Evaluasi Pembelajaran

Measurement Scale

Presented by Kelompok 6

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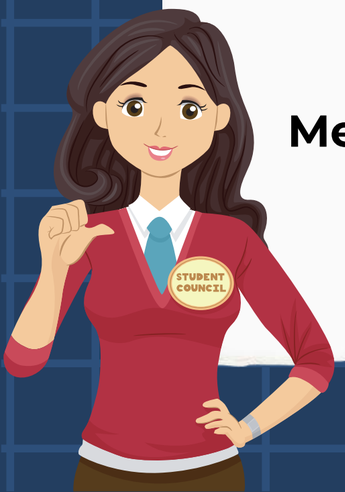
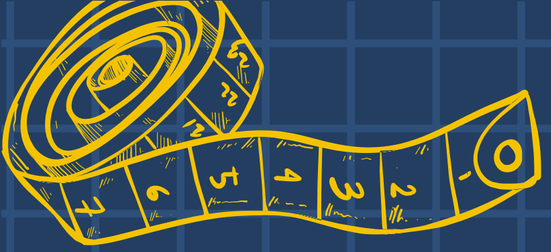
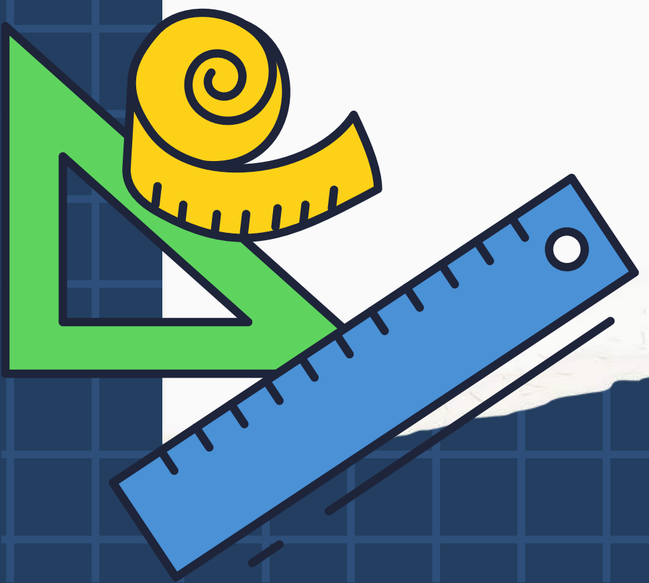




A.Understanding

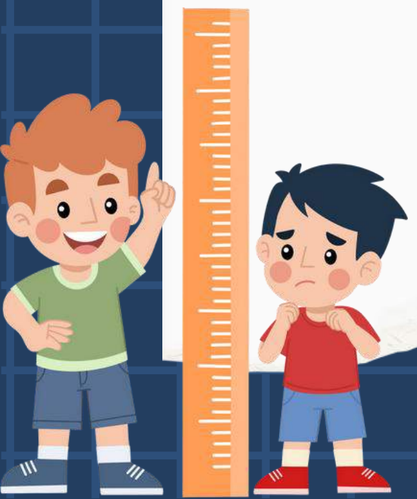
sense of scale

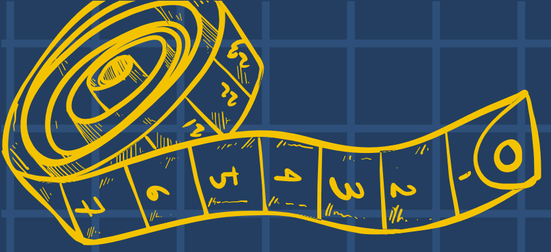
A scale is a set of values or numbers assigned to a subject, object, or behavior for the purpose of quantification and quality measurement



understanding measurement scale

The measurement scale is an agreement used as reference for determining the length and shortness of the intervals within measuring instruments, so that these measuring instruments are used in research will produce quantitative data





B. Types of measurement scales

• Nominal Scale

The nominal scale is a grouping scale objects or events in category form.
The nominal scale is obtained from measurements nominal, namely a process of classifying different objects into categories based on several characteristics.

Nominal Scale Characteristics

01

It is the simplest measurement scale and is used to classify (categorize) objects or events into separate groups (categories).

02

The existing categories (groups) have been previously defined and symbolized by words, letters, symbols or numbers

03

With a nominal scale, objects can be distinguished, but cannot be sorted as to which is higher, which is lower, which is more important, and which is more marginalized.

