Best Practices in Creating Effective Assessments

“A key to creating effective assignments and exams is the concept of ‘alignment.’ As defined by Ralph Tyler almost fifty years ago, alignment simply means starting with the ‘desired outcomes’ of the course and working backwards so that the assignments and examinations reflect and support them. In some sense a successful course can be considered as an exercise in reverse engineering. Figure out first where you want your students to end up, and (only) then how best to help them get there…” (Wilkinson, 2010)

Good assignments and examinations should “not only send a signal to students about what the instructor considers worth learning in a course” but “offer feedback on how well students are meeting course expectations.” To do this, Wilkinson (2010) lays out four steps:

1. Decide on a small number of desired outcomes for your course.
2. Align your assignments and exams with your desired outcomes.
3. Offer students a rationale for the choices you make in assigned readings.
4. Spread many short assignments and exams throughout the semester. This will produce better learning than a long paper and final exam at the end, especially if returned with adequate comments (Wilkinson, 2010).

It is important to remember that good assignment design encompasses more than just alignment and outcomes.

“Well designed assessment sets clear expectations, establishes a reasonable workload (one that does not push students into rote reproductive approaches to study), and provides opportunities to self-monitor, rehearse, practice and receive feedback... What needs to be avoided are approaches to assessment that merely reward superficial, shallow or reproductive approaches to learning or which fail to direct students into the type of study that leads to the attainment of the higher-order objectives of university education” (James & McInnis, 2001).

Effective assignment design will not only help students learn, but will increase their satisfaction with the course and decrease the likelihood of academic dishonesty. It is when students aren’t engaged with class material, don’t understand the connection between course content and assignments, or feel they are being treated unfairly, that they act out in a number of ways, from classroom incivility, to plagiarism (Sorcinelli, 2003).

Alignment

All assignment design should begin with the learning outcomes for your course. Learning outcomes are “statements that predict what learners will gain as a result of learning... A carefully thought-out learning outcome will give a solid indication of what kinds of assessment are appropriate, and of the skills and knowledge the learner will have to demonstrate to pass” (Trinity College Dublin). You can review your learning outcomes by answering the following questions:
1. By the end of this course, **what do you want students to know?**
   a. What disciplinary knowledge do you expect students to bring into your course?
   b. What new disciplinary knowledge will students learn in your course?

5. By the end of this course, **what should students be able to do?**
   a. What skills do students need to be successful in your course?
   b. What skills will students develop or deepen in your course?

6. During and after this course, **how should students enact knowledge and skills?**
   a. What values would you like to strengthen through your course?
   b. What values would you like to question through your course?

See page **Appendix A, Part 1: Set Your Learning Outcomes** to record your learning outcomes.

For more tips on writing learning outcomes, see our [Best Practices in Course Design](#) [pdf].

**Selecting your assessments**

Once you’ve defined the disciplinary knowledge, skills, and values that you want students to achieve by the end of your course, you can select the assessment methods that are best able to assess these outcomes.

When thinking through the assessments you’re considering for each outcome, you can ask the following questions:

1. Does the specific task match the learning outcome in question?
2. Does the assessment match the learning opportunities presented in the unit/lesson/course?
3. Is the assessment at a level appropriate to the level of the course (first year, graduate, etc.)?
4. Is the method relatively efficient in terms of student and instructor time?
5. Is the assessment organized in a way that aids clarity and understanding of the requirements?
6. Are the marking schemes or criteria appropriate?
7. What alternatives are there to this assessment? What are their advantages and disadvantages? (Brown, 2001; Purdue University)

Each desired outcome should be assessed at least twice, ideally as part of a formative and then summative assessment. This approach “ensures that one has repeated and therefore probably more reliable measures of achievement,” as well taking “a realistic, not unduly burdensome approach to assessment” (Brown, 2001). It also helps to scaffold students through the learning process, giving them the opportunity to practice before being required to submit an assignment worth a large portion of their final grade.

A **formative assessment** is used to monitor student learning and provide ongoing feedback. These are generally low stakes assessments, often included as part of a scaffolded learning process. Formative assessments both help students identify their own strengths and weaknesses as well as help instructors recognize where students are struggling so that any problems can be addressed.

