Destination 2015

GREAT TEACHERS IN ACTION

SESSION 1 – MAY 15TH, 2015
Remember to sign in!

Thank you 😊
The Question

SESSION 1 – PART ONE
Learning Outcomes for Session One

Articulate the purpose of action research
Identify the elements of action research
Analyze the effectiveness of a research question
Create measurable student learning outcomes
What is Action Research?

What is action research to me?

Action Research Video

What have I committed to doing this summer/fall?

What are my expectations for this experience?

What do I hope to gain by participating?
Action Research

- ... attempts to provide some insight into how students learn.
- ... supports data-informed decision-making by faculty.
- ... is a means of professional growth.

"Action research is inquiry or research in the context of focused efforts to improve the quality of an organization and its performance. It typically is designed and conducted by practitioners who analyze the data to improve their own practice."

---

North Central Regional Educational Library
http://www.ncrel.org/sdrs/areas/issues/envrmnt/drugfree/sa3act.htm
“Ways in” to **Action Research**

Examine unexplained student successes, in order to replicate or build on them

Focus on critical and challenging teaching goals and/or student learning outcomes

Apply general, research-based principles for good practice in teaching and learning to our specific practice

Examine a hunch (developed through observation and practice) about what is likely to work

Focus on a common problem or an issue that seems to recur

**Tom Angelo**
What will be your “way in”?

The Question . . .
Converge and Diverge Activity
What is your research question?

Have you committed to a specific research agenda? Have you decided what your research question will be? Let’s refine it!
Writing an Effective Research Question

✔ Does it address a persistent problem or area of concern in my class/professional setting?

✔ Is it specific, significant, and related to improving student learning?

✔ Can I clearly state the goal or set the standard to which I want to compare my students’ achievements?
Writing an Effective **Research Question**  
*(continued)*

- Is it within my power to address the question (teaching strategies, classroom activities, student assignments)?
- Is it feasible in terms of time, effort and available resources?
- Can I take action based on my results?
- Is this an area where I am willing to make a change?
Research Question Examples: The good, the bad and the ugly!

Which question(s) below exhibit the qualities of an effective research question? Explain.

1. Will the use of a directed tutorial improve students’ ability to correctly identify the elements of the Scientific Method?

2. Does gender impact student likelihood to complete homework regularly and consistently in the online learning environment?
Peer Discussion: Evaluating Your Research Question

Work with a partner and use the Research Question Checklist to evaluate the effectiveness of your research questions.

1. Does your research question meet the criteria?
2. In what ways, if any, could it be revised to be more effective?
Elements of an **Action Research** Project

- **Clear Goals** (*Abstract and Research Question*)
- Adequate Preparation
- Appropriate Methods
- Significant Results
- Reflective Critique
- Effective Presentation

*Note:* The abstract is a summary of your action research project which includes a statement of the purpose, methods and results of the project along with a clearly articulated research question. Given that it contains results, this is something you would complete at the end of your project.
Elements of an **Action Research** Project

- Clear Goals
- **Adequate Preparation** *(Perspectives)*
- Appropriate Methods
- Significant Results
- Reflective Critique
- Effective Presentation
Perspectives to Consider

Look at your work from multiple perspectives

- Student
- Colleague
- Expert
- Self
Adequate Preparation Worksheet

What does ...

- interaction with students
- interaction with colleagues
- the literature
- your personal experience

tell you about your topic?
Let’s take a break . . .
We will reconvene at 2:45pm in Building 6 Room 220
Outcomes & Indicators

SESSION ONE – PART TWO
Elements of an Action Research Project

- Clear Goals
- Adequate Preparation
- **Appropriate Methods**
  - *(Learning Outcomes, Teaching Strategies and Assessments)*
- Significant Results
- Reflective Critique
- Effective Presentation
Research Question & Appropriate Methods

**Research Question**
Student Learning Outcome (SLO)
What should students be able to learn or do?

**Teaching Strategies**
What teaching strategies appropriate for the SLO?

**Assessment Methods**
What assessments accurately measure the identified SLO and performance indicators?

- Formative assessment
- Summative assessment
Fist to Five

I can write a measurable learning outcome.
state what a learner should know and/or be able to do...

...as a result of what he/she has learned in a course, library orientation, counseling session
How do we write a measurable Learning Outcome?

We use the same principles and techniques whether we write a learning outcome for lesson, unit, course or program.
Student Learning Outcome (SLO) Statement Structure

Students will be able to

**action verb** + result/trait/product
(what will be done)
Example Student Learning Outcomes

Students will be able to clarify his/her educational goals.

Students will be able to use the Mean Value Theorem to solve problems and prove related results.

Students will be able to articulate mathematical concepts using words rather than symbols.

