LESSON 6 – ITEM ANALYSIS AND VALIDATION

C. Learning Activities

1. Activate: Explain the following items:
   1. Item Analysis
      * This provides information that will allow the teacher to decide whether to revise or replace an item.
   2. Item Validity
      * The process of collecting and analyzing evidence to support the meaningfulness and usefulness of the test.
   3. Item Difficulty
      * Defined as the number of students who are able to answer the item correctly divided by the total number of students.
   4. Discrimination Index
      * Derives a measure that will tell the teacher whether an item can discriminate between the two group of students.
   5. Validity
      * The extent to which a test measures what it purports to measure or as referring to the appropriateness, correctness, meaningfulness and usefulness of the specific decisions a teacher makes based on the test results.
   6. Reliability
      * It refers to the consistency of thew scores obtained – how consistent they are for each individual from one administration of an instrument to another and from one set of items to another.
2. Analyze: Insights and reflection of the item analysis and validation

Facets of the item analysis, validity and reliability

INSIGHTS

|  |  |
| --- | --- |
| INSIGHTS | REFLECTIONS |
| ITEM ANALYSIS | |
| 1. As useful information for class discussion of the test |  |
| 2. As it helps students improve |  |
| 3. As it provides insights and skills that lead students to the preparation of better test in the future |  |
| VALIDITY | |
| 1. As its test instrument is physically readable and understandable |  |
| 2. as the objectives of the test reflects the curricular objectives |  |
| RELIABILITY | |
| 1. As the scores obtained are consistent using the same instrument by the person |  |

1. Abstract
2. Give the formula of item difficulty and index discrimination. Illustrate the examples of each of the two.

**Formula:**

**Item Difficulty** = number of students with correct answer / total number of students

**Example:**

There are there are 8 students who are unable to answer the exam and 22 students who answered the exam correctly.

**Item Difficulty** = 22/30

= 0.73

Therefore, the item of difficulty index within the 30 total students is 73%.

**Formula:**

**Index of Discrimination** = DU – DL

**Example:**

The upper 25% of the class had difficulty index of 0.55, while the lower 25% of the class had difficulty index of .25.

**Index of Discrimination** = 0.55 – 0.25

= 0.30

Therefore the index of difficulty is 30%.

2. Show the ways in establishing validity

1. Criterion – related

This can be shown on how the relationship is. How well do such scores estimate present or predict future performance of a concern type.

1. Construct – related

This can be shown on how well the measure of the construct explain differences in the behavior of the individuals or their performance

1. Content validity

3. Illustrate the principle of reliability

1. Test – Retest method
2. Split half
3. Apply
4. Give your interpretation on the item if difficulty and index of an item 25 students are unable to answer it correctly. While 75% answered it correctly on the basis of the arbitrary rule given.

**Item Difficulty** = 75/100 = 0.75 or 75%

The interpretation of the item difficulty that has 0.75 or 75% is Right Difficulty. This means that the item is just right and should be retained as it is.

1. Give your interpretation of the index of discrimination of an item if the upper 25% of the plans have difficulty index of 0.60 (60% of the upper 25% got the correct answer) while the lower 25% of the class had a difficulty index of 0.02.

**Index Discrimination** = 0.60 – 0.02 = 0.58

This item is discriminating; therefore the item should be included on the test.

3. Computed: DU = 0.60 while DL = 0.20 on the basis of the rule of thumb given, what is the interpretation?

**Index Discrimination** = 0.60 – 0.20 = 0.40

The item is non-discriminating; therefore the item needs revision.