Bridges to Our Bright Future

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Self-Assessment Concepts and Tools in Pharmacy and Continuing Education

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Program

Part 1: Key Definitions
Part 2: History, Literature and Models for Self Assessment
Part 3: Methodological Issues
Part 4: Tools for Self Assessment and Reflection
Part 5: Recommendations, Questions and Discussion
Part 1- Definitions

Kathleen A. McCartney
University of Colorado
Key Definitions:
Self-Assessment, Self-Evaluation, Self-Reflection

Goal: Distinguish *self-assessment* from self-evaluation and self-reflection in the context of continuing professional development

Learning Outcomes

After participating in this mini-session, participants should be able to:

• Compare and contrast definitions of SA, SE, and SR
• Discuss the roles of SA, SE, and SR in professional development for pharmacy students and practicing pharmacists
## Group Exercise

Match each definition on the left to the correct term on the right

<table>
<thead>
<tr>
<th>Definition</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>An unguided process for generating a formative evaluation of performance against set criteria</td>
<td>Self-Evaluation</td>
</tr>
<tr>
<td>Mental “stepping back” to review a specific event or content for better understanding</td>
<td>Directed Self-Assessment</td>
</tr>
<tr>
<td>A self-assessment process using external information from peers and instructors</td>
<td>Self-Reflection</td>
</tr>
<tr>
<td>The process of making a summative evaluation of your own performance</td>
<td>Self-Assessment</td>
</tr>
</tbody>
</table>
Discussion Questions

State whether you agree with the following statements and why or why not:

1. Most pharmacists are able to accurately assess their own performance because they are practical and realistic thinkers.
2. Most pharmacy students and pharmacists understand how to use the process of self-reflection to guide their own professional development.
3. Using external information from tests, instructors and co-workers, improves the accuracy of self-assessment.
Definitions: Self-Assessment

The process of comparing his/her performance to the goals set for his/her work.

- Summative judgments
- Unguided and self-generated process
- Directed self-assessment: includes information from external sources
Definitions: Criteria-referenced, directed self-assessment

Self-assessment strategy with 4 essential steps:

• Clear learning criteria
• Modeling application of criteria
• Providing feedback on application of criteria
• Revise new learning goals and strategies

Challenge: Self-assessing based on standards versus experience
Definitions: Self-Reflection

Global view of achievements over a specified period of time or a specific topic

• No established criteria followed
• Asking the question why
• May result in better solutions for the next similar problem
• Doesn’t confirm knowledge or competence
Definitions: Self-Evaluation

Summative or outcome evaluation

• May use same tool an external source (e.g. supervisor) would use to evaluate

• May help identify goals for the next evaluation period

• May facilitate discussion of performance between self and an external source
Part 2 – History, Literature and Models for Self Assessment

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University of New England  
Renee L. Rose  
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Goals:
1. Introduce selected literature on self-assessment
2. Discuss models for self-assessment

Learning Outcomes:
After participating in this mini-session, participants should be able to:
1. Describe elements of key papers in this area
2. Recognize models of self-assessment
History of Self-Assessment

- Theoretical value to self-assessment
- Necessary to maintain professional competence
- Accuracy of self-assessment is poor
- Self-assessment skills are related to competence
Self-Assessment: Professional Education

- Complements other teaching elements
  - Knowledge, Skills, Attitudes, and Values

- Develops a foundation for independent learning
Self-Assessment: Professionals

• Allows professionals to balance daily practice
• Contributes to setting personal goals
• Improves confidence in professional activities
• Ideally makes practitioner aware of areas they lack knowledge
Self Assessment Studies: Professional Education

Overview

• 65% of the literature showed little, no, or an inverse relationship between self and external assessments
• Worst accuracy found amongst the least skilled and most confident
Self Assessment Studies: Professional Education

Open Assessment

- 1st year medical students viewed clinical encounter videos
- Unguided self-assessment with open ended questions
- 30% of students able to gain insight into their strengths and weaknesses

Self Assessment Studies: Professional Education

Self Reflection in Action

- Critical thinking was positively impacted in 4th year Pharmacy students following self assessment through justification of the rating of their confidence level

Self Assessment Studies: Professional Education

• Low performing, third-year medical students unable to accurately assess the quality of their own work or their peers
• High performing students harsher when rating their abilities, but able to accurately score their peers
• Papinczak – similar results with 1st year students

Self Assessment Studies: Professional

• “Not Knowing What They Don’t Know”

• Highest levels of competence = greatest critics

• Corrected with exposure to others


Hodges B, Regehr G, Martin D. Difficulties in Recognizing One’s Own Incompetence: Novice Physicians Who are Unskilled and Unaware of it. Acad Med 2001;76, S87-S89
Self Assessment Studies: Professionals

• “Not Knowing What They Don’t Know”
• Lowest levels of confidence = overestimation of abilities
  • Unable to correct
• Mid level of confidence = greatest accuracy


Hodges B, Regehr G, Martin D. Difficulties in Recognizing One’s Own Incompetence: Novice Physicians Who are Unskilled and Unaware of it. *Acad Med* 2001;76, S87-S89.
Criteria Referenced Self Assessment - Students

Students

- Clear learning targets and criteria
- Modeling application of the criteria
- Providing feedback to students on their application of the criteria
- Setting new learning goals and strategies for the student
Self Assessment Model
Professionals

- Pre-requisite competencies - Things I am: What is prerequisite knowledge?
- A process for practitioners to follow - Things I can do: What is a process the practitioner follows?
- Skills and knowledge the practitioner will apply in the process - Things I can apply: What are skills and knowledge I can apply?
- Tools that are available to be used with the specific applications - Things I can use: What are tools I use with specific applications?