04

With a nominal measurement scale, categories must be independent of each other (not overlap) and each object must be included in only one category, no more.

2. Ordinal Scale

An ordinal scale is a type of scale that indicates levels. This scale is usually used to determine a person's ranking compared to others, for example the ranking of students in a class is made from the highest score to the lowest score.

characteristics of an ordinal scale

01

Used to classify objects into certain groups (categories) by giving numbers or letters that contain level meaning which expresses a relationship of more than or less than according to certain structuring rules.

02

The numbers or letters given to objects or events on an ordinal scale only indicate their place in an arrangement, not the distance from one datum to the next.

3.interval scale

An interval scale is a scale that has the same distance between data but does not have absolute zero. Absolute zero means it is not considered to exist. One of the mathematical characteristics of the interval scale is addition

interval scale characteristics

01

Giving numbers to groups of objects that have nominal and ordinal scale properties plus one other property, namely the presence of the same distance
on an interval scale so that it shows the same distance from the characteristics or properties of the object being measured

0 2

An interval scale is used
if objects can be distinguished, ordered, have a certain distance, but do not have absolute zero value

03

Interval scale data is obtained as a result of a measurement and usually has units of measurement.

04

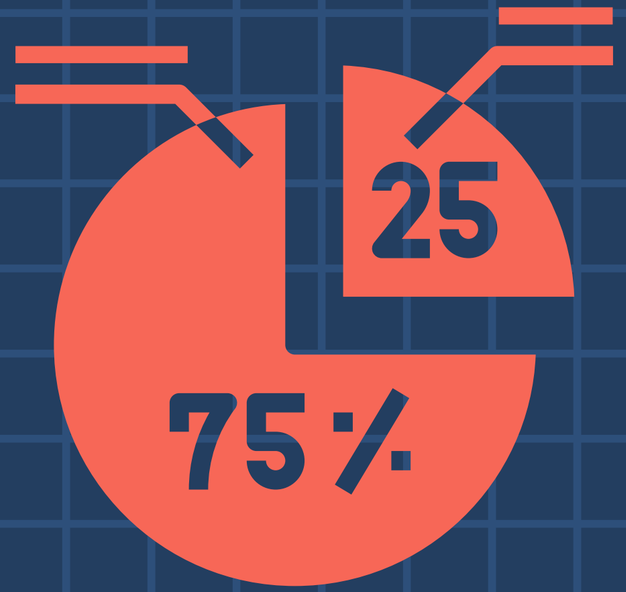
Animportant characteristic of the interval scale is its data
can be added, subtract, double, and divide without. affects the relative distance between the scores

05

Another important characteristic is that this measurement scale does not have an absolute zero value so that the magnitude of the score from a particular ratio cannot be fully interpreted

4. Ratio Scale

The ratio scale is a measurement scale that has absolute zero so that multiplication and division operations can be carried out. For example, body weight, weight, income, and so on.



Ratio scale characteristics

01

A measurement scale that has all the properties of an interval scale plus one other property, namely providing information about the absolute value of the object being measured

02

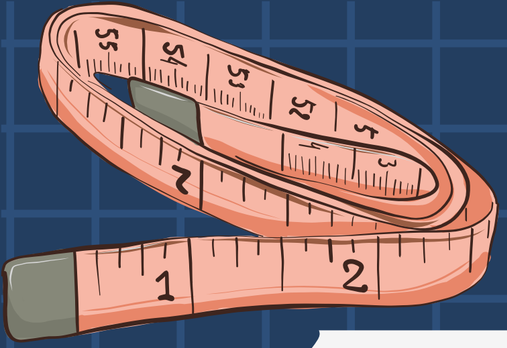
The ratio measurement scale is used for measurement results that can be differentiated, ordered, have a certain distance, and can be compared.

