An NCME Instructional Module on

Assessing Student Achievement With Term Papers and Written Reports

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This module is written for teachers and is intended to help them apply the development strategies and rules of evidence for performance assessment to term papers and written reports. These traditional classroom assignments can be designed and used to stimulate student performance that requires higher-order thinking and student self-investment in a topic. The issues of assessment quality presented in this module will help teachers derive dependable information about student performance from term papers and written reports to use in decisions about instruction, grading, and other aspects of teaching.

Looks like a duck. Sounds like a duck. Walks like a duck. Must be a duck. Just so—we recognize a duck when we see one because we know how a duck looks, sounds, and walks. Similarly, if we can describe what a high-achieving student does to find out about a topic and what the results look like when he or she writes a paper about it, we have the basis for both teaching and assessing this kind of student achievement. Instructional activities like writing term papers can help students to practice "finding out"; assessments can monitor this process and the resulting paper or report. But to make this work, the important steps in "finding out" and the important attributes of a "good" paper must be clearly specified before we can assess whether a student achieves them. We must describe what a duck looks like.

We often assess student achievement with term papers and written reports. A well-designed term paper assignment can provide meaningful learning and authentic assessment, in the sense that writing clearly and organizing ideas about a topic of interest is an important part of much "real" work. Such assignments are opportunities for students to be actively involved in the learning process because they must seek out information and make decisions about the assignment's relevance to what they want to know. Paper assignments also are opportunities for students to exercise their thinking by locating relevant information, organizing it, and expressing ideas in their own words. These activities, taken together, contribute to the development of content-area literacy.

Judging student achievement by observing their written reports is an example of performance assessment. All good performance assessments need four basic parts. The first is to have a clear purpose, stating what you want the students to be able to do, and why and how this goal fits with the instruction. What kinds of decisions are to be made with the information you gained by observing student performance? Second, good performance assessments need an exercise or assignment that gives students an opportunity to demonstrate the performance. Third, users must make sure the criteria to be used for evaluation are clear and relevant to the purpose. Fourth, teachers must prepare to provide understandable feedback to the student. The design and development of performance assessments in general are presented in another NCME ITEMS instructional module (Stiggins, 1987).

This module focuses specifically on performance assessments in the context of term papers and written reports, with the four basic parts as its main outline. Student papers are often intended as learning activities. But because teachers do base evaluation decisions on these assignments, it is crucial to incorporate the basic principles of good assessment. Otherwise, students may not know what to demonstrate or how well to do it. (Think how different things would have been for the ugly duckling if only he had known that his goal was to be a swan and had better guidance in judging how well he achieved it!)

In this module, you will learn how to design assignments for written reports, develop performance criteria and communicate them to students, monitor progress, and assess the outcome. You will also learn how to give students a role in the assessment and, therefore, add a dimension to students' responsibilities for their own learning.

Clarifying the Purpose

Purpose

Why do you want to assign a written paper assignment? Specify both a student-centered purpose—some reasons why you want

the students to write—and a teacher-centered purpose—some reasons why you need the achievement information the assignment will provide. Know whether your assignment will be used for instructional, grading, diagnostic, or other educational decisions. Decide on the purposes first, and then base your decisions about the assignment, criteria, and feedback on these purposes. Write your purpose down, just as you would write a goal for a unit plan. Most of the time, your term paper purpose will be included as one of the goals in a unit and should function as such: It should complement other goals about a particular unit of content.

The process of researching and writing represents good instruction. Writing about something is a good way to learn it. Covering a chosen area of content in more depth than is possible in a textbook survey develops student understanding. Students also develop skills at locating, organizing, and communicating that information. Writing about a topic is a good skill to master, both for future school assignments and for life and work in the information age. Students gain experience at putting ideas together and also at working toward a product, the paper, that lets them share those ideas.

Some Examples

Here are three examples of contexts in which teachers opted for a term paper assignment:

1. In an intermediate grades earth science unit, a teacher decides to use a paper assignment for instructional and grading purposes. In the instructional context of a unit on forests, cognitive goals include student understanding of the value of forests as natural resources, their contribution to other forms of life on earth, and the consequences of forest destruction. An affective goal is to add an ecological dimension to students' developing senses of citizenship and responsibility. Writing a paper will give the students an opportunity to gather information and to reflect on its significance to the life and work of the community in which they live. As they work, teacher assessment of progress will influence instructional decisions about ongoing lessons. The teacher also wishes to include student performance in the term grade.

