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CLASSROOM ASSESSMENT TECHNIQUES

This job aid describes some simple ways to evaluate

your students’ learning and their reaction to your teaching methods.

This job aid will help you to:

# plan and conduct an informal classroom assessment

# use simple and engaging tools to check learning

# analyze feedback

# make immediate changes to improve learning

# Informal vs. formal assessment

First, let’s look at what informal assessment is and how it differs from formal methods of evaluating student learning.

Informal assessments focus on improving student learning and participation and are specific to the context and content of the materials presented in class (e.g. one minute paper, application cards). They are ungraded ways to check learning and students’ response to materials, activities, and teaching methods. This type of assessment allows instructors and students to check learning and progress, identify areas of difficulty, and improve learning.

Formal assessments also focus on student learning, but they are graded and include tests and assignments usually placed at the end of a unit or term. They are valid measurements of learning but can be stressful for learners because they count toward the final course grade. These higher-stakes assessments focus on which specific content has been mastered at that point in the course.

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| --- | --- |
| Informal vs. formal assessment | |
| **Informal assessment** | **Formal assessment** |
| * assessment *for* learning * student centred * low stakes (has no or low weight towards a final grade) * context and content specific | * assessment *of* learning * content centred * high stakes (has a significant weight toward a final grade) * content specific |

# Planning informal classroom assessments

It’s important to feel comfortable checking on student learning. Not all teaching styles are the same, nor is assessment universal, as is detailed in the five guidelines below (adapted from Angelo and Zakrajsek, *Classroom Assessment Techniques: A Handbook for Faculty*, 2024).

Choose an assessment technique that matches your teaching approach and your students learning needs, and consider the following guidelines (Angelo and Zakrajsek, 2024):

## Five guidelines

* 1. Use techniques that appeal to your intuition and your judgment as a teacher.
  2. Check on student learning when it is useful.
  3. Choose techniques that benefit both you and your students.
  4. Try techniques yourself before asking your students to use them.
  5. Remember that using an assessment technique will take time both in class to complete and after class to analyze the feedback.

What you’re looking for determines which classroom assessment technique to choose. Knowing what you are looking for will help you interpret the results. Before using any technique, answer the questions below to guide planning.

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| --- | --- | --- |
| Classroom assessment planning sheet | |  |
|  | Which technique will I use to get this information? |  |
|  |  |  |
|  |  |  |
|  | Why? |  |
|  |  |  |
|  |  |  |
|  | How will I introduce this technique to my students? |  |
|  |  |  |
|  |  |  |
|  | How much class time will it take? |  |
|  |  |  |
|  | What do I want to know? |  |
|  |  |  |
|  | How will I know if the technique was successful? |  |
|  |  |  |
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# Classroom assessment techniques

The classroom assessment techniques described below were selected and adapted from Angelo and Cross’s book, *Classroom Assessment Techniques: A Handbook for Faculty*. These are just a few methods involving brief written exercises, written on cards that you prepare in advance and hand out to the students. For other ideas, speak with an instructional development consultant in the Learning and Teaching Centre.

## The muddiest point

This technique will help you determine which key points the students missed.

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| --- | --- | --- |
| The muddiest point | | |
|  | In today’s session, what was least clear to you? |  |
|  |  |  |
|  |  |  |

### *Adapted from Angelo & Zakrajsek 2024*

### When and how to apply it

* Apply this technique after a presentation, lecture or class session.
* Hand out cards to the students and give them about three minutes to respond anonymously.
* Review the cards to identify any key points that students missed.
* Remember that if you use this or any method after every class, it will become monotonous, and the information will not be as useful. Use a variety of techniques.
* Consider the following alternative question stems:
  + What is one question that remains unanswered for you today?
  + Of what we learned today, what is one issue/topic that you would not want to have on the exam?

## One-minute paper

The one-minute paper (aka “exit ticket”) is a useful technique because it is anonymous and encourages quieter students to ask questions.

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| --- | --- | --- |
| One minute paper | |  |
|  | What was the most useful or meaningful thing you learned in this session? |  |
|  |  |  |
|  |  |  |
|  | What question(s) do you have as we end this session? |  |
|  |  |  |
|  |  |  |

*Adapted from Angelo & Zakrajsek 2024*

### When and how to apply it

* Use the one-minute paper (which can take as many minutes as you like) at the beginning of a class to review the previous session or at the end. Hand out cards, then collect and review responses.
* Student answers to Question 1 indicate whether you met your goal for the session.
* Student answers to Question 2 indicate parts of the lesson you may need to review.

## Listing

Use this technique when you want to assess retention and check on the need for review.

|  |  |  |
| --- | --- | --- |
| ListList five to seven words or phrases that define or describe what \_\_\_\_\_ means to you. | | |
|  |  |  |
|  |  |  |
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*Adapted from Angelo & Zakrajsek 2024*

Examples:

* List three or four similarities and differences between the two methods presented in today’s session. How can you apply these methods to a work environment?
* List the key features of \_\_\_\_\_.
* List three things you feel are important to remember about today’s topic.

### When and how to apply it

* Use listing immediately **after** a session or later, for review purposes.
* Limit the number of items, the time allowed, or both.
* Hand out cards, then collect and review responses.
* When you review the cards, compare the points on the students’ lists to those you hoped they would include. If there are noticeable omissions, you know what to review.
* Remember that this technique will only let you to discover what learners recall. It doesn’t indicate whether they fully understood.