03

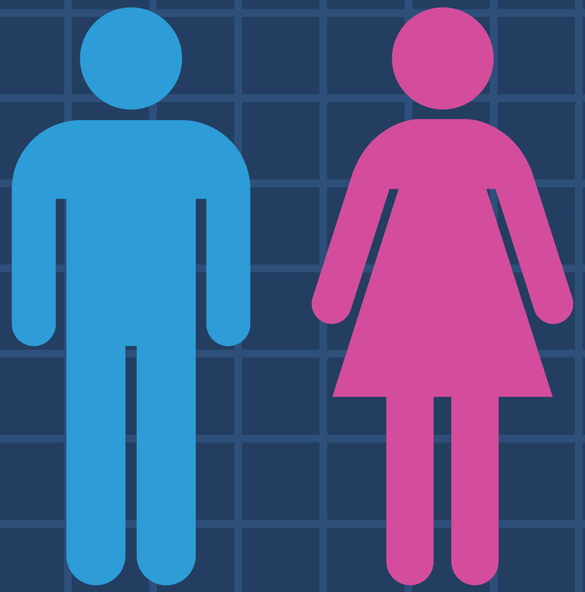
The ratio scale uses an absolute standard point (absolute zero point). The number on the ratio scale shows the actual value of the object being measured, while the size of a measuring unit is determined by a certain agreement.

04

On a ratio scale, distance and time measurements have a true zero point and the ratio between two scale points does not depend on the unit of measurement.

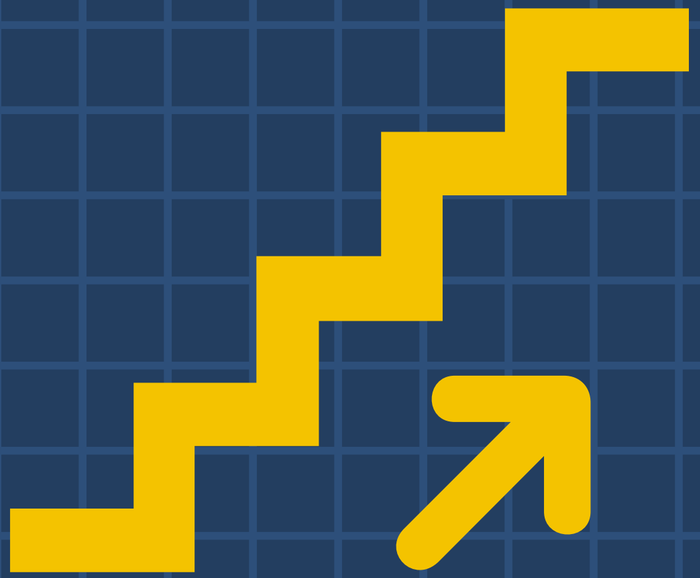


C. Example Of a Measurement Scale



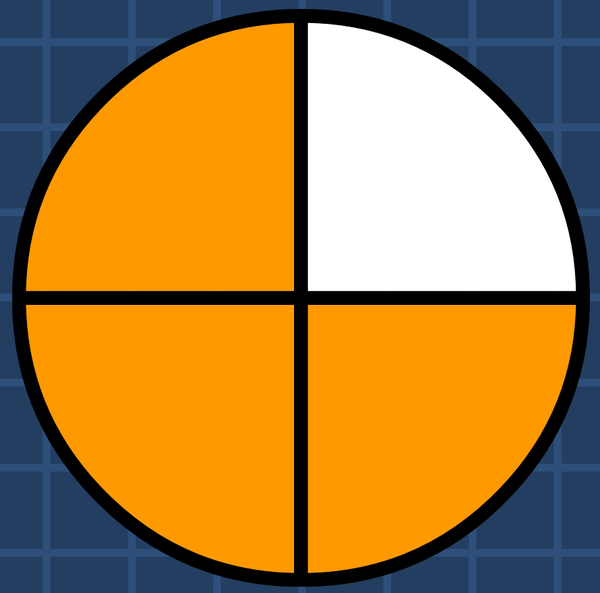
1 Example Of a Nominal Scale

Gender is coded one for men and two for women. this number only functions as a category label, has no intrinsic value and no meaning whatsoever. we can't say women twice as much as men.



2. Example of An Ordinal Scale

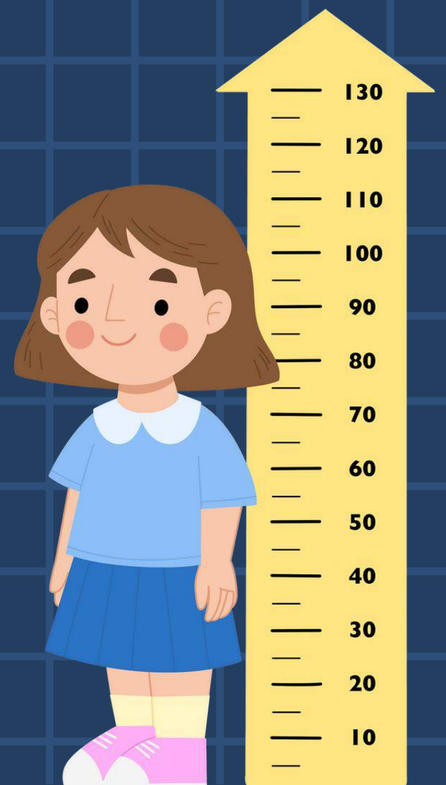
In the education system in Indonesia, the level of education is divided into four parts, namely elementary school, middle school, high school, and then college, each level must be sequential, starting from elementary school first.



