



Council for the  
Accreditation of  
Educator Preparation

## Establishing Content Validity

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# Content Validity Defined

- The extent to which a measure represents all facets of a given construct
  - Extent to which an indicator measures what it was designed to measure
  - Constructs include the concept, attribute, or variable that is the target of measurement
  - Estimate of how much a measure represents every single element of a construct
  - Used to assess constructs or domains
    - Based upon an analysis of the body of knowledge surveyed
    - Refers to the degree to which the content of the indicator reflects the content domain of interest

# Determining the Body of Knowledge for the construct to be measured

- Level of subjectivity exists in determining content validity
- Qualitative in nature
- Requires a degree of agreement among “experts”
  - Requires the use of recognized subject matter experts
  - Based on the judgment of subject matter experts
  - Relies on individuals who are familiar with the construct such as –
    - Faculty members
    - EPP based clinical educators
    - P-12 based clinical educators
  - Ask the fundamental question – “Do the indicators really assess the construct to be measured?”

# Aligning Indicators to Construct

- Indicators must assess some aspects or segment of the construct
- Indicators must align with the construct
- Example:
  - In an online business, an important construct could be “Customer Service”
    - Survey is developed to measure customer satisfaction with the service
    - Questions must measure/assess some aspect of customer service to successfully determine the quality of service
      - Alignment is key
      - Direct measure of some aspects

# Example for Customer Service

- Could you please take a moment and rate your experience with our company?

- Question 1:

Instruction: On a scale of 1-5 with 5 being excellent, rate the timeliness of delivery once your order was placed.

Question 2:

Instruction: On a scale of 1-5 with 5 being excellent, rate the affordability of the product that your ordered?

**Which of the two questions is aligned with the construct to be measured?**

# Determining Indicators for a Construct

- **Using a Q sort methodology**
  - Systematic study of participant viewpoints
  - Used to investigate the perspectives of individuals with different viewpoints
    - Participants rank items
    - Participants sort items
  - Mixed methodology
    - Works with small non-representative sample
    - Produces a physical distribution of sorted objects
    - Ongoing “think-out-loud” narrative
  - **Q-Sort does not lead to any type of validity – an interactive method to include everyone in the process**

# Steps for Q Sort

- 1. Definition of the domain to be measured
- 2. Development of a set of statements (Q sort)
- 3. Selection of participants representing different perspectives such as –
  - P-12 based clinical educators
  - Faculty members
  - P-12 administrators
  - Parents
  - Candidates
- 4. Q sort by participants
- 5. Analysis and interpretation

# Completing the Sort

- Q sort is a ranking of variables (indicators)
  - Ask a key question about the construct
    - Individuals place characteristics or statements based on the identified construct on index cards
    - Collect all the statements from individuals and have them place them into categories as a group
    - Place the cards into one of the following categories

**Disagree   Somewhat agree   Not Sure   Somewhat Agree   Agree**



# Trying a Sample for Q-Sort

- Construct: College-and-Career Readiness Skills
  - On an index card – identify 5 words, phrases or statements that you believe would be indicators for teaching college-and-career readiness skills
    - Each word, phrase or statements is placed on an individual index card
    - Share with a partner your 5 cards
    - Together place the cards in one of the five categories
  - **Disagree   Somewhat agree   Not Sure   Somewhat Agree   Agree**
  - Q-Sort could help you identify indicators related to your construct from various stakeholders

# Using Lawshe's Content Validity Ratio

- Indicators on assessments attempt to operationalize the construct to be measured
- Content validation approach requires judgment as to the correspondence of abilities (indicators) tapped by the assessment with abilities requisite for job success
  - Demonstrating the indicators on the assessment appropriately sample the content domain
  - **Question: How well do the indicators align with the construct to be measured?**

# Lawshe (cont.)

- Performance domains:
  - Behaviors that are directly observable
  - Can be a simple proficiencies
  - Can be higher mental process (inductive/deductive reasoning)
  - Operational definition – Extent to which overlap exists between (a) performance on assessment under investigation and (b) ability to function in the defined job
  - Attempts to identify the extent of the overlap

# Content Evaluation Panel

- Composed of persons knowledgeable about the job
  - Most successful when it is a combination of P-12 based clinical educators, EPP based clinical educators, and faculty
  - Each panel member is given the list of indicators or items independently
    - Ask to do the following
      - Rate the item as “essential”, “useful but not essential”, or “not necessary”
      - Items/indicators must be aligned with the construct being measured (think of the customer satisfaction survey)

# Quantifying Consensus

- Quantifying consensus:
  - Any item/indicator which is perceived as “essential” by more than half of the panelists, has some degree of content validity
  - The more panelist (beyond 50%) who perceive the indicator as “essential,” the greater the extent or degree of its content validity
  - Calculating the content validity ratio (CVR)

$$\text{CVR} = (n_e - n/2) / (n/2)$$

# Quantifying Consensus (cont.)

$$\text{CVR} = (n_e - n/2) / (n/2)$$

$n_e$  = number of panelists indicating “essential”

$N$  = total number of panelists

If you have 20 panelists total and 12 indicated it was essential, what is the CVR?

Compare answer with CVR chart to determine CVR value based on the number of panelists

# Quantifying Consensus (cont.)

- CVR is calculated for each indicator
- A minimum value of the CVR is based on the number of panelists and is on a CVR Table
  - CVR values range from -1.0 to + 1.0
  - The more panelists the lower the CVR value
    - For example –
      - 5 panelists requires minimum CVR value of .99
      - 15 panelists requires minimum CVR value of .49
      - 40 panelists requires minimum CVR value of .29
  - Allows for the retention or rejection of individual items

# Defining the construct

- Need to define the construct to be measured
  - Agreement on the construct
  - Behaviors or strategies related to the construct
- For measuring candidates' effectiveness in teaching to college-and-career readiness - which of the following would not be essential?
  - Engaging students in learning experiences requiring critical thinking
  - Being prepared to teach each day
  - Creating learning experiences that require students to apply content knowledge across disciplines
  - Engaging students in learning experiences that require the summary and analysis of a written text



# Worksheet on Indicators

- For the indicators identified on the worksheet, rank them as “essential”; “useful, but not essential”; and “not useful” for classroom management –
- Remember the indicators must align with classroom management skills