



a podcast about how we learn, how we teach, and how they overlap

Episode 42: All About Rubric Creation

Adam: Hi, I'm Adam Sanford. I'm an academic life coach and professor in Los Angeles.

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Adam: And this is Learning Made Easier, a podcast where we discuss how we learn and how we teach and how they overlap.

Dinur: Welcome back to Learning Made Easier. This is Episode 42: All About Rubric Creation, and this is the fourth episode in our series All About Tests.

When faced with subjective questions like essays or short answers, many students struggle to identify what's important, and what isn't. Meanwhile, many teachers struggle to define the difference between "good work" and "work needing improvement."

Some teachers will say, "I just know when it's good," but one problem is, that doesn't help students learn what's required or expected of them. And then another problem is that when you're a new teacher, it takes time for you to develop a clear idea of what a good paper is, or what a good question is, and different levels of "good." For example, what separates a B+ paper from a flat B paper or from an A- paper?

Enter the rubric.

Adam: Now, when I was in high school, I had to write an essay once - and I still remember Mrs. Stibal telling me, after I had written the essay, that it was totally wrong, because I hadn't followed the rubric. The problem is she never told us what was in the rubric. She just expected us to guess. Don't do that.

A rubric, at its most basic, is a list of qualities or concepts and sometimes skills that are used to assess the students' knowledge or ability with a particular topic or task.

Now, making a rubric does take some thought on the part of the instructor, and in this rushed world, sometimes, taking that time just looks impossible. So Dinur and I are going to outline the steps that teachers need to take to create a rubric, and then we'll talk about how both students and teachers can use rubrics to guide instruction, learning and performance.

Now the first thing is, you must create the rubric before you create the question or the exercise.

Dinur: Creating a rubric before you write questions or exercises can save you a lot of time. If you create the rubric first, you will know what you want the students to demonstrate in their answers, and that allows you to create a solid question that touches on all of the aspects of an expected answer. Trying to create a rubric after you create the questions can lead to frustration, as you have to shoehorn the question into the rubric.

Figuring out what you want to test, or assess, or evaluate, can also help you decide what kind of questions you want to design. If you want the student to demonstrate knowledge of three concepts in depth, that's probably not a short-answer question. Conversely, if you want the student to show they understand the basic ideas involved in one concept, that probably won't need an essay-length answer. Consider this while you're creating the rubric.

Adam: Now, there are three questions to ask an answer before you actually create the rubric itself. And the first question is "what are you testing?" What specific topics or ideas or concepts or skills will be tested in this exercise? So, are you testing retention and recall of facts and ideas, or are you checking to see if the student has the skills to put together an answer that includes a thesis statement, supporting evidence and a conclusion? What are the important items you'll be testing? You need to identify those first.

And if the test you're creating is about, say, the American Revolution, and the facts that you want to test knowledge of include the date range, the location, and the result of each major battle, then make a list of those. If the test you're creating is about different kinds of chemical reactions, list each reaction and its definition. But make a list of the things that you want to see the students show you that they understand or know how to do.

Adam: Now the second question is "what are the task statements?" Once you have your list of topics and ideas or whatever, turn them into task statements. These include the important information the student has to know, or the skill the student has to demonstrate.

For example, "Student identifies each battle by name." "Student identifies each battle by location." "Student identifies each battle by its date range."

And then finally you've got to figure out what the criteria are. Not all students will be able to identify all of the battles in all of those ways. So you've got to have a method to differentiate - how well did they perform each of those task statements?

Now there are several different ways to determine this. Dinur and I have put together a little chart about them. We'll provide it in the show notes, but right now what we're going to do is go over a chart or rather go over a collection of different ways to measure this - so, the, the levels of measurement, typical ways to word that level of measurement, the skills that that kind of measurement would test, and the knowledge that kind of measurement would test.

Dinur: So the first level would be having students identify whether something is present or absent. And typical wording for this includes things like "demonstrates" or "does not demonstrate" or "shows" and "does not show." And the skills that tests are dichotomous skills. The students demonstrate that they know how to do X skill by doing it, or, the skill is absent because the student did not perform the task asked.