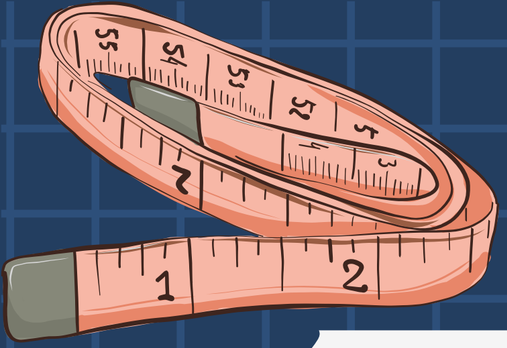
3. Example Of a interval Scale

Data	Usia	Tinggi Badan
Anak-anak	13-18 Tahun	130 cm-145 cm
Remaja	19-26 Tahun	146 cm-160 cm
Dewasa	6-12 Tahun	161 cm-185 cm

4. Example Of a Ratio Scale



The measurements on the ratio scale that are often used are measurements of height and weight. for example, the weight of object A is 30 kg, while object B is 60 kg. then it can be said that object B is twice as heavy as object A.



D. Types of Attitude Scales in Educational Research

1 Likert Scale

The Likert scale is used to measure the attitudes, opinions and perceptions of a person or group of people about social phenomena. With a Likert scale, the variables to be measured are translated into variable indicators.

Advantages and disadvantages of the Likert scale

excess

a. Easy to create and implement.
b. There is freedom in entering questions,
as long as it fits the context of the problem.
c. The answer to an item can be an alternative, so that information about the item is clarified. d. Measurement reliability can be obtained by clarifying the number of items.

lack

a.Because the measurement used is an ordinal measurement
b. Sometimes the total scores of individuals do not provide a clear meaning

procedure for making a Likert scale

a. Researchers collect materials that are relevant to the problem being researched.

b. Prepare a Blue Print to guide the preparation of measuring instruments.

c. Create items to be tested in accordance with the guidelines for testing items on a group of respondents who are quite representative of the population you want to study.

d. After the items are tested on respondents, the level of validity and reliability of the items is tested.

2.Guttman Scale

Guttman will provide a firm response, consisting of two alternatives.
The data allowed can be in the form of interval data or Dhiktomi ratio
(Two alternatives)

3. Semantic Defferensial Scale

Differential scale is a scale for measuring attitudes, but the form is not multiple choice or checklist, but is arranged in a continuum line where very positive answers are located on the right side of the line, and very negative answers are located on the left side of the line, or vice versa.

4. Rating Scale

Of the three measurement scales as stated above, the data obtained was all qualitative data which was then quantified. However, with a rating scale, the raw data obtained is in the form of numbers and then interpreted in a qualitative sense.

type of rating scale

a. Skala grafis

b. Skala Numeris

c. Standard Rating

d. Cumulated Points Rating e. Force Choice Rating

f. Semantic Differential

Advantages and disadvantages of rating scales

excess

a. Easy to use.

b. Can understand behavior/events. intensity and image

c. Can be used to confirm reality and the rater's subjective perception

lack

a.error of leniency: too loose

b. Error of central tendency: tends towards the center

c. Hallo effect: general impression

d. Error of logic: tend to be the same because they are considered related e. Error of contast: has two directions

f. Ambiguity in the use of terms 8. Social desirability effect: socially more acceptable

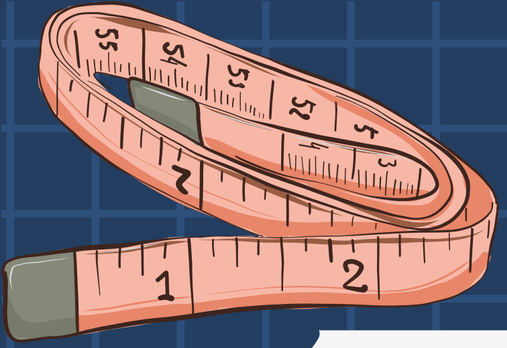
h. The rating scale does not provide information on the cause of the occurrence behavior

i. The generosity effect: occurs when in doubt

j. Carry over effect: not separating symptoms

5. Thurstone Scale

The Thurstone scale is a scale prepared by selecting items in the form of an interval scale. Each item has a score key and if ordered, the score key produces the same value



