FUNDAMENTALS OF IPECP MEASUREMENT I:

“Knowing What you Really Want to Measure and Selecting the Right Tool”

Connie C. Schmitz, PhD and Jane L. Miller, PhD
In support of improving patient care, the National Center for Interprofessional Practice and Education is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

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**Constance C. Schmitz and Jane Lindsay Miller**

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Assessment & Evaluation

Our mission is to promote best practices in assessment and evaluation within the interprofessional education and collaborative practice communities.
The Need

Assessment and Evaluation for IPECP

- “How can I assess IPECP in individuals and teams?”
- “How can I evaluate IPE programs?”
- “What instruments are available?”
- “What makes one tool better than another?”
- “How can I select the right tool?”
Build capacity in the *logic*

of instrument appraisal and selection

Wrote “*Primer*” on measurement and tool selection

Connie C. Schmitz, PhD

- Educational psychologist
  - Curriculum development, learner assessment, program evaluation, education research
- Consultant to the National Center
  - Measurement collection
- Experience
  - Academe, foundations and government agencies
- Scholar
  - Health and human service evaluation
  - 30 publications and 45 technical reports
Jane L. Miller, PhD

• Leader at UMN
  – Founding director of AHC Simulation Center and IERC
  – Asst. Professor, Dept. Family Medicine & Community Health
  – Graduate Faculty member, College of Education & Human Development

• National Service
  – Society for Simulation in Health Care
  – Center for Interprofessional Practice & Education

• Scholar
  – Collaborative practice among diverse healthcare disciplines
  – Performance-based assessment
  – Acquisition of interprofessional team skills
Building Capacity: nexusipe.org

Foundation areas: measurement, assessment, evaluation

Resource Center
- Open-source, community exchange
- Qualitative tools to measure processes, explore emerging areas, build theory
- Support local teaching, curriculum, programming

Measurement Collection
- Selected tools, vetted by Center’s Advisory Board
- Quantitative tools to measure IPECP processes and impacts on Triple Aim
- Support generalizable evaluation / research

Support Resources
- Measurement Primer
- To RIPLS or not to RIPLS
- Consumer Report on Team Assessment Tools
- Practical Guides on Assessment and Evaluation

Assessment and Evaluation Home Page
Goal of Webinar Series

Apply a guide to instrument selection based on three main criteria:

1. Relevance
2. Validity
3. Feasibility
Presentation Overview

• Definitions
• Assessment planning
• Types of tools
• Criterion 1: Relevance
• Brief example
Definitions

• Measurement
  – Science of measuring things
  – Measurement error, reliability, validity

• Assessment
  – (What) Knowledge, skills, attitudes, beliefs, perceptions, practices
  – (Who) Individuals, groups, teams, organizational units
Definitions

• Evaluation
  – Programs designed to promote IPCP and impact Triple Aim
  – Serve needs of local stakeholders

• Research
  – Produce new knowledge
  – Serve needs of the IPCP field
Tool Selection Starts with a Plan

• Tools by themselves don’t make an assessment (or an evaluation or research plan)

• Don’t pick a tool before you have a plan

(Don’t put the cart before the horse!)
Assessment Plan Components

1. Purpose of assessment
2. Context for assessment
3. Measures
4. Assessment method / design
5. Tool adoption / adaption / development
Before You Search for an Instrument

You need to have thought about….

<table>
<thead>
<tr>
<th>Plan</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>Low stakes</td>
</tr>
<tr>
<td></td>
<td>• identify, diagnose needs; improve learning, practice, QI</td>
</tr>
<tr>
<td></td>
<td>High stakes</td>
</tr>
<tr>
<td></td>
<td>• select among candidates; judge performance</td>
</tr>
<tr>
<td>Context</td>
<td>Captive audience</td>
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<tr>
<td></td>
<td>• required class, CE simulation</td>
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<tr>
<td></td>
<td>Live action / in situ</td>
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<tr>
<td></td>
<td>• F2F patient rounding, remote video conferencing</td>
</tr>
<tr>
<td>Measures</td>
<td>• Knowledge, skills, attitudes, perceptions, behaviors, practices</td>
</tr>
<tr>
<td></td>
<td>• Constructs (“collaboration,” “communication”)</td>
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</tbody>
</table>
Before You Search for an Instrument

You need to have thought about....