A **summative assessment** evaluates student learning against a standard or benchmark at the end of an instructional unit. Summative assessments are generally high stakes, and encompass assessments such as midterm exams, final projects, presentations, or research papers.
In designing summative assessments, ask yourself: How do you provide students with opportunities to demonstrate the learning outcomes you’ve identified? What formative assessments could help **scaffold the learning process**?

For example, if one of your learning outcomes is to “Build historical narratives in assignments using both primary and secondary sources,” a summative assessment of this outcome might be a final research paper worth 30% of a student’s grade. Formative assessment strategies that might help scaffold student learning so that they can complete their final research paper successfully might be an annotated bibliography worth 10% and an essay outline worth 5%. Each of the scaffolded portions of the assignment would also provide students with opportunities for feedback that guide their learning.

See **Appendix A, Part 2** of our assessment design worksheet, “Select Your Formative and Summative Assessments.”

For more tips on scaffolding assessments, see our [Best Practices in Instructional Scaffolding](#) [pdf]

For suggestions on alternatives to traditional forms of assessment, see our [Best Practices on Alternative Assessments](#) [pdf]

**Academic integrity and assignment design**

“It is possible to cite a number of things academics currently do quite unwittingly and unintentionally that make plagiarism seem a pragmatic option for the student. Why not cheat when offered essays that ask them to gather and present information that they know is just sitting there on the Web? Why should an individual student do their own work when asked to do the same problem as others in the class, or when asked to solve the same case study that was used last year? Why make an effort when everyone in the group gets the same mark regardless of who does the work?” (Stafani & Carroll, 2001).

In addition to successfully measuring student learning, effectively aligned assignments that scaffold learning through the use of formative assessments are also less likely to fall prey to plagiarism. Creating assignments that measure specific outcomes, ask students to analyze or critically evaluate information, or require students to provide drafts and research methods not only encourage higher level thinking, but also encourage student engagement and academic integrity.

To build an assessment that will discourage academic misconduct, provide students with a **clear set of instructions** that “clarifies the required task, the parameters for acceptable collaboration, and criteria for evaluation” (Indiana University).

If your summative assessment is the production of a written work, consider using small formative assessments to scaffold the writing process, provide feedback, and discourage plagiarism. For example, **short in-class writing assignments** allow you to “become familiar with and assess students’ abilities and styles early on so that sudden changes in their writing are more noticeable” while giving students “a chance to write extemporaneously, when they cannot become tempted by or mired in others’ words” and practice summarizing, paraphrasing, and responding to a source (Indiana University).
Make your assignments as **specific** as possible. For example, Indiana University suggests that instructors:

- Pose focused questions or ask for tight comparisons
- Have students work with less well-known pieces
- Require that students use local sources
- Ask questions that require the application, rather than explanation of knowledge
- Replace general annotated bibliographies with “short summaries of how students see each entry fitting into their topic.”
- Ask students to “connect their ideas to another aspect of the class,” whether that is a point from one of your lectures, readings, slides, or images.

**Grading assessments with rubrics**

A rubric is a document that aids in the evaluation of academic work by concretely articulating the specific expectations of the assignment and clearly defining the criteria required for each level of achievement. Rubrics can be a helpful way to standardize the grading process and ensure that assignments are consistently graded according to concrete and objective criteria. Rubrics can help students to learn by articulating how they might improve future work and by highlighting the criteria corresponding to both their current level of achievement and higher levels of achievement.

Rubrics can be used to grade any type of evaluation or assessment, including assignments, essays, presentations, and written examinations. The content of rubrics will vary based on the assignment being graded. For example, written papers might include content, structural, and stylistic domains, in addition to other areas such as references. In contrast, written answers on examinations might focus primarily on content rather than style.

Rubrics generally include three primary elements:

- **Criteria for evaluation** (i.e., the categories that the assessment will be graded on).
- **Specific definitions for each level of achievement** (i.e., what does the student need to do to reach each level of achievement in each category?).
- **Strategy for scoring** (i.e., how many points is each category worth in total, and how many points does each level of achievement receive?)

