**Table A1 *(continued)***

Diagnostic Items and the Possible Bridging Errors for Each Item

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Type** | **item id** | **MCP** | **WP** | **Item** | **Key** | **BE types** |
| **BE1** | **BE2** | **BE3** | **Combined errors** |
| 7 | i0701 | 1 | 1 | 200 – 62 =  | 138 | 132 | 142 | 152 | 162 | 148 | 158 | 168 | 232 | 242 | 252 | 262 | 238 | 248 | 258 | 268 |
| i0702 | 0 | 1 | 300 – 72 =  | 228 | 222 | 232 | 262 | 272 | 238 | 268 | 278 | 322 | 332 | 362 | 372 | 328 | 338 | 368 | 378 |
| i0703 | 0 | 1 | 400 – 17 =  | 383 | 303 | 313 | 393 | 307 | 317 | 387 | 397 | 403 | 413 | 483 | 493 | 407 | 417 | 487 | 497 |
| i0704 | 1 | 0 | 600 – 36 =  | 564 | 524 | 534 | 574 | 526 | 536 | 566 | 576 | 624 | 634 | 664 | 674 | 626 | 636 | 666 | 676 |
| i0705 | 0 | 0 | 700 – 53 =  | 647 | 643 | 653 | 657 |  |  |  |  |  |  |  |  |  |  |  |  |
| i0706 | 0 | 0 | 900 – 47 =  | 853 | 833 | 843 | 863 | 837 | 847 | 857 | 867 | 933 | 943 | 953 | 963 | 937 | 947 | 957 | 967 |
| 8 | i0801 | 1 | 1 | 1000 – 70 =  | 930 | 1070 | 970 | 1030 | 1930 | 1970 |   |   |   |   |   |   |   |   |   |   |
| i0802 | 0 | 1 | 1000 – 40 =  | 960 | 1040 | 940 | 1060 | 1940 | 1960 |  |  |  |  |  |  |  |  |  |  |
| i0803 | 0 | 1 | 1000 – 10 =  | 990 | 1010 | 910 | 1090 | 1910 | 1990 |  |  |  |  |  |  |  |  |  |  |
| i0804 | 1 | 1 | 1000 – 30 =  | 970 | 1030 | 930 | 1070 | 1930 | 1970 |  |  |  |  |  |  |  |  |  |  |
| i0805 | 0 | 0 | 1000 – 20 =  | 980 | 1020 | 920 | 1080 | 1920 | 1980 |  |  |  |  |  |  |  |  |  |  |
| i0806 | 0 | 0 | 1000 – 60 =  | 940 | 1060 | 960 | 1040 | 1940 | 1960 |   |   |   |   |   |   |   |   |   |   |
| 9 | i0901 | 1 | 1 | 1000 – 260 =  | 740 | 140 | 240 | 840 | 1140 | 1240 | 1740 | 1840 | 160 | 260 | 760 | 860 | 1160 | 1260 | 1760 | 1860 |
| i0902 | 0 | 1 | 1000 – 340 =  | 660 | 240 | 340 | 640 | 740 | 1240 | 1340 | 1640 | 1740 | 260 | 360 | 760 | 1260 | 1360 | 1660 | 1760 |
| i0903 | 0 | 1 | 1000 – 850 =  | 150 | 250 | 750 | 850 | 1150 | 1250 | 1750 | 1850 |  |  |  |  |  |  |  |  |
| i0904 | 1 | 0 | 1000 – 610 =  | 390 | 310 | 410 | 510 | 610 | 1310 | 1410 | 1510 | 1610 | 490 | 590 | 690 | 1390 | 1490 | 1590 | 1690 |
| i0905 | 0 | 0 | 1000 – 470 =  | 530 | 330 | 430 | 630 | 1330 | 1430 | 1530 | 1630 | 370 | 470 | 570 | 670 | 1370 | 1470 | 1570 | 1670 |
| i0906 | 0 | 0 | 1000 – 130 =  | 870 | 30 | 130 | 830 | 930 | 1030 | 1130 | 1830 | 1930 | 70 | 170 | 970 | 1070 | 1170 | 1870 | 1970 |