Math problems are great examples of this: "Show how you use exponents," or, "How do you solve this word problem?"

And the knowledge it tests is that this is useful for information that has one distinct correct answer, and it's useful for eliminating guessing answers. So for example, to take it away from math, "Define the term 'anomie.'" In this example, the student has to be able to define the term. There is one distinct, correct answer, and guessing would be pretty obvious.

Adam: Now, another method of measurement is "complete" or "incomplete," and this is pretty basically worded "complete, incomplete."

Now when it comes to measuring skills, "complete/incomplete" is useful for skills that improve over time, but there's still distinct points where you can see that they are complete or they're not yet complete. An example would be writing a paper, and if it has several drafts, maybe they've written the intro and a body paragraph or two, but they haven't written a complete paper yet, so it's still incomplete.

Um, for me, one of the things that I make my students do a lot - and I grade it on a complete/incomplete basis - is: "Here's a list of all the terms that you need to know from the lecture. Write the definitions." And if they leave a definition off, or if their definition is totally off in left field, I will simply say "This is incomplete. You either have a definition that makes no sense or you left a definition off. Complete this."

And complete/incomplete when it comes to knowledge is really useful for information that has one main idea and several related ideas are needed in order for it to be complete. So, for an example, "compare and contrast first and second degree murder." So in this example, the student both has to basically know what murder is, and then they have to know the related ideas that will allow them to differentiate first degree murder from second degree murder.

Dinur: Another level of measurement would be frequency, and these sorts of questions are phrased with "always, usually, sometimes, rarely or never," and these sorts of questions are useful to measure skills that produce a more or less frequent outcome as the student's skill improves.

For example, "the student always provides a citation for a quote from a source" or "the student usually provides a quote, a source for a quote," or "they rarely do."

Now, as far as knowledge is concerned, this is useful for information that requires knowledge of multiple pieces of information in order to meet a standard. For example, "List and define each part of routine activities theory." In this example, the student would have to know several different components of a concept in order to answer the question completely. They would have to know what routine activities theory is, and they would have to know each of its three basic parts.

Adam: A fourth way to look at levels of measurement is measuring by mastery, and so this might give you these particular slots: "mastery, proficiency, competency, needs improvement, and unsatisfactory." When it comes to measuring skills with a mastery scale, it's really useful to measure skills that improve over time from poor to superior.

For example, the first time they turn in something written, it's probably unclear. It's completely full of words that don't mean anything. It's not concise, and it leaves out important points. That's unsatisfactory. That's the bottom end of the scale. But as they move forward through this scale, they might reach competency when it's like, "okay, they're clear and they're concise and they're complete, but it's very basic clarity. It's very basic concision, you know. The writing is kind of clunky, but at least they hit the clear, concise, complete points." So they've got competency.

Or, they get to the point where they're not only clear and concise and complete, but they're really good at writing it. It's getting the point across, and it's not cluttering up the field with lots of words or lots of statements that don't really mean anything. It's: they've hit these things, but it's still not at the top, you know, there are still, there's still places where they could improve. So that's proficiency.

And then when they reach the point where they're not only writing it, but you're like "send this to a journal!" they're at mastery, right?

When it comes to knowledge, on the other hand, a mastery-based scale is useful for information that requires in-depth knowledge to fully understand or explain some concept. So, "Explain the social and psychological reasons why a person might choose to join a gang."

Well, so in this example, the student could just list some but not all of the reasons, which means it's unsatisfactory. It's very poor. They could list them all, but not explain or define them. So they still need improvement. They've got the, they've got the ideas, but they don't follow through.

Or they've listed and defined them all, but they haven't really gone beyond that. Well, definitions are a kind of explanation. So they're there, they're competent, they've done enough.

Or they could list, define and briefly explain them, which would put them in the proficient category; or, list define, and explain them, using examples for each one of them. Now we're at the mastery level.

