Toolkit

Part 1: Planning guide

This guide is the first of three parts of the toolkit. To test how well a strategy works, complete steps 1 through 4 and the corresponding worksheets. For background information on the Instructional Improvement Cycle, please consult the introduction to this publication.

Step 1. Select a strategy

Select a strategy that you want to test by completing worksheet 1 below. Worksheet 1presents questions to consider as you determine the instructional strategy for your project. You can start by thinking about a strategy to address current challenges in your classroom (route 1), identifying a strategy that aligns with an upcoming lesson (route 2), or selecting a strategy you want to try and aligning it to challenges and upcoming lessons (route 3). Once you choose a starting point, answer the questions in the boxes for your chosen route. An example of each route is shown in box PG1.

Worksheet 1. Strategy selection

Proposed strategy

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Source: Authors’ adaptation of the roadmap provided by Jill Johnson, Education Service Unit 6, Milford, Nebraska.

Box PG1. Examples for selection routes

Route 1

**Challenge.** A high school math teacher saw that students were not doing well on homework that required them to solve problems.

**Strategies to address the challenge.** The teacher decided to incorporate more problem-solving activities into daily instruction, rather than just giving these problems as homework.

**Upcoming lesson/unit.** The teacher had an upcoming algebra unit on solving simple radical equations using a variety of methods.

**Proposed strategy.** The teacher included time for students to problem solve during class and provided them with a list of prompts to ask as they solved the problem.

Route 2

**Upcoming lesson/unit.** A teacher had an upcoming science unit on structure and function and cause-and-effect relationships.

**Strategies for lesson/unit.** The teacher decided that this would be a good unit in which to implement some inquiry-based strategies by having students conduct small experiments to examine these relationships.

**Challenge.** The teacher realized that students had a hard time developing hypotheses and using a scientific approach to solve problems.

**Proposed strategy.** The teacher had students conduct experiments in small groups in which they identified a hypothesis about cause and effect, tested the hypothesis by recording and reflecting on data, and generated explanations and new hypotheses.

Route 3

**Strategy to try.** In conversation with a subject-area team member, a teacher learned about a paired reading strategy that seemed to be successful. The teacher decided to try this strategy.

**Challenge.** Seeing that students were not very engaged, the teacher realized that this might be related to too much class-time lecturing. The teacher decided that implementing a grouping strategy might allow students to interact with the material and increase their level of engagement.

**Upcoming lesson/unit.** The teacher had an upcoming lesson on identifying and summarizing the main idea.

**Proposed strategy.** The teacher used a paired reading strategy in which students take turns reading and then provide praise for correct reading, provide error correction to partners, and summarize and discuss the main idea.

Step 2. Select classes

Select two classes to participate in the instructional improvement cycle. A new strategy will be tested by comparing achievement in one class that receives regular instruction methods (comparison group) and another class that receives the new strategy (experimental group; table PG1). Select two classes that target the same content (in which you will teach the same lesson or unit) and have a similar makeup (for example, gender, eligibility for school lunch program, special education status, or English language learner status). Using groups with similar traits helps address the limitations of this design by limiting any preexisting differences. Complete worksheet 2 to describe the two classes and the lesson or unit that you chose.

Table PG1. Characteristics of group comparison tests

| Characteristic | Description |
| --- | --- |
| Number of classes | Two different classes of students. |
| Implementation | Class 1 gets instruction using the new strategy. This group serves as the experimental group.  Class 2 gets regular instruction with the same content (same lesson/unit). This group serves as the comparison group. |
| Content pre-test and post-test administration | The groups take the same content assessment prior to the lesson/unit (pre-test) and the same test at the end of the lesson/unit (post-test). |
| Question addressed | How well does a group of students that receives the target strategy achieve compared with a group of students that does not receive the strategy? |
| Limitations | Without random assignment, the findings on the content assessment may be a result of preexisting differences between the two student groups rather than a result of using the strategy. |

Source: Authors’ compilation.

Worksheet 2: Class description

|  |  |
| --- | --- |
| **Class 1: Experimental group: (the group for which the strategy will be used)** | |
| Number of students |  |
| Course name/subjecta |  |
| Topica |  |
| Gradea |  |
| Demographics  (for example, percentage of English language learner students, special education students, or students eligible for free or reduced-price lunch) |  |
| Unit/Lesson learning goals  (that is, what do you want students to know and be able to do at the end of the unit) a |  |
| Target strategy tested  (for example, advanced organizers or exit slips) |  |
| Other strategies used, if any (for example, standard strategies you are using, such as discussion) |  |
| **Class 2: Comparison group: (the group for which the strategy will not be used)** | |
| Number of students |  |
| Course name/subjecta |  |
| Topica |  |
| Gradea |  |
| Demographics |  |
| Unit/lesson learning goalsa |  |
| Strategies used (that is, standard strategies you are using, such as discussion) |  |

a. Must be the same for both groups.

Source: Authors’ compilation.

Step 3. Select the pre-test/post-test

Select a content assessment that you will administer as a pre-test and post-test to both groups. The same content assessment is administered twice in each class, once prior to strategy implementation and again following strategy implementation. The content assessment can be one that you developed or one found in a textbook or other resource. The content assessment should cover content from the entire unit. Consider the questions below when selecting or designing the content assessment.

* Are the questions on the content assessment clearly aligned to the learning objectives identified in the lesson or unit? Does the content assessment have enough questions to fully capture student learning and to show change over time? The assessment should have enough questions to cover each of the learning objectives. A simple table can be used to identify the number of questions related to each objective (see template below).

Table PG-1. Assessment selection template

| Learning objective | Number of questions |
| --- | --- |
| 1. |  |
| 2. |  |
| 3. |  |

* Are the content assessment questions at an appropriate difficulty level to allow for increases in learning to be captured from before instruction on the lesson or unit begins (pre-test) to after instruction on the lesson or unit is complete (post-test)? Do not make the assessment so difficult that most students will not be able to answer questions correctly during the post-test because this will make the gains look smaller than they are. Nor should you make the assessment so easy that students are getting most questions right on the pre-test, because this also will make the gains look smaller than they are. If you have used the assessment in the past, you might consider previous results as an indicator of difficulty.

Step 4. Determine when and how to use the strategy

In the previous steps you decided on the strategy that you would test, the classes that would be used to test the strategy, and the assessment that would be used as a pre-test and post-test. These decisions should have led you to choose a general timeframe for when you would implement the strategy, including when you would administer the pre-test and post-test based on the length and timing of the unit or lesson that you chose in step 2. You will now need to consider how the strategy will be implemented so that it is appropriately aligned to the content and activities in the unit. For example, if using a paired reading strategy, you would need to determine when students would have material that is appropriate to use in the pairs and the length of time that students would spend in the pairs. Complete worksheet 3 to help you plan for implementation.

Worksheet 3: Strategy and assessment implementation

|  |  |
| --- | --- |
|  | |
| What is the name of the unit/lesson? |  |
| What dates will you teach the unit/lesson? |  |
| What date will you administer the pre-test? |  |
| What date will you administer the post-test? |  |
| How often will you use the strategy? (for example, daily, after each reading passage, etc.) |  |
| How much time will you allot for implementing the strategy each time it is used? (for example, 10 minutes in groups, or 15 minutes of problem solving, etc.) |  |

Source: Authors’ compilation.