

Guide to Developing Unit Assessment Plans

Office of Academic Success Initiatives (3-7-22)

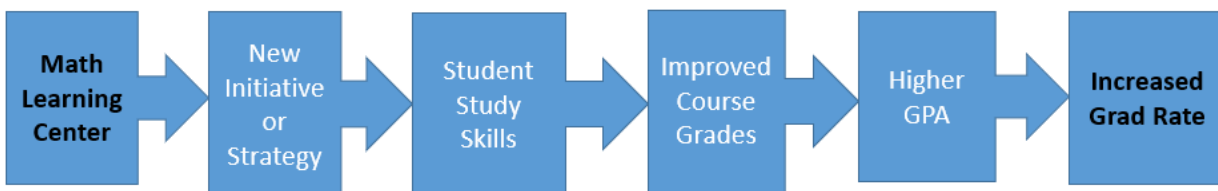
You will be asked to report your plan by section headings. These are listed below with some guiding questions to get you started:

- Outcome Description: (What is your goal? What do you want to provide, build or improve?)
- Implementing Strategy: (How are you going to accomplish it? What are the steps? How is it related to your outcome?)
- Assessment Method: (How are you going to measure the effectiveness of reaching the targets in your goal?)
- Criterion for Success: (What would indicate success, based on your actual measures?)
- Data Summary, Analysis and Evaluation: (What are your results and what do they mean? What was successful? Not successful? Why?)
- Program Improvements: (How will you use your results to make specific changes?)

Outcome Description: What do you want to do? What type of outcome is this? What problem does it address? Why is it important? How will the results be used to inform practice or the implementation of specific strategies?

1) *Determine your point of success.*

Do you expect to see an immediate difference, or will your actions have an impact later? For example, you may wish to impact something far downstream like 4-year graduation rates, but will you be able to demonstrate this effect when your target students may not graduate for several years? Perhaps you can target something that you have more direct influence over and this will subsequently affect a downstream outcome. Think of it like this example below:



In this example, the Math Center wants to affect graduation rates by creating a new initiative to improve student study skills. They found research that demonstrates the effect study skills has on improving course grades. It stands to reason that improved course grades improve overall GPA. They also have empirical evidence that Higher GPA is related to graduation rates. ***However, they cannot directly link to grad rates because that data will not be available until much later (after the report results are due), and many other variables could intervene in the relationship between their initiative and the grad rate.*** So, they may identify their effort to affect grad rates in their rationale, but measure more “upstream” variables of success. For example, student study skills before or after their intervention. Furthermore, they may also see if students who participated in their initiative had higher grades in the targeted math

course. They may wish to conduct this as an active research study and look at the difference between low and high study skills students on course grades. This would make a strong case for causal effects for their initiative. In sum, don't choose to measure a "point of success" when you cannot timely obtain data for your reporting cycle.

2) *Identify the type of outcome consistent with your point(s) of success (could be more than one type or a "hybrid"):*

- Student Focused: learning, satisfaction, access/equity, participation, problem-solving, implementation of a new service, etc.
- Staff Focused: professional development, office efficiency/productivity, best practice, technological/procedural improvement, skills used in implementing a new service, etc.
- Burning Professional Question: your "great idea," an active research study.

3) *Write your outcome statement:*

Ideally, an outcome statement will include the following parts:

- a. A target variable: (e.g., attitudes towards X, course grades in ENC 1000, student satisfaction, increased access to X, increase enrollment).
- b. The subject(s) affected: (e.g., students, counselors, consultants, staff, those who attend Y event, those who are in cohort year Y, or in STA 2023).
- c. The degree or direction of expected change: (e.g., by X points, % higher than last year's scores, by Y%, above a mean rubric score of 2.90). It is not uncommon to leave the "degree" part out of the outcome, but you will be asked "how do you know you were successful?" later in the report.

Example outcomes:

Improve mean satisfaction ratings of center attendees by 5%.

Improve average course GPA in all ABC 2122 sections by ¼ letter grade

Improve liberal art student involvement in undergraduate research opportunities

Create and implement a Teaching/Learning program for faculty

Increase access to tutoring services for at-risk students as determined by entrance scores

4. *Describe the outcome and any uncommon terms used (Optional):*

You may wish to describe the problem it addresses, its importance, or any jargon used.