**Table A2**

Frequency and Proportion Bridging Error for Each Item

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Item** | ***Type*** | ***MC*** | ***Context*** | ***N*** | **Missing** | **f-correct** | **f-error** | **f-BE** | **prop. BE** | ***f different errors*** |
| item0101 | 1 | 1 | 1 | 264 | 9 | 187 | 68 | 68 | 1 | NA |
| item0102 | 1 | 0 | 1 | 264 | 0 | 179 | 85 | 32 | 0.376 | 22 |
| item0103 | 1 | 0 | 1 | 264 | 0 | 193 | 71 | 26 | 0.366 | 25 |
| item0104 | 1 | 1 | 0 | 264 | 8 | 189 | 67 | 67 | 1 | NA |
| item0105 | 1 | 0 | 0 | 264 | 0 | 214 | 50 | 33 | 0.66 | 13 |
| item0106 | 1 | 0 | 0 | 264 | 3 | 196 | 65 | 28 | 0.431 | 19 |
| item0201 | 2 | 1 | 1 | 84 | 5 | 33 | 45 | 45 | 1 | NA |
| item0202 | 2 | 0 | 1 | 84 | 3 | 27 | 54 | 9 | 0.167 | 30 |
| item0203 | 2 | 0 | 1 | 84 | 3 | 27 | 54 | 18 | 0.333 | 34 |
| item0204 | 2 | 1 | 0 | 84 | 4 | 34 | 46 | 46 | 1 | NA |
| item0205 | 2 | 0 | 0 | 84 | 2 | 42 | 40 | 13 | 0.325 | 24 |
| item0206 | 2 | 0 | 0 | 84 | 3 | 32 | 49 | 19 | 0.388 | 28 |
| item0301 | 3 | 1 | 1 | 128 | 3 | 95 | 30 | 30 | 1 | NA |
| item0302 | 3 | 0 | 1 | 128 | 1 | 97 | 30 | 3 | 0.1 | 18 |
| item0303 | 3 | 0 | 1 | 128 | 0 | 93 | 35 | 2 | 0.057 | 22 |
| item0304 | 3 | 1 | 0 | 128 | 2 | 103 | 23 | 23 | 1 | NA |
| item0305 | 3 | 0 | 0 | 128 | 2 | 77 | 49 | 11 | 0.224 | 29 |
| item0306 | 3 | 0 | 0 | 128 | 2 | 80 | 46 | 2 | 0.043 | 24 |
| item0401 | 4 | 1 | 1 | 65 | 1 | 30 | 33 | 33 | 1 | NA |
| item0402 | 4 | 0 | 1 | 65 | 2 | 28 | 35 | 5 | 0.143 | 23 |
| item0403 | 4 | 0 | 1 | 65 | 6 | 17 | 42 | 8 | 0.19 | 33 |
| item0404 | 4 | 1 | 0 | 65 | 3 | 30 | 32 | 32 | 1 | NA |
| item0405 | 4 | 0 | 0 | 65 | 4 | 25 | 36 | 7 | 0.194 | 27 |
| item0406 | 4 | 0 | 0 | 65 | 3 | 20 | 42 | 11 | 0.262 | 24 |
| item0501 | 5 | 1 | 1 | 52 | 5 | 36 | 11 | 0 | 0 | NA |
| item0502 | 5 | 0 | 1 | 52 | 5 | 33 | 14 | 0 | 0 | 7 |
| item0503 | 5 | 0 | 1 | 52 | 5 | 28 | 19 | 8 | 0.421 | 11 |
| item0504 | 5 | 1 | 0 | 52 | 4 | 30 | 18 | 18 | 1 | NA |
| item0505 | 5 | 0 | 0 | 52 | 5 | 32 | 15 | 13 | 0.867 | 5 |
| item0506 | 5 | 0 | 0 | 52 | 4 | 28 | 20 | 12 | 0.6 | 9 |
| item0601 | 6 | 1 | 1 | 101 | 2 | 89 | 10 | 10 | 1 | NA |
| item0602 | 6 | 0 | 1 | 101 | 4 | 80 | 17 | 7 | 0.412 | 9 |
| item0603 | 6 | 0 | 1 | 101 | 2 | 65 | 34 | 4 | 0.118 | 19 |
| item0604 | 6 | 1 | 0 | 101 | 2 | 87 | 12 | 12 | 1 | NA |
| item0605 | 6 | 0 | 0 | 101 | 3 | 73 | 25 | 6 | 0.24 | 17 |
| item0606 | 6 | 0 | 0 | 101 | 2 | 68 | 31 | 15 | 0.484 | 16 |
| item0701 | 7 | 1 | 1 | 264 | 10 | 169 | 85 | 85 | 1 | NA |
| item0702 | 7 | 0 | 1 | 264 | 4 | 172 | 88 | 32 | 0.364 | 42 |
| item0703 | 7 | 0 | 1 | 264 | 3 | 198 | 63 | 19 | 0.302 | 27 |
| item0704 | 7 | 1 | 0 | 264 | 11 | 185 | 68 | 68 | 1 | NA |
| item0705 | 7 | 0 | 0 | 264 | 5 | 179 | 80 | 25 | 0.313 | 34 |
| item0706 | 7 | 0 | 0 | 264 | 5 | 171 | 88 | 43 | 0.489 | 40 |
| item0801 | 8 | 1 | 1 | 99 | 7 | 66 | 26 | 11 | 0.423 | NA |
| item0802 | 8 | 0 | 1 | 99 | 5 | 67 | 27 | 4 | 0.148 | 18 |
| item0803 | 8 | 0 | 1 | 99 | 5 | 58 | 36 | 4 | 0.111 | 18 |
| item0804 | 8 | 1 | 1 | 99 | 7 | 75 | 17 | 0 | 0 | NA |
| item0805 | 8 | 0 | 0 | 99 | 5 | 72 | 22 | 4 | 0.182 | 14 |
| item0806 | 8 | 0 | 0 | 99 | 5 | 70 | 24 | 4 | 0.167 | 16 |
| item0901 | 9 | 1 | 1 | 264 | 11 | 151 | 102 | 102 | 1 | NA |
| item0902 | 9 | 0 | 1 | 264 | 6 | 177 | 81 | 52 | 0.642 | 31 |
| item0903 | 9 | 0 | 1 | 264 | 6 | 198 | 60 | 38 | 0.633 | 21 |
| item0904 | 9 | 1 | 0 | 264 | 11 | 155 | 98 | 98 | 1 | NA |
| item0905 | 9 | 0 | 0 | 264 | 7 | 174 | 83 | 55 | 0.663 | 30 |
| item0906 | 9 | 0 | 0 | 264 | 6 | 179 | 79 | 58 | 0.734 | 24 |