|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Question Type** | **Question** | **Item Difficulty**  **(p)** | **# correct**  **(upper group)** | **# correct**  **(lower group)** | **Item Discrimination (D)** |
| Matching | 1 | 20/20 = **1.00** | 6 | 6 | (6 – 6)/6 = **0.00** |
| 2 | 19/20 = **0.95** | 6 | 5 | (6 – 5)/6 = **0.17** |
| 3 | 16/20 = **0.80** | 6 | 4 | (6 – 4)/6 = **0.33** |
| 4 | 18/20 = **0.90** | 6 | 5 | (6 – 5)/6 = **0.17** |
| 5 | 20/20 = **1.00** | 6 | 6 | (6 – 6)/6 = **0.00** |
| True/False | 6 | 20/20 = **1.00** | 6 | 6 | (6 – 6)/6 = **0.00** |
| 7 | 20/20 = **1.00** | 6 | 6 | (6 – 6)/6 = **0.00** |
| 8 | 20/20 = **1.00** | 6 | 6 | (6 – 6)/6 = **0.00** |
| 9 | 20/20 = **1.00** | 6 | 6 | (6 – 6)/6 = **0.00** |
| 10 | 20/20 = **1.00** | 6 | 6 | (6 – 6)/6 = **0.00** |
| 11 | 20/20 = **1.00** | 6 | 6 | (6 – 6)/6 = **0.00** |
| Multiple Choice | 12 | 16/20 = **0.80** | 6 | 3 | (6 – 3)/6 = **0.50** |
| 13 | 14/20 = **0.70** | 6 | 3 | (6 – 3)/6 = **0.50** |
| 14 | 13/20 = **0.65** | 6 | 2 | (6 – 2)/6 = **0.67** |
| 15 | 14/20 = **0.70** | 6 | 3 | (6 – 3)/6 = **0.50** |

**Item Difficulty and Discrimination**

**Chapter 1 Test (Introduction to Statistics)**

1. Questions 1 and 5-11 were the easiest, with p = 1.00. *All* students in the class answered each of these questions correctly.
2. Questions 14 was the most difficult, with p = 0.65. Seven students answered this question incorrectly.
3. Questions 1 and 5-11 had the poorest discrimination, with D = 0.00, as *all* students in the upper and lower groups answered each of these questions correctly.
4. After seeing that both the difficulty and discrimination of most of the objective items (particularly items 1-11) were very low, it is apparent that, overall, these questions were not designed at the appropriate academic difficulty level for my students. Therefore, I would eliminate questions 1-11. Knowledge of these vocabulary terms would probably best be assessed informally through some form of formative assessment (e.g., a Kahoot or Quizizz review). However, questions 12-15 had decent item discrimination and item difficulty (with the optimal difficulty for three-choice items at p = 0.67), so I would leave those items on this assessment.