Example description:

"Research has shown that providing students with techniques to improve self-learning is important to many aspects of student success. Our workshop 'Learning how to Learn' will be revised based on student feedback from last year. Improvements will be made in instructional methods, topic effectiveness and student accessibility. A survey will be created to measure Student Satisfaction and administered after students complete the workshop. The survey will have three sections, each related to the specific goals of this initiative: instructional quality, content usefulness, and student accessibility."

Implementing Strategy: What are you going to do with regard to the outcome you described above? Describe the intervention being used, why you chose it, and who is involved. You may also outline how you will communicate to or involve stakeholders. If you are comparing groups, you may need to describe them and how they are different.

1) *Determine the type of implementation:*

- *Create or revise an initiative/program:* You are going to create or revise an initiative, or program to improve the target(s) you identified in your outcome statement. Initiatives or programs generally focus on student knowledge, skill, or attitude outcomes.
- *Create or improve a service:* You are going to create or improve the strategies you employ within your unit that improves staff skills or deals with non-academic aspects of the service you provide to students, faculty, or staff.
- *Conduct a research study:* You want to demonstrate how some practice within your unit has a direct causal effect on the desired outcome(s) you specified. These could involve a service or an initiative/program.

2) *Describe your implementation:*

You could include one or more of the following aspects in your description:

- a) A description of your initiative/program/service.
- b) Why you think it will have an impact on your chosen outcome. This could be from empirical research, institutional research, or just your past experience or observations.
- c) Who is involved. You could identify why you chose the target audience, or specify who is involved in making decisions, guiding the process, or creating content or assessments.
- d) The steps in the process and the objectives of each. Specify any materials (including assessments) you need to create or any necessary changes in procedures or practice?
- e) What you hope to find and why.

Example of an implementation strategy

We plan to revise our program to better identify student research skill weaknesses and improve these skills when students participate in our research and inquiry workshops. Specifically, we wish to improve student abilities related to information literacy (determining valid vs. invalid information, constructing a literature review), hypothesis testing, setting up an experiment (design, apparatus), data analysis, and communicating research results. Research from several studies (Archer, 2020; Beatrice, 2018) show these skills to be highly related to student completion rates in science courses, and post-graduation success (grad school GPA, job placement). We will use the RI vignette by Archer (2020) to measure student research skills. Findings will inform our Research and Inquiry workshops. Faculty will review the vignette results and identify potential revisions in their respective workshops. We hope to show an improvement in individual skills which will effect course success

Assessment Method: How will you assess the effectiveness of your implementation strategy? If you are creating your own assessment instrument(s), you may want to describe how you will create it. You will also want to describe the actions you will take to collect the data, analyze the data, and report the results.

1. *Determine the type of assessment(s) you are going to use:*

- *Direct assessment:* A direct assessment measures the exact skill or knowledge under study. A test, project, paper, performance, essay, and quiz are examples of direct assessments.
- *Indirect assessment:* Indirect assessments measure factors that are related to skills or knowledge. A survey, questionnaire, self-report, interview, or focus group are examples of indirect assessments. One way to think about it is this...you can measure how well someone does it (direct) or ask them how good they are at doing it (indirect).
- *Activity or process:* Activity or process assessments involve the completion of tasks. This is generally a checklist...you did it or didn't do it. If your unit is involved in creating reports for others to digest (e.g., best practices), you may determine success in terms of the number of reports you completed. Similarly, if you are creating a new program or initiative (but not evaluating it), you may employ a checklist of activities or requirements you need to complete to launch a fully functional program or initiative. Creating new operating procedures (e.g., liaisons) or strategies (awards, events) are additional examples.

2. *Determine your assessment design:*

- *Summative:* Summative assessments occur once at the end. If you are implementing a service or providing a new experience for student and you measure if they attained the outcome/objective at the end of the experience, you are using a summative assessment. Some assessments are naturally summative, like the institutional metrics above.
- *Formative:* You may wish to measure student progress in the short-term to see if any adjustments are needed along the way. These are beneficial to programs/initiatives that are longer in duration (e.g., weeks, semester, year).
- *Combination summative and formative:* It is possible to repeat an assessment both during and at the end of an experience. Formative assessments are used internally to improve practices as the program is ongoing, and summative assessments are used to determine the ultimate level of success at the end.
- *Longitudinal:* Longitudinal designs are useful if you want to show the effect of changing practice year-to-year. For example, if you have been providing a service for several years, and you want to determine the effect of a new technique or strategy, you will compare the same assessment from the past year or years.
- *Pre-test/post-test:* These are used when you want to demonstrate exact causal effects of your program, initiative, or service, and you want to determine the degree of impact (gain). Assessing your target audience prior to providing an experience and again right after the experience represents the strongest possible assessment design.