Students will be able to analyze international trends in business.
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describes a Learning Result</td>
<td>A measurable learning outcome specifies what the student will be able to do, not what the teacher does</td>
</tr>
<tr>
<td>Specific</td>
<td>A measurable learning outcome addresses no more than one single result/trait</td>
</tr>
<tr>
<td>Action-oriented</td>
<td>The action verb (Bloom’s Taxonomy Thesaurus of Verbs) specifies definite, assessable behaviors</td>
</tr>
<tr>
<td>Cognitively Appropriate</td>
<td>The action verb (Bloom’s Taxonomy Thesaurus of Verbs) identifies the desired cognitive level of student thinking</td>
</tr>
<tr>
<td>Clearly Stated</td>
<td>The meaning of the learning outcome is easily understood by students, administrators and faculty members</td>
</tr>
</tbody>
</table>
Why only one action verb?

When we measure a learning outcome, we measure the action…
  ◦ each stated action verb must be measured

Usually the additional action verbs suggest lower order thinking that is subsumed in the learning outcome.
Why a one sentence SLO?

Each sentence needs a new verb!

Often multiple sentences provide more information than needed

- description of the assessment method or assessment instrument
- description of the artifacts/evidence
Peer Discussion

Based on the criteria, are these SLOs measurable? Why or why not?

1. Students will be able to develop and apply factual information to adequately solve a problem.

2. Students will understand credible internet sources.
Students will be able to develop and apply factual information to adequately solve a problem.

**BETTER:**

Students will be able to **apply** factual information to **solving a problem**.

**BETTER BECAUSE:**

- Learning is directly mentioned
- Specific because it measures one result/trait
- Measurable because it has only one action-oriented verb
- Only one sentence
Students will understand credible internet sources.

**BETTER:**

Students will be able to **evaluate** the credibility of internet sources.

**BETTER BECAUSE:**

Action verb is more clear: defined, assessable behavior

Identifies the desired cognitive level of student thinking
SO...WHAT’S THE BIG DEAL WITH THE VERBS & BLOOM’S COGNITIVE LEVELS?
Cognitive Level Build from Lower to Higher Levels

- Remembering
- Comprehending
- Applying
- Analyzing
- Synthesizing
- Evaluating & Creating
For all Learning Outcomes ...

Complexity increases in two ways:

1. Cognitive level as articulated by the action verb
   ex. Identify the elements of ... vs. Analyze the elements of ...

2. Difficulty of the result or trait
   ex. Write an outline vs. write an essay.
Fist to Five

I can write a measurable learning outcome.
Putting It Together: A Science Example

**RQ:** Will the use of a directed tutorial improve students’ ability to correctly identify the elements of the Scientific Method?

**SLO**

- Students will be able to correctly **identify** the elements of the Scientific Method.
Research Question to Learning Outcome

- The research question and learning outcome are related but written using different criteria.
- The student learning outcome should be a specific action that describes what the student will be able to do.
- Use the Research Question to Learning Outcome Worksheet to help you identify a student learning outcome appropriate for your research project.
“Building Blocks” help us further define the SLO in measurable terms by asking...

WHAT CAN MY STUDENTS DO THAT WILL INDICATE THEY HAVE THE DISCRETE SKILLS THAT BUILD TO MASTERY OF THE STUDENT LEARNING OUTCOME?
Performance Indicators ("Building Blocks")

1. **Incremental steps** that lead to achievement of the SLO
2. Help us to **define** the SLO in **measurable terms**
3. Provide a **more specific picture** of students’ abilities and or skills
4. Define and clarify the **cognitive level** and **quality of performance** necessary to meet the requirements of the learning outcome.
Student Learning Outcome to Performance Indicators

The student will be able to plan a balanced diet. *(creating/evaluating)*

- The student will be able to examine the implication of a balanced diet to good health. *(analyzing)*

- The student will be able to describe what constitutes a balanced diet. *(comprehending)*

- The student will be able to identify the components of a balanced diet. *(remembering)*
Putting It Together: A Science Example

RQ: Will the use of a directed tutorial improve students’ ability to correctly identify the elements of the Scientific Method?

SLO
- Students will be able to correctly identify the elements of the Scientific Method.

Performance Indicators
- Students will identify the hypothesis within science-based articles.
- Students will distinguish between dependent and independent variables within a specific experiment.
- Students will distinguish between qualitative and quantitative data within a specific experiment.
- Students will identify the conclusion drawn by the author.
- Students will indicate whether the article’s hypothesis is supported by the author’s conclusion.
Homework . . .

1. Use side two of the last worksheet to help you create a rough draft of the performance indicators associated with your learning outcome.

2. Complete your adequate preparation section. While considering the literature, locate a scholarly article related to the strategy you are interested in using. Bring it to Session 2.

3. Bring 1 copy of your Action Research Plan template to Session 2 that includes the following completed sections:
   a) Project Information
   b) Research Question
   c) Adequate Preparation
   d) Student Learning Outcome Statement
   e) Performance Indicators (draft)