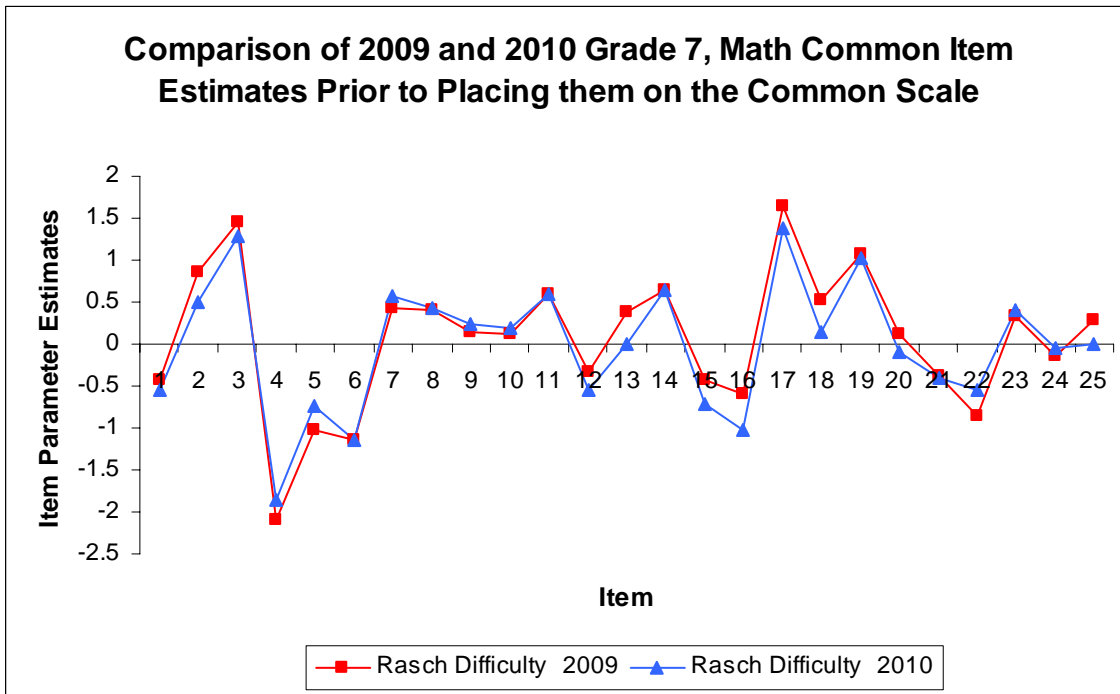


Figure 5.4. Rasch difficulty parameters for the common items, Grade 7, years 2009 and 2010

Table 5.3. P-Value and Rasch Difficulty Comparisons of Core Linking Items Year 2009 with Year 2010: Grade 8

| Item No. | Item CID | P-Value 2009 | P-Value 2010 | Difference in P-Values | Rasch Difficulty 2009 | Rasch Difficulty 2010 |
|------------|--------------|--------------|--------------|------------------------|-----------------------|-----------------------|
| 1 | 100000197359 | 0.58 | 0.60 | 0.02 | -0.6919 | -0.5431 |
| 2 | 100000099548 | 0.71 | 0.74 | 0.03 | -1.2618 | -1.1996 |
| 3 | 100000099550 | 0.40 | 0.43 | 0.03 | 0.1130 | 0.2051 |
| 4 | 100000197347 | 0.37 | 0.38 | 0.01 | 0.2121 | 0.4107 |
| 5 | 100000197387 | 0.34 | 0.42 | 0.08 | 0.3845 | 0.2656 |
| 6 | 100000373799 | 0.41 | 0.37 | -0.04 | 0.0630 | 0.4601 |
| 7 | 100000099626 | 0.71 | 0.72 | 0.01 | -1.2755 | -1.1001 |
| 8 | 100000197367 | 0.32 | 0.36 | 0.04 | 0.4466 | 0.5237 |
| 9 | 100000167565 | 0.46 | 0.48 | 0.02 | -0.1516 | -0.0160 |
| 10 | 100000167566 | 0.29 | 0.30 | 0.01 | 0.6133 | 0.7956 |
| 11 | 100000174558 | 0.27 | 0.26 | -0.01 | 0.7327 | 1.0196 |
| 12 | 100000099639 | 0.41 | 0.40 | -0.01 | 0.0583 | 0.3487 |
| 13 | 100000197322 | 0.47 | 0.45 | -0.02 | -0.2045 | 0.1153 |
| 14 | 100000197365 | 0.42 | 0.38 | -0.04 | -0.0053 | 0.4197 |
| 15 | 100000197377 | 0.64 | 0.61 | -0.03 | -0.9339 | -0.5869 |
| 16 | 100000197373 | 0.42 | 0.44 | 0.02 | 0.0276 | 0.1751 |
| 17 | 100000197375 | 0.19 | 0.18 | -0.01 | 1.2281 | 1.5173 |
| 18 | 100000197376 | 0.68 | 0.64 | -0.04 | -1.1337 | -0.7028 |
| 19 | 100000099553 | 0.65 | 0.68 | 0.03 | -0.9660 | -0.8738 |
| 20 | 100000373853 | 0.49 | 0.48 | -0.01 | -0.2869 | -0.0202 |
| 21 | 100000167561 | 0.58 | 0.58 | 0.00 | -0.6825 | -0.4262 |
| 22 | 100000373854 | 0.48 | 0.52 | 0.04 | -0.2434 | -0.1886 |
| 23 | 100000197319 | 0.36 | 0.36 | 0.00 | 0.2761 | 0.5237 |
| 24 | 100000099647 | 0.48 | 0.52 | 0.04 | -0.2686 | -0.1971 |
| 25 | 100000099631 | 0.31 | 0.35 | 0.04 | 0.5341 | 0.5932 |
| Mean Rasch | | | | | -0.1367 | 0.0601 |