Notice how each of these designs answers a different type of question. Summative assessments tell us how we did. Formative assessments tell us how we are doing. Longitudinal assessments tell us if we are doing better than we did in the past, and pre-post tests indicate how much gain we were able to produce for an individual student or group of students, while removing extraneous influences.

3) *Describe your assessment method:*

You could include one or more of the following elements in your description:

- a) What assessment(s) will be used (include things like how many items are on the test, the number and description of rubric factors, the type of scale range employed, etc.).
- b) How it will be scored (will you produce a total score or sub-scores).
- c) When it will be administered (i.e., which design you are going to use).
- d) Who is going to take it.

Example of an assessment method

We plan to use our RI vignette prior to the beginning of our workshop and administer it to all attendees. We will employ a pre-test/post-test design to examine the direct effect our workshops had on each of the research skills under study (information literacy, hypothesis testing, experimental design, data analysis, communicating research results). We will report student scores on each of these different skills sets so that we can determine specific areas that need improvement (and celebrate specific successes). We will report these in terms of average gain scores.

Criterion for Success: When you complete the assessment method above, how will you know if what you did was successful or achieved the desired outcome?

Once you have determined the type of assessment you are doing, and the design you are employing, you will have a better idea of the type of criterion for success that is most appropriate.

1) *Determine your criterion for success:*

- **Checklist:** If you are dealing with an outcome that involves completing steps, meeting a certain number of activities (e.g., will hold three meetings, will create three studies of best practice, will develop a reward incentive), then a checklist can be used, and the criterion will simply be the completion of these activities or number of activities.
- **Benchmark:** Benchmarks are used when you want to compare your results:
 - with those in the past (longitudinal). An example would be “We will improve our scores by X% (or N points) from last year.”
 - with those in the future (indirect assessment, institutional metrics). An example would be “We will improve average course grades in ABC 2021 by ¼ letter grade.”
 - to a minimum outcome level (Summative). An example would be “90% of our students will achieve a rubric score of 3 or above.” Or “participants will achieve a mean score of 3.25.”

- *Gain*: Gain scores are used with pre-post test designs. While you may simply state “Participants will significantly increase their scores from their pre-test measure” it may be useful to set a % gain such as “Group results will show a mean gain of X% (or points).”

Example of setting a success criterion

Students completing the RI vignette will realize a minimum average gain of one (1) full rubric point.

Data Analysis, Summary and Evaluation:

- 1) *Provide your results*: You can put your results in text or in a table if the results are considerable in size. Be sure to include:
 - a) How you calculated your results.
 - b) A brief description of your results and any limitations/problems in the collection or sampling process. You can use graphs, figures, statistical outputs, etc. as attachments to the report.
- 2) *Interpret your results*: Make sure you explain what the results mean and make any connections to the implementation.

Example of a data analysis summary

Pre-test to post-test gain scores (reported in average score differences) indicated mixed results of success. Students in the RI workshops showed significant gains in information literacy (1.25) and hypothesis testing skills (1.0). Minimal improvement was demonstrated in their ability to communicate research results (.5). No practically significant gains were found on their experimental design (.05) and data analysis skills (-.05). We met our outcome goals for some, but not all of the student skills. Experimental designing examples were limited for non-science majors, and this may have led to the lack of gain in experimental design and data analysis skills. The fact that students did not collect real data prevented them from getting hands-on experience in data analysis.

Program Improvement:

How will you use the results for further improvements moving forward? Show how the results drove any decisions you made.

Example of Program Improvement

Our workshop committee will meet to refine teaching strategies, particularly for experimental design and data analysis skills. There is an online tutorial program on experiment designing we will review and incorporate into the workshops so that student can engage in a self-paced experience with multiple non-science examples.

Final tips for completing your overall assessment plans:

- Don't choose more than four outcomes.
- Choose outcomes that have meaning for you (impactful).
- Complete the report in Word and paste it into the system when you are ready.
- Attach assessments, rubrics, research studies or any other materials to your report if you feel they are necessary. Those evaluating your plan will be able to better understand what you are doing.
- The examples written above had to be limited for brevity. While you don't have to write a book for your report, you should give a thoughtful and thorough reply to each section, particularly the program improvement section.