<table>
<thead>
<tr>
<th>Plan</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment Methods</td>
<td>• Online surveys</td>
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<tr>
<td></td>
<td>• In-person interviews</td>
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<tr>
<td></td>
<td>• Structured observations (in simulation / in situ)</td>
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<td></td>
<td>• Standardized multiple-choice test</td>
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<td>• Debriefing protocols</td>
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<td>• 360 degree feedback surveys</td>
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<tr>
<td>Design</td>
<td>• Real-time feedback during training</td>
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<tr>
<td></td>
<td>• Post only</td>
</tr>
<tr>
<td></td>
<td>• Pre-post</td>
</tr>
<tr>
<td></td>
<td>• Retrospective pre-post</td>
</tr>
<tr>
<td></td>
<td>• Comparative or control group</td>
</tr>
<tr>
<td></td>
<td>• Trend analysis over time</td>
</tr>
</tbody>
</table>
Type of Tool: Data Source

**Self-Report, Self-Assessment**
- Reactions to training
- Attitudes toward other professionals
- Perceptions of collaboration, teamwork in practice environment
- Knowledge
- Skills
- Behaviors

**Observations, Ratings, Reports by Others, Tests**
- Structured observations of performance
- Patient reports of care coordination
- Knowledge or situational judgment test

**Organizational Health Care Data**
- Provider attrition
- Costs of care
- Length of stay
- Readmission
- Morbidity
- Mortality
- Population health
Type of Tool: Object of Assessment

Individual vs. Group Level Data

- Individuals
  - Background, experience
  - Satisfaction
  - Knowledge
  - Skills
  - Attitudes
  - Perceptions
  - Behaviors
  (can be aggregated “up” to group)

- Groups
  - Performance of:
    - Team
    - Care model
    - Unit
    - Clinic
  (can’t be disaggregated “down” to individual)
Measurement Primer

Step 1: Relevance
- Content
- Purpose
- Intended audience
Content

*Does it measure the things I need to measure?*

- *Does it cover what I teach? Does it match my learning objectives?*
- *Does it address curriculum / program goals?*
- *Does it align with consensus standards, core competencies?*
- *Does it address my research questions?*
Purpose

Does its purpose align with mine?

- Will it provide the type of scores / description / feedback called for in my plan?

- Individual vs. group scores

- High stakes vs. low stakes

- How flexible is the tool?
Relevance

Intended Audience

*For whom is the tool intended?*

- How similar are the respondents / participants / professions to mine?
- Is the tool flexible / generic or specific? Can it be tailored?
- Has the tool been used successfully across different education or practice settings?
- What are the characteristics of the groups involved with validity testing?
Putting it Together

• Criteria for instrument selection:
  1. Relevance (content, purpose, audience)
  2. Validity
  3. Feasibility

• Planning comes first!

• Important distinctions among tools
FIPPC: 
• Required course for 1,000 pre-licensure students at U of MN 
• Nursing, medicine, dentistry, pharmacy, public health, vet med
20-item, self-assessment survey

1. Communication
2. Collaboration
3. Roles and responsibilities
4. Patient/family centered approach
5. Conflict management / resolution
6. Team functioning
ICCAS Purpose

- Evaluate IPE intervention
- Retrospective pre-post design
- Estimate course impact
ICCAS Population

• 584 participants
• 12 different IPECP programs in Canada and New Zealand
• Pre-dominantly pre-licensure
• 19 different professions represented in the sample
Why We Chose the ICCAS

- High relevance
- Positive evidence of validity
- Feasible
Relevance of ICCAS to FIPCC

• Content
  – Items aligned with course objectives and IPEC core competencies

• Purpose
  – Supplement “end of course” satisfaction with more behavioral skill assessment
  – Retrospective pre-post design a plus

• Intended Audience
  – Similar population, robust across professions and settings
The ICCAS Worked Well

- **Relevance**
  - Sensitive to FIPCC content
  - Showed expected pre-post gains for certain groups

- **Validity**
  - Reliable
  - Single factor explained large proportion of variance

- **Feasibility**
  - Easy to administer, score, interpret

Now we want to hear from you....
We want to know…

• What was the muddiest point for you?

• Did anything we say surprise you?

• What might you do differently as a result of this presentation?
“Can you modify an existing tool?”

• Modified McMaster-Ottawa
  – Constructs
  – Individual and team assessment in one tool
  – Feasibility
    • Fairly easy to achieve scoring consensus with the MMO using the behavioral anchors
"Why were other tools rejected?"

- Too context-specific
- Too technically-oriented
- Too onerous for the expert evaluator
“What are the threats to validity?”

- Formatting and minor wording changes
- Use by expert evaluators
- Addition of a global item to assess the “gestalt” of the performance
Answers to your questions....
In Closing

Further reading
[nexusipe.org/advancing/assessment-evaluation-start]

• Measurement Primer
• Practical Guide Series