**Strategies for rubric development**

Rubrics are tools for evaluation, and their development should be informed by the learning outcomes of the assignment. For example, if a learning outcome of the assignment was the ability to compare and contrast two critical concepts, this should be reflected as one of the criteria for evaluation. Additionally, levels of achievement should be outlined as clearly, concretely, and specifically as possible, to reduce subjectivity and ambiguity in their assessment. For example, instead of the vague and subjective “Writer makes a good argument”, a more concrete definition might state “The writer’s argument was clearly articulated and supported by research evidence.” It is also important that the criteria for evaluation and the definitions for each level of achievement are consistent with the level and content of the course.
Finally, it is important to plan how each criterion will be scored and how many points each level of achievement should receive. Consider which criteria might be weighted more heavily than others. Critical components of the assignment might be allotted a larger total number of points, whereas minor components such as formatting might receive only a few points. Additionally, for each category and level of achievement, a point range (rather than discrete number of points) may be provided, if appropriate. For example, for a heavily weighted category (e.g., worth a total of 20 points), each of 5 categories might have a possible point range assigned to it (e.g., 18-20 points, 15-17 points, etc.). This allows for variability in grading even within each category.

The following example provides two criteria from a rubric developed for a research essay:

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Poor</th>
<th>Needs Improvement</th>
<th>Satisfactory</th>
<th>Good</th>
<th>Excellent</th>
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</thead>
<tbody>
<tr>
<td>Central Argument (10 points)</td>
<td>(0-4) Does not propose a central argument.</td>
<td>(5) Argument is somewhat unclear, confusing, or reductionistic.</td>
<td>(6) Articulates a relatively clear argument, which may be somewhat accurate but also oversimplified.</td>
<td>(7-8) Articulates a clear, logical argument that captures important central concepts.</td>
<td>(9-10) Articulates an advanced, nuanced, and/or complex argument that goes beyond the central concepts.</td>
</tr>
<tr>
<td>Research Support (20 points)</td>
<td>(0-9) Research support is not provided. Opinions are stated as facts and/or scholarly sources are not used.</td>
<td>(10-12) Arguments are poorly or insufficiently supported by research evidence. Opinions are stated as facts or generalizations are made without adequate support.</td>
<td>(13-15) Arguments are supported by research evidence but there are some generalizations, some areas lack support, or citations do not provide clear or adequate support.</td>
<td>(16-18) All arguments are supported adequately by research evidence. Opinions are not stated as fact.</td>
<td>(19-20) Research evidence from a variety of sources is synthesized to provide strong, complex, and nuanced support to the argument. All arguments are supported.</td>
</tr>
</tbody>
</table>

See page Appendix A, Part 3 of our assessment design worksheet for a blank rubric template.
Work Cited


Designing Assignments to Encourage Integrity. Center for Innovative Teaching and Learning, Indiana University Bloomington. Retrieved from https://citl.indiana.edu/teaching-resources/academic-integrity/designing-assignments-encourage-integrity/


Appendix A: Aligning Assessments and Using Rubrics

Part 1: Set Your Learning Outcomes

1. **By the end of this course, what do you want students to know?**
   - What disciplinary knowledge do you expect students to bring into your course?
   - What new disciplinary knowledge will students learn in your course?

2. **By the end of this course, what should students be able to do?**
   - What skills do students need to be successful in your course?
   - What skills will students develop or deepen in your course?

3. **During and after this course, how should students enact knowledge and skills?**
   - What values would you like to strengthen through your course?
   - What values would you like to question through your course?

4. **In designing a summative assessment, how can you provide opportunities for students to demonstrate the learning outcomes identified in the first three questions?**
   - What formative assessments could help to scaffold the learning?
## Part 2: Select Your Formative and Summative Assessments

<table>
<thead>
<tr>
<th>Learning Outcome</th>
<th>Summative Assessment Strategy</th>
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<tbody>
<tr>
<td>Example: History course</td>
<td>Final Research Paper (30%)</td>
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<tr>
<td>Build historical narratives in assignments using both primary and secondary sources</td>
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<table>
<thead>
<tr>
<th>Learning Outcome</th>
<th>Formative Assessment Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example: History course</td>
<td>Annotated Bibliography (10%)</td>
</tr>
<tr>
<td>Build historical narratives in assignments using both primary and secondary sources</td>
<td>Essay Outline (5%)</td>
</tr>
</tbody>
</table>


Part 3: Design Your Rubric

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>Exceptional</th>
<th>Very Good</th>
<th>Proficient</th>
<th>Developing</th>
<th>Inadequate</th>
<th>Not Done</th>
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