So this is qualitative, but it's not entirely subjective. You've got standards for "here's where you meet proficiency," "here's where you get to competency" and "if you haven't done these things yet, you're not there yet."

And then numeric scales, they work mainly to assign points. So any of these scales, you could assign points. So for example, incomplete and complete, complete could be one point and then complete could be no points; or complete could be one point and then complete could be half a point. And you just go one through five or one through 10 or whatever. And just make sure you indicate which end of the scale is best. Usually if you're measuring them as points, more numbers are better, you know, higher numbers are better. And so you just assign these numeric scales to each rank of a scale that you're using as point values for that level of achievement.

Dinur: Now you want to make your rubric grid. Rubrics are generally designed as grids, with the task statements down the first column and levels of measurement along the top. If there are points attached to each level of measurement, these are normally included with the level of measurement along the top row.

In the intersection between task statement and level of measurement, describe what the student has to do or recall in order to achieve that level of measurement.

Now Adam and I have several examples of rubrics in the show notes and we'll describe them here. The first rubric we have is specific to a set of knowledge that might be expressed in a short-answer or essay question on an exam. Looking at this rubric, it becomes clear that the question will be "List the names, locations, and date ranges, including day, month and year, of each of the major battles of the Revolutionary War."

If we're looking at the levels of measurement for this rubric, we have it as "always" being worth three points "sometimes" being worth two points, "rarely" being worth one point, "never" being worth nothing.

Adam: So if a student identifies each battle by name, remember those task statements that we made? So if they always do it, all battles are identified by name. So under the "always, three points" in the column on this row, we've got all battles are identified by name. That means that they always did it. They get three points for that.

If they sometimes did it, then no more than two battle names are left unidentified. So let's say, I don't know how many battles there were, but let's pretend that there were 12 and they listed 10, all right? Then they've made it to "sometimes," but they haven't made it to "always." So they get two points.

If they are missing more than two battle names, if more than two battle names are not identified, then they're at the "rarely" and they only get one point.

And if they fail to answer this part of the question, then they get no points. So if they answered any battle name at all, they get a "rarely." So they could write one or two. It's still more than two are not identified, but they have at least one or - they have at least one, so they've got a "rarely."

Dinur: Now the next level is, the student identifies each battle by location. So always, for three points, would be "all battles are identified by location."

Sometimes, for two points means that "no more than two battle locations are left unidentified."

Rarely, for one point, being "more than two battle locations are not identified."

And never, for no points, means the student failed to answer this part of the question.

Adam: And then finally, the bottom row is the student identifying each battle by its date range. So in here, we have under "always," "all battles are identified by their date ranges, start and end, full date including month, day and year."

Now in the "sometimes" column, right now, we just have "no more than two battle date ranges are left unidentified." But we might alter this and say, "All right, they identified them by the year but they didn't identify them by the month and day." So that gives us a "sometimes." That could be another way of measuring "sometimes."

And then under "rarely" we've got "more than two are not identified." But again, we could say "all right, not only did they not identify the month and day, they didn't even identify the start or the, or the end. They only identified the start, right?" There are a number of ways we could sort out "rarely."

And then "never" would be, again, "the student failed to answer this part of the question."

So when you're done doing this, what you could do is, if you need to print this out, you could just attach it to the front of the question, and just check off which one they got. So let's say that they got an "always" for "student identifies each battle by name," but "sometimes" for location and "rarely" for the identifying each battle by the date range. Well then they've got three points for the names, two points for the locations and one point for the date ranges for a total of six points. If they got all of them at the "always," then they would have a nine. So you

know, the total points for this question would be nine points. And they got six. This is a really easy way to use a rubric.

Now if you are using a learning management system like Blackboard or Canvas, it's often possible to set up a grading rubric inside the learning management system. We're not going to go into how to do that today, although we may come back to learning systems at some point.