## Application cards

Application cards help you determine if the students really understand what you have just taught and whether they can see how they might use the knowledge or skill.

|  |  |
| --- | --- |
| ApplicationsList the knowledge or skills you have learned during this session in the left column, then list some possible applications in your life in the right column. | |
| **Knowledge or skill** | **Possible application** |
|  |  |
|  |  |
|  |  |
|  |  |

*Adapted from Angelo & Zakrajsek 2024*

### When and how to apply it

* After a class or unit of instruction, hand out cards to the students and give them about 10 minutes to respond anonymously.
* The information will show you whether the students really know how to use the material or if they just memorized it. Discuss problems or trends with student.

## Memory matrix

A matrix is a grid to assess the students’ recall of information and their ability to categorize it. Include as many rows and columns as you like in the memory matrix.

|  |  |  |
| --- | --- | --- |
| Memory matrix | | |
| **Term** | **Description** | **Example** |
| Superior |  |  |
| Anterior (ventral) |  |  |
| Posterior (dorsal |  |  |

*Adapted from Angelo & Zakrajsek 2024*

### When and how to apply a memory matrix

* This technique can be used after a lesson, as a review or as a pre-assessment.
* Provide row and column headings (or ask students to suggest headings).
* Set a time limit and instruct the students to fill in the blank cells with as many correct words as they can think of. You could also set a limit on the number of words (such as two words per cell).
* Hand out cards, then collect and review responses.
* When reviewing cards, look for patterns (where students did well or poorly).

## Stop—start—continue

This activity is an opportunity for learners to react to instruction or team processes, reflect, enhance their learning experience, or prepare for a discussion. The purpose is to review events and identify areas to improve.

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| --- | --- | --- |
| Stop—start—continue | | |
| **Stop** What do we/I need to stop doing? | **Start** What do we/I need to start doing? | **Continue** What do we/I need to continue doing? |
|  |  |  |

### When and how to apply it

* During a class or unit of instruction, ask students to draw a table and allow them about 10 minutes to think and make notes.
* Encourage individual students to reflect on what they can do to improve their situation or encourage groups of students to identify, through discussion, possible improvements.

## One-sentence summaries

One-sentence summaries can show if your students understand the full meaning of a topic. After answering the seven questions, have students write one sentence that sums up the topic. These summary sentences will help you assess understanding and help students organize their thoughts.

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| --- | --- | --- |
| One sentence summary prompts | | |
|  | Who…? |  |
|  | What….? |  |
|  | To what or whom…? |  |
|  | How…? |  |
|  | When…? |  |
|  | Where…? |  |
|  | Why…? |  |

*Adapted from Cross & Angelo (1998)*

### When and how to apply it

* Select an important topic for learners to summarize and allow 10–15 minutes at the end of a class to complete the activity. Hand out cards, then collect and review responses.

## Summarizing

The summarizing technique shows what your students learned from a lecture or reading assignment. It also helps them develop their summarizing and communication skills.

|  |  |  |
| --- | --- | --- |
| SummaryIn no more than three concise sentences, summarize what you’ve learned about \_\_\_\_\_ so that you could explain it to a friend. | | |
|  |  |  |
|  |  |  |
|  |  |  |

*Adapted from Angelo & Zakrajsek 2024*

### When and how to apply it

* This technique is most effective in class but is also useful homework, (although students might not do ungraded homework diligently). Students can share their summaries with a partner or handed them in. Students can keep a copy for studying.
* You may need to practise this technique with the students a few times before they become skilled at using it.
* Students can learn to direct their thoughts to particular groups or individuals, explain to a “client,” “co-worker,” “supervisor” or “the general public.”

# An example of classroom assessment

## The scene

Glen, a newly hired machine shop instructor, was unsure of his classroom instruction. He felt very comfortable in the shop and had no difficulty demonstrating how to operate the equipment. However, he had no formal instructional training and was not confident about presenting instructions, theories, and concepts to students.

## The problem

Typically, in the classroom, Glen would present the theory and describe procedures for fabricating a project. He and the students would then move into the shop to physically construct the project. Although students could manually perform the task in the shop, Glen wanted to know why they worked slowly, made many errors, and asked repeated questions.

## The solution

Glen tried “one-minute paper” assessment technique.

At the end of the next classroom lesson, he distributed cards for one-minute papers to the class and asked students to write down the steps of the procedure in the order in which they would perform them in the shop.

He reviewed the responses that evening. Most students identified the steps but put them in the wrong order.

The next day, he discussed their responses, reviewed the steps, and asked learners why the steps had to be in that order. This ensured that learners understood the classroom material. They then were able to complete the practical tasks faster and with fewer errors and questions.

# Classroom assessment in an online environment

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Three easy ways for your students to give you feedback are built into all online course environments: email, discussion boards and surveys. In live, online meetings, you can also use the chat and polls features.

Many classroom assessment techniques for use in traditional classrooms can be transferred to the online environment. The most straightforward ones are the “one-minute paper” and the “muddiest point.” Use these at logical times in your online course, such as at the end of the first week or after the end of a course module or section.

The tool you choose depends upon how public you want your students’ responses to be. Some students will be reluctant to voice their opinions in an open forum but may be more forthcoming in an email to you. On the other hand, you may generate a lively discussion in a threaded discussion forum. Make sure you give clear directions about what to do. For a discussion forum, name it appropriately and set start and end dates for the discussion.

It’s always a good idea to invite students to ask questions. Encourage them to ask questions publicly, perhaps in a dedicated online question forum. Again, lively discussions may result, and you will gain insight into your students’ learning.

With a bit of ingenuity and resourcefulness, you may also find other ways to evaluate your students’ learning and consider ways to develop or change teaching methods to support improvements in learning.

# References

Angelo, T. A., & Cross, K. P. (1993). *Classroom assessment techniques: A handbook for college teachers* (2nd ed.). Jossey-Bass.

Angelo, T. A., & Zakrajsek, T. D. (2024). *Classroom assessment techniques* (3rd ed.). Wiley & Sons, Incorporated, John.

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