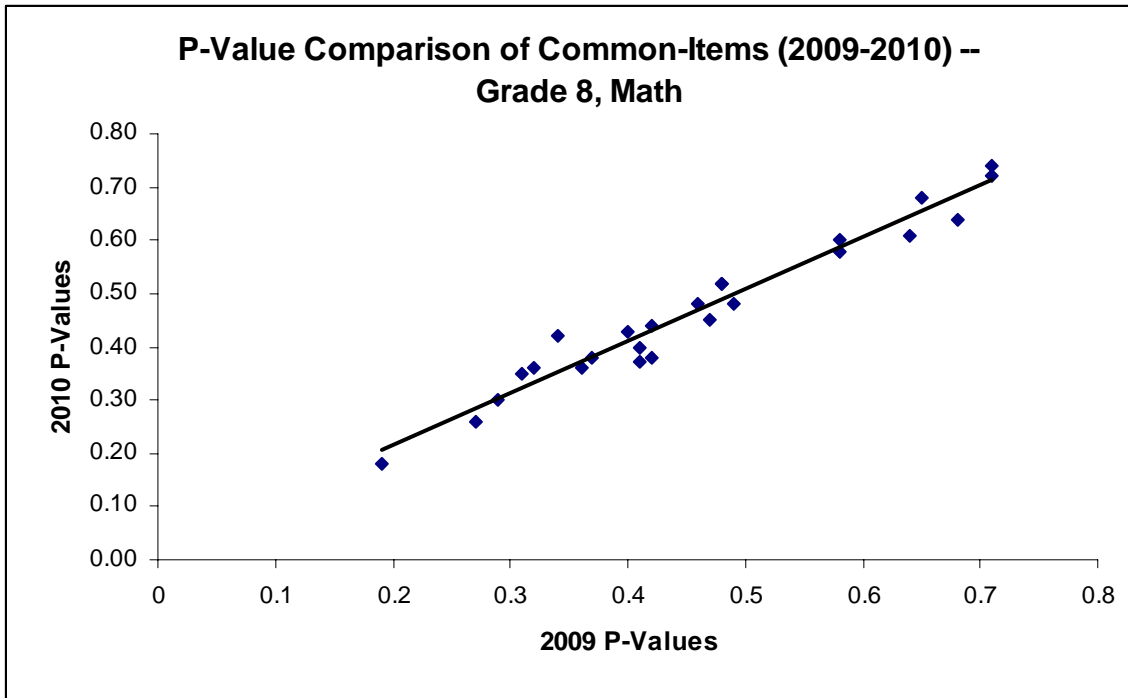


Figure 5.5. P-values of the common items for Grade 8, years 2009 and 2010

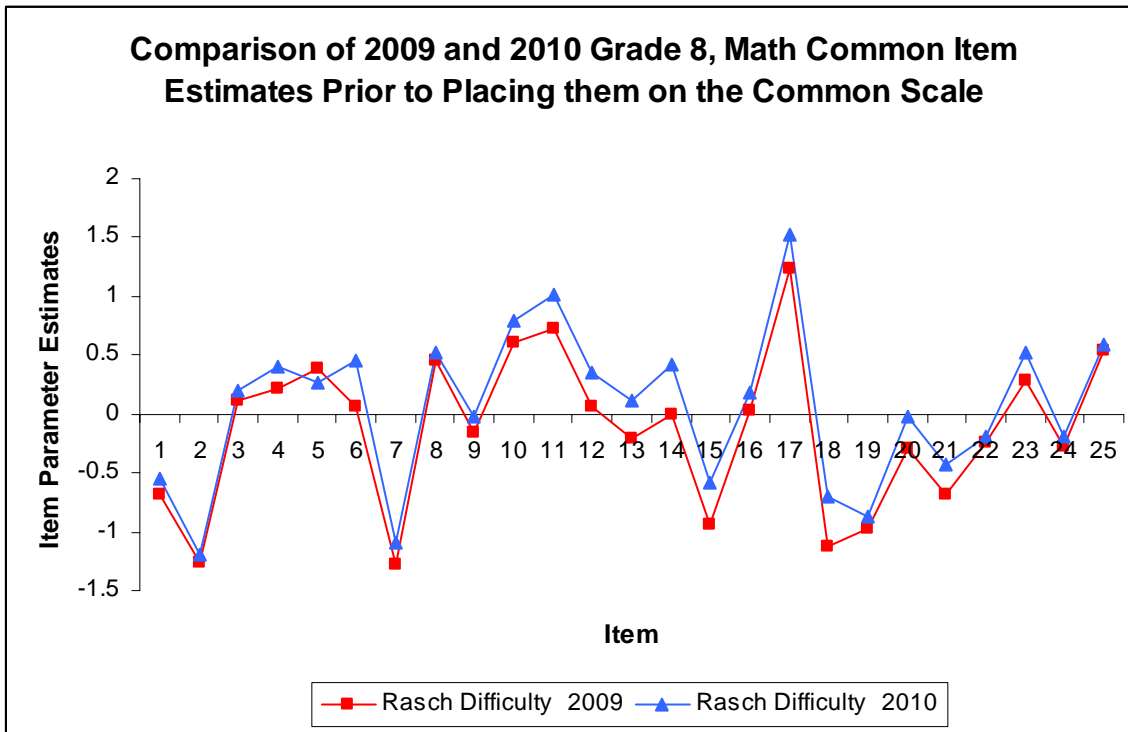


Figure 5.6. Rasch difficulty parameters for the common items, Grade 8, years 2009 and 2010