But the point is that using a rubric, it not only tells you why they got the grade they got, but it also tells them where did they drop the ball. So the student who gets back this test with this rubric stapled to it that says, "look, you know, you've got a "sometimes" under location and a "rarely" under date range" - they're going to say, "I need to really, you know, work on the dates. I need to work on locations because those are going to come up again in future tests. I want to make sure that I understand that stuff."

Now when you use this particular kind of rubric, you want to make sure your students know what you mean by all the terms. So, "date range?" You need to tell them a date range is the start and end of the battle and it includes the full date, the month and the day and the year, both at the start and at the end. And so, this may be something that you need to define before they take the test, or as part of the question, or in class, or all three, so that they've got that information well in hand before they start working on this question.

The second rubric Dinur and I want to show you is about an essay assignment. It's not necessarily for an essay question on a test, because it's requiring a lot of things that wouldn't show up on a test, but it focuses on skills as much as it focuses on content. And in this rubric, each level of measurement gives a different percentage of possible points. Since the task statements are worth different percentages of the grade, they don't count as much, or they count more. So you might want to add in points for each task statement so you can easily calculate the percentage of points for a given row-column intersection in the rubric

Dinur: And for our a rubric, we have mastery, worth 100% or an A+; proficiency, 85% or flat B; competency, 70% or a C-; needs improvement, or zero.

Adam: So this first line is only worth 10% of the grade. So it's 10 points that makes it easy. So the thesis statement is a 10 point row. If the essay begins with a thesis statement, they get 100% of the points. So all 10 points. If the essay has a thesis statement somewhere in the first paragraph - all right, then they get 85% of the points. So they get 8.5 points there. If they have a thesis statement at least by the end of the first paragraph, okay, then they get 70% of the points or seven points. And if there's no thesis statement in the essay, or it doesn't show up until the second paragraph or later, no points, 'cause that's not how you put an essay together. So this is testing skill. Where does the thesis statement go? What's its job?

Dinur: The next part is support for the thesis statement, 30% or 30 points. So mastery, or the full 30 points, be the essay provides at least four sources with support for the thesis statement. Proficiency, which would be about 25 points be the essay provides at least three sources would support for the thesis. Competency, which would be 21 points, would be the essay provides at least two sources with support for the thesis statement. And needs improvement, which gets no points, would be the essay provides one or no sources of support for the thesis.

Adam: Now the next line is the writing - quality of the writing, 30% or 30 points. Again, so this is the same set of points as you had for the support. So here we've got the essay is well written and proofread with no more than two minor writing errors total. And then there's a note here: minor writing errors include spelling, punctuation, capitalization and grammar. And that note repeats itself all the way through.

So for proficiency, which gives you 85% of those 30 points, the essay is well-written, proofread, with no more than four minor writing errors. And again, a definition of what those are.

And when it comes to competency, the essay has no major writing errors, but more than four minor writing errors. And the minor ones are again, they're defined.

And then for the, this does not get anything that needs improvement. The essay has one or more major writing errors. So major writing errors include organization clarity, concision or completeness problems - where, these are big problems, like "this paper is not working level of problems," not just "you don't know how to spell there, their, or they're."

Dinur: The next line is citations, and this is worth 20% or 20 points. So for mastery, all of those sources are cited both in the paragraph and on a bibliography page using the correct citation style, whether that's MLA, APA or ASA.

For proficiency, there are two or fewer minor errors in citation. And these minor errors include incorrect formatting, incorrect style or one piece of missing information in one citation.

For competency, or 70%, there are four or fewer minor errors in citation, like we just described for proficiency.

And for needs improvement or no credit, there are any major errors in citation, and major errors include missing citations in paragraphs, missing citations on bibliography page, or, the worst of all, plagiarism.

Adam: And then finally, the last line here is formatting, and we're at 10% again or down to 10 points.

So mastery is the essay is at least five pages long, not including the bibliography pages or the cover pages. It's double-spaced, and Times New Roman 12 point font, and in black ink on white paper. Now, you may laugh at these requirements, but you would not believe how many students try to be creative. I had a student once who turned in a seven-page paper on hot pink paper with purple print. I could not read it. It hurt my eyes. Okay?

