Interpretation of test Scores

1. In the name of Allah the most merciful, the most beneficent and the most gracious. Topic Interpretation of test Scores B.Ed (hons) Shaharyar Shoukat Bhatti University of Education LMC, Lahore

2. Pictoral Formϖ Frequency Distribution ϖ Ranking ϖ Standard deviation ϖ Percentage ϖ Referencing Framework ϖ Methods of Interpreting Scores ϖ Interpretation of test Scores ϖ Content

3. Interpretation of test Scores Test Interpretation Test Interpretation is the process of analyzing scores in a test and translating qualitative data into quantitative and grading into numerical. Score interpretation is same as test interpretation.

4. Scales Scoresυ Raw scores υ Scores: "A summary of the evidence contained in an examinee's responses to the items of a test that are related to the construct or constructs being measured". Types of Scores:

5. Thus, we have to interpret Ali's score in a more descriptive and meaningful way.υ It does not yield a meaningful interpretation because it just raw scores. υ Raw scores reflect an immediate interpretation as a response to the scores. υ A Student got 10 out of a 20 scores in item quiz. υ Raw Scores: The number of points received on a test when the test has been according to direction. Example:

6. Scaled Scores: Scaled scores are the results of transformation (usually transformed through a consistent scale) Examples • A child awarded scale score of 100 is judged to have met the "National Standard" in the area of judged by the test. • A child awarded scale score more than 100 is judged to have exceeded national standard and demonstrated a higher then the expected knowledge curriculum for their age. • A child awarded scale score less than 100

is judged to have not yet met the “National standard” and perform below the expectation from their age.

7. Norm Referencing Frameworkυ Criterion Referencing Framework υMethods of Interpreting Test Scores Referencing Framework A referencing framework is a structure you can use to compare student performance to something external to the assessment itself.

8. Criterion referenced and standard based interpretation of test result are most meaningful when the test has been specifically designed for this purpose.υ A criterion referenced interpretation of score requires a comparison of particular student score with subjective and pre-determined performance standard (Criteria). υ Most widely used interpretation because of its ease of computation and there is a ready transmutation table printed at the inside back cover of the teacher’s class record. υCriterion Referencing Framework Criterion Referencing Framework permits us to describe an individual’s performance without referring to the performance of other. Infers the kind of performance a student can do in a domain, rather than the student’s relative standing in a norm group. Criterion: the domain of performance to which you reference a student’s assessment results.

9. Results are conclusive and usually open to review.υ Results are given on a pass/fail, competent/not competent basis. υ Used in the assessment of vocational and academic qualifications. υ Concerned with national examination and other assessment bodies. υ Describes student performance according to a specified domain or clearly defined learning tasks. υCriterion Referenced Interpretation

10. How much student knows is determined by his standing or rank within the reference group. This means that student’s scores is not treated individually but

as the part of the group where the student belongs.υ Norm referenced framework interpretation tell us how an individual compares with other students who have taken the same test. υNorm Referencing Framework

11. A derived score is a numerical report of test performance on a scale that has well defined characteristics and yields normative meanings.υ Basically ranking the scores of student from highest score to the lowest one provides an immediate sample of for norm referenced interpretation. However, barely ranking "raw scores" to interpret student's performance formally is not proper and valid. "The raw scores converted to derived scores." Derived score υ The well defined group of other students. υNorm Group

12. Stanines (9)υ Standard scores norms (normal curve) υ Percentile Norms (85% higher than) υ Grade Norms (5.5) υNorm Referenced Framework Most common types are

13. Percentile of students in the reference group who fall below student's raw scoreυ Name of Derived Scores---------- Percentile Ranks υ The grade equivalent that corresponds to a particular raw score identifies the grade level at which the typical student obtains raw score. Percentile Norms υ Grade in which student's raw score is average. υ Name of Derived Scores ----------Grade Equivalents υGrade Norms:

14. (Standard NINE) is a method of scaling test scores on a nine-point standard scale with a mean of five and a standard deviation of two.υ Distance of student's raw score above or below the mean of the reference group in terms of standards units Stanine υ Name of Derived ----------Standard Scores υStandard Scores Norms

15. The teacher easily identifies learning criteria – the percentage of students who receive highest grade or lowest grade.υ It increases the healthy

competition among the students. υ It is appropriate to a large group of students that is, more than 40. υ It is very easy to use. υNORM REFERENCED INTERPRETATION ADVANTAGES

16. Not all the student can pass the given subject or courseυ It cannot be used when the class size is smaller than 40. υ It promotes intense competition among the students rather than cooperation υ The performance of a student is not only determined by his achievement, but also the achievement of the other students υDISADVANTAGES

17. All students may not pass the subject or course when they do not meet the standard set by the teacher or the institution.υ It is difficult to set a reasonable standard if it is not stated in the grading policies of the institution υ All students may pass the subject or course when they meet the set by the teacher DISADVANTAGES υ It promotes cooperation among the students. υ The performance of the students will not be affected by the of the whole class. υCRITERION REFERENCED INTERPRETATION ADVANTAGES