Self Assessment Model

Self Judgment
Knowing Progress Toward
Learning Targets

Student Self Assessment Cycle

Clear Learning Targets and
Criteria Provided by Qualified
Experts

Improving Strategies to Improve
Performance
Provide/Receive Feedback

Self-Assessment
Awareness of Knowledge,
Skills, Attitudes and Abilities

Tools I Can Use
or Experts I Can
Consult

Professional Self-Assessment Cycle

Things I Am, Things I Can
Do or Not Do

Things I Will Apply

Modified from Asadourian and Batty, 2005 and
Part 3 – Methodological Issues Associated with Assessment: Why should we expect assessments to correspond?

L. Douglas Ried
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Learning Outcomes

• Describe why Don Quixote has a better chance of reaching his goals than we do.
• State the primary methodological strategies to assess student and professional learning
• Discuss the methodological problems with each of the strategies.
• Hear and understand my plea about assessment of learning, especially experiential learning
Lack of Demonstration of Reliability and Validity

Requires that multiple raters view the performance of a single student with a high degree of agreement.

A single assessor would come to the same conclusion when viewing the same performance by the same individual on different occasions.
Central Assumption

Both groups (ie, those doing the assessing and those being assessed) are **homogeneous** groups that agree on the level and skills needed to demonstrate competence, which may be an **unwarranted** assumption.

- Agreement on the “gold standard”
- Reliability of the raters – do they compare to an agreed upon standard or their against their own performance or on what they perceived their peers meant to do rather than what they actually accomplished
- Measurement error and attenuation of the result
- Expert peer/teacher versus peer assessment
Correlational

With correlational studies, individuals’ self-ratings are correlated with experts’ ratings to obtain a single numeric value for the group.

Single number is based on the groups’ responses and interpreted as an individuals’ ability to self-assess.

– High correlation with experts indicates good ability to assess; low correlation indicates poor ability to assess.
“Proportional” Self-Assessment

The proportion of self-ratings that correspond with experts’ ratings.

The absolute difference between the self-rating and the peer- or expert-rating is calculated by subtracting the students’ self-rating from the peer or expert’s rating.

– Smaller absolute difference indicates greater correspondence.
Accuracy of Self-Assessment

People do not know what they do not know.

– Highly skilled/knowledgeable usually assess themselves lower in comparison to peers or experts.
– “Average” are the most accurate
– Unskilled or less knowledgeable usually assess themselves higher.
Global Competency Assessment Measures

• Multiple domains often underlie global measures and it is not always known which ones are the most important or predominate in the assessment.
  – If clear criteria are not given to the raters, then individual expert’s and peer’s ratings of competency may be based on different domains, even within the same assessment episode.

• Global assessments may not be based on the skills necessary to accurately demonstrate competence.
Drug Therapy Evaluation and Development

- Synthesizes complete patient history and laboratory and physical exam data to identify problems.
- Identifies and prioritizes both actual and potential drug related problems stating rationale.
- Identifies problems that require emergency medical attention.
- Designs and evaluates treatment regimens for optimal outcomes using pharmacokinetic data and drug formulation data.
- Designs and evaluates treatment regimens for optimal outcomes using disease states and previous or current drug therapy as well as including psycho-social, ethical-legal, and financial data.
- Develops backup plans based on what problems are likely to occur from/with the primary plan.
- Provides written documentation of the pharmaceutical care plan that is clear, complete, and concise.
Level and Alignment of Assessment

Purpose – formative versus summative
Performance versus learning
  – Each requires different methods or combinations of methods
  • Unguided reflections versus expert rater assessment
Plea about Assessment of Learning, ( Especially Experiential Learning)

• Recognize theoretical vs. achieved value of “self-assessment”.
  – Emphasize external feedback to inform self-assessment.
  – Improve feedback quality

• Move away from global “competency” indicators.

• Place more emphasis on reliability and validity of assessment.
Part 4 – Tools for Self Assessment and Reflection

YOUR OPPORTUNITY TO BECOME INVOLVED WITH SEVERAL TOOLS
Reflection and Self Assessment Tools

1. Written Reflection – Internal Motivation
   – Students
   – Professionals

2. Critical Incident Analysis – External Motivation
   – Students
   – Professionals

3. Prospective Reflection Activity
   – Professionals
Part 5: Recommendations, Questions and Discussion
Recommendations and Thoughts

- Recognize theoretical vs. achieved value of reflection and assessment
- Emphasize external feedback to inform self-assessment
- Improve feedback quality
- Move from global “competency” indicators
- Place more emphasis on reliability and validity of assessment
- Respond to both external and internal motivation
- Maintain attentiveness and habits of the mind