E. Examples of Attitude Scales in Educational Research

1 Example of a Likert Scale

Research instruments that use a Likert scale can be made in the form of:

a. Checklists

b. Multiple choice

2. Example of The Guttman Scale

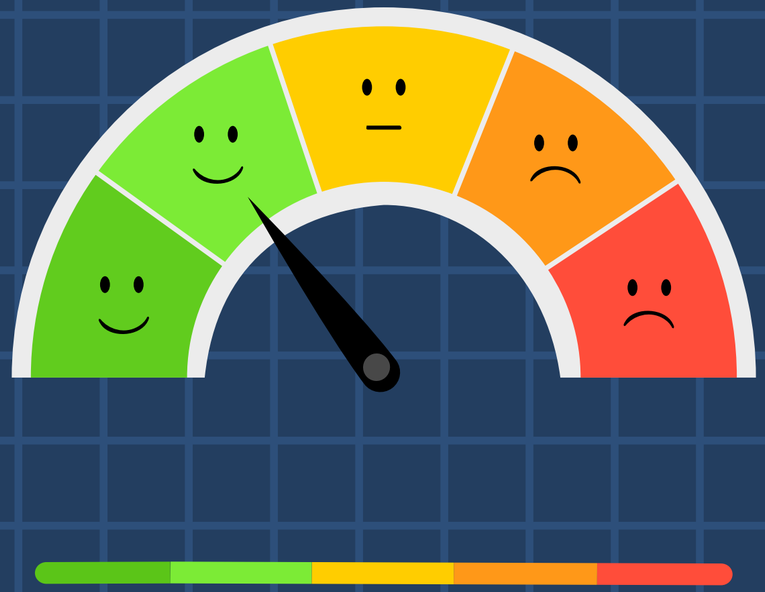
for example:

1. What do you think if physics learning is done by solving problems and discussing it in groups?

a. Agree

b. Don't agree

Besides being able to be made in multiple choice form, the Guttman scale can also be made in checklist form. Answers that can be scored high are worth one and the lowest is zero



3. Example of a Differential Semantic Scale

example:
Please rate your teacher's teaching style
Enjoyable 5 4 3 2 1 unpleasant
Easy to understand 5 4 3 2 1 difficult to understand

Respondents can give answers ranging from positive to negative answers. Respondents who gave a rating of 5 meant that they rated the teacher very negatively and vice versa.

4. Example of a Rating Scale

An example of a rating scale is:

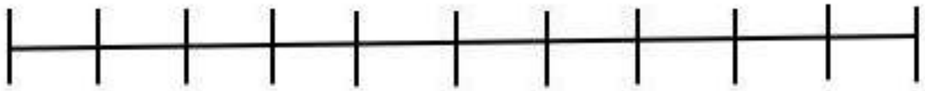
Classroom comfort during learning: 5 4 3 2 1

Information:
1 : Uncomfortable
2: Not comfortable
3: Medium
4: Quite comfortable
5: Very comfortable

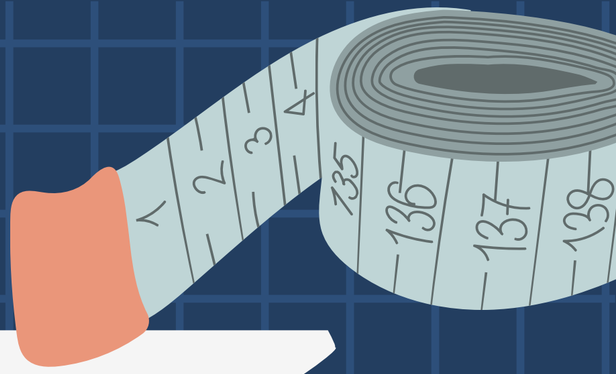
5. Example of the Thurstone Scale

Contoh dari skala thurstone yaitu:

1 2 3 4 5 6 7 8 9 10 11



A value of 1 on the scale above indicates very irrelevant, while a value of 11 indicates very relevant



Thank You