18. Total 80 100 20 100υ D 15 18.75 2 10 υ C 30 37.50 4 20 υ B 25 31.25 6 30 υ A 10 12.50 8 40 υPercentage In mathematics a relationship with 100 is called percentage (denoted %). Often it is useful to express the scores in terms of percentages for comparison. Consider the following example: Grade Class "A" Students % Class "B" Students %

19. The standard deviation is the positive square root of the arithmetic mean of the squares of deviations of all score from their mean.υ Definition: υStandard deviation

20. υ Where x is the student's test score υ It indicates that how many standard deviation from the mean (Plus or minus) the student scored. υZ-Score σ is the standard deviation of the test scoresυμ is the mean of all test scores

21. The term stanine is the abbreviation of “standard nine”. It has a mean equal to 4 and standard deviation equal to 2. A student whose raw score equals the test mean will obtain a stanine score of 5. A score that is 3 standard deviation above the mean is assigned a stanine of 9 not 11 because stanines are limited to a range of 1 to 9υ Where z is an arbitrary, the given of what standard deviation does a raw score falls the mean Stanine Scores υ Is the standard score with a mean equal to 50 and standard deviation is equal to 10. υT-Score

22. Standard scores can be used to compare a student’s performance across tests. For example, if a student’s stanine scores in math and verbal skills are 4 and 2 respectively, one can conclude that the student performed better in math.υ Standard scores can be used to compare a student’s performance across. For percentile rank, they should be converted to b equal-interval scale before they can be added, subtracted, or averaged. υ Standard scores divide differences in performance into equal intervals. For instance, performance represented by T-Scores of 40 of 50 to 55 represent approximately equal differences in whatever ability the test is measuring. This attribute of equal intervals is not shared in percentile rank υAdvantages of Standard Deviation

23. They represent measures of relative standing as opposed to measures of growth. A student who progresses trough school in step with peers remains at the same number of standard deviations form the mean. The constant standard score may suggest (incorrectly) that growth is not occurring.υ Many Standard-score scales imply a degree of precision that does not exist within educational tests. Differences of less than one-third standard deviation are usually not measurable. This means that differences less than 3 point on the 7-score and 5 point in deviation IQ’s are not meaningful. Both of these scales are too precise. υLimitations of Standard Deviation

24. A ranking is a relationship between a set of items such that, for any two items, the first is either 'ranked higher than', 'ranked lower than' or 'ranked equal to' the second.υ A list that compares quality, success or importance of things or people υ The position or level something or someone has in a list that compares their importance, quality, success. υRanking

25. Fractional Ranking It is system of ordering in which the mathematical values that are equal given the mean of the ranking positions.υ Ordinal Ranking It is a system of ordering where each mathematical value is given a certain position in a sequence of numbers where no position are equal. υ Standard Competition Ranking It is a ranking in which the mathematical values that are equal are given equal ran and the next, lesser value is given the next highest rank. υStrategies for Assigning Ranking

26. Frequency Distribution In case of giving a test to the students to know about their achievements, raw scores serve as data. It has not yet undergone any statistical technique. To understand the data easily, we arrange it into groups or classes. The data so arranged is called grouped data or frequency distribution.

27. General rules for construction of frequency distribution The raw data is in the form of scores of fifty students: 37, 42, 44, 51, 48, 30, 47, 56, 52, 31 64, 36, 42, 54, 49, 59, 45, 32, 38, 46 53, 54, 63, 41, 49, 51, 58, 41, 48, 48 43, 37, 52, 55, 61, 43, 46, 48, 62, 35 52, 33, 46, 60, 45, 40, 47, 51, 56, 53

28. Determine the number of scores falling in each class interval. This is done by using a tally or score sheet.υ Determine the limits of the class intervals taking the smallest scores at the bottom of the column to the largest scores at the top. υ Determine the approximate length of the class interval by dividing the range with number of class intervals. 34 = 4.8 = 5 7 υ Decide the appropriate numbers of class intervals. There is no hard and fast formula for deciding the

class intervals. The number of class intervals is usually taken between 5 and 20 depending n the length of the data. For this data the number of class interval to be taken is 7. υ Determine the range. Range is the difference between highest and lowest scores. Range = 64-30 = 34 υSteps:

29. Class intervals Tallies Frequency 60-64 IIII 5 55-59 IIII I 6 50-54 IIII IIII 10 45-49 IIII IIII II 12 40-44 IIII III 8 35-39 IIII 5 30-34 IIII 4 N= 50

30. Cumulative Frequency Distribution A Frequency Distribution is the sum of class and all classes in a frequency distribution. All that means you are adding up a value and all of the values that comes before it.υ Relative Frequency Distribution A Frequency Distribution where each of the class frequencies is divided by the total number of observation. υTypes of Frequency

31. There are a few methods can be used in formulating class intervals from 5-10 or over 55υ υ Permit cautions comparison of data sets. υ Begin to identify population characteristics. υ Facilitate graphic presentation of data υ Describe all variable types υ Condense and summarize large amounts of data in a useful formats υAdvantages And Limitations of Frequency Distribution & less than 30.

32. Both frequency polygons and histograms are useful in describing a set of test scoresυ The information summarized by the frequency distribution can be presented in graphical forms. υPictoral Form

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34. Hope you learned something from ourside.