When it comes to proficiency, the essay's at least four and a half pages long, again, not including the bibliography pages or cover pages. And all the other stuff, the spacing, the font, the point and the black ink on white paper, that's all include.

For competency, the essay is missing one but not more than one of the following. And so again, it's the five pages long, double spaced, Times New Roman, etc.

For you don't get any credit at all for this, for the needs improvement, the essay is missing more than one of the following: five pages long, double spaced, etc.

So this allows the student to look at the rubric and say, "Okay, in order to get this many points for this paper, I have to hit this, this, this, this, and this. I've got to do at least this well. I have to double-check before I turn it in to make sure that I have no missing citations. I've got to turn it - I've got to make sure that I've got five pages, that it is in Times New Roman 12 point font..." and these are things that you could then take small amounts or large amounts of points off to show the student, "look, this is where you've got to do better."

And rubrics are just invaluable for that, because I've had students come to me and say, "well, why did I get a, you know, 42%?" and I say, "look at the rubric and you tell me."

And then they look at the rubric and sometimes they'll come back and say, okay, "I just didn't understand what I was supposed to do in this column. You know, I still don't understand how I'm supposed to do this."

"Okay, well now we need to sit down and teach you how to do citations."

"I've always been scared of citations."

"Okay, good. Sit down with me. Let's talk about this. I want to make sure that you don't have this problem again."

Dinur: Now, some rubrics may be very question specific, like the Revolutionary War rubric, but other rubrics will be more general. The essay rubric is a good example of a general rubric that you can reuse for several different essay assignments over the course of a term.

Now, this has been geared towards teachers, but here's how students can use this information. Read through rubrics before and while you write your papers. The rubric should give you a really good idea of what your teacher's looking for. And this can help guide both your writing and any questions you may have for your teacher.

View the rubric as a guide or as a map with a better paper as the destination that you want to reach.

Adam: And then for teachers, don't be Mrs. Stibal. Don't be my old English teacher. All right. Give the rubric to your students several days before the related assignment, so they have a chance to go over it, ask questions and understand what you expect. And yes, this includes short-answer essay questions that might come up on their midterm. So give them a list of seven different questions and the rubrics for those questions. Only two of them are going to show up on the exam, right? But they'll study for all seven.

Another thing is define any terms that you're using in the rubric that may not be obvious, like "date range." Make sure that your students know what those terms mean so that they know what you're looking for. If they don't know what the term means, how are they going to fulfill your expectations?

And of course, finally use the rubric while you're grading. This will help you more than you know with the dreaded subjective grading problem, especially if you know whose test or paper you're grading.

I try to avoid that by telling my students, you know, I'm going to grade you anonymously on the learning management system. I don't want to know what your name is on these so that I can be fair.

But let's say that you're turning everything in in paper, and you know that this is Johnny Smith and Johnny Smith drives you up a tree, and then you've got this other paper from Mary Jones and Mary's a wonderful student. She's got her hand up in the air all the time. She comes and sees you all the time, but according to the rubric, Johnny did a better job than Mary.

That forces you to be less subjective, more objective, and more fair by saying, "This is the standard. Johnny met it. Mary didn't."

Adam: So that's what we have for you in Episode 42. If you're finding this podcast helpful, please share it with your friends! We're always hoping to get new subscribers, so we can help more people. You can find us on Apple Podcasts, Spotify, and Android. We're hosted on Blubrry.com. Also, we'd appreciate it if you wrote a review of this podcast on Apple Podcasts.

Dinur: Be sure to join us next week for Episode 43, when Adam and I talk to students about how to take multiple-choice, true/false, and matching tests.

Adam: You've been listening to Learning Made Easier, a podcast about how we learn, how we teach, and how they overlap.

Dinur: We want to say thank you to all of our supporters on Patreon, who make this podcast possible.

Adam: If you want to support us, please go to www.patreon.com/learningmadeeasier.

Dinur: We look forward to seeing you next week!