2. In a junior high American history class, a teacher decides to use a paper for instructional, grading, and selection decisions. In the instructional context of a unit on Colonial America, cognitive goals include student understanding of the importance of religion, the family, and social structure on not only people's lives but also political events. An affective goal is to develop the students' senses of participation in history. The teacher wishes to include performance in the term grade. In addition, the teacher has been asked to nominate students to meet the state governor, who will be visiting the school, and he or she will base those selections in part on student performance on this paper.

3. In a senior high English class, a teacher decides to use a paper for instructional, grading, and diagnostic decisions. In the instructional context of a year of literature that includes Shakespeare's *Hamlet* and *Macbeth* as well as more modern tragic works, one goal is that the students form a concept of what tragedy is. The teacher informs the students of this goal at the beginning of the year to provide a purpose for their reading. As a culminating activity, students will be assigned to write a paper presenting and supporting their own definition of tragedy, based on the literature they have read throughout the year.[1] Discussion and writing about tragedy will influence lessons throughout the year. The teacher will include performance on the final paper in the spring term grade. Additionally, he or she will monitor students' writing for particular difficulties in grammar,

expression, or organization and make diagnostic decisions as he or she coaches the students, preparing them to write college term papers.

Designing the Assessment

The Meaning of Assessment Quality

As you design your assessment, there are rules of evidence to be followed. These rules ask assessments to address issues of meaning, dependability, and practicality. The specific assessment quality issues to be addressed are summarized in Table 1 as questions to ask yourself throughout your process of establishing purpose, writing a term paper or report assignment, setting up criteria, and giving feedback to students. The issues are discussed in paragraphs that follow.

Valid assessments provide the information needed and fit with the assessment purpose. Valid assessments provide meaningful, useful information. Does the information (observation, score, or grade) really mean what it's supposed to? Is the information relevant—is it the right information for the purpose? For example, if term papers and written reports are to be used to assess student achievement in higher-order thinking, then valid assessments reflect student skills at questioning, locating, analyzing, and/or presenting information on a topic. Student papers will contain lots of facts, and these need to be accurate. But all a paper can reveal is what the student has done with the facts, not whether he or she has learned them, so it is not a valid measure of student memory of information.

To help verify that your assessment will provide the meaningful information you seek, check to see that your assignment really poses for the students a task that draws out the desired kinds of thinking. I once observed a sixth-grade student "translating" an encyclopedia article, word for word, with a thesaurus, to produce a nonplagiarized "report" on the theory of continental drift! Her teacher was aiming for a student description of a scientific theory and explanation of its importance. But what she got was a measure of something else—student ability to manipulate vocabulary and sentence structure. Using a thesaurus is an important skill. However, a validity problem arises here because the teacher's purpose was not about how to use a thesaurus. In this case, the problem occurred in the assignment, which was simply, "Write about continental drift." The student approached the encyclopedia not with a question but with a topic that matched the encyclopedia entry. She had no guidelines to help her select or organize the material.

The questions in the validity section of Table 1 will help you think through these issues in your own term-paper assignments. They ask about your purposes and objectives. They ask whether students can frame meaningful questions, helping them avoid the encyclopedia-translation problem. These questions ask about student interest and student awareness of the place of the paper in their instruction. These questions are validity questions because a student who does not understand where the assignment fits into instruction and/or is not interested in the assignment can and will subvert the assignment, turning it into encyclopedia translation.

Reliability is the name given to concerns about the dependability of your assessment results. The general principle to be addressed here can be summarized as a search for a high level of confidence that the student performance you observe gives a clear and representative picture of the student's true performance—not a fluke, not a matter of chance or luck. Is the assessment information (observation, score, or grade) accurate? Does it give a broad enough sample of performance? Are the results free of teacher bias? ("Mr. Smith loves trains—I know I'll get a good grade if I write about the development of the railroads!" says a savvy student.)

Table 1
Assessment Quality Questions for Term Papers and Written Reports

How good is your assignment? (Validity)
- What are your reasons for assigning this paper? What educational decisions will you base on the achievement information it yields?
- What instructional objectives underlie this paper? Does the assignment match them?
- Are all acceptable topics (content, subject areas) important and worthwhile? Can students frame meaningful questions with this content?
- Will doing the assignment interest at least some of the students, drawing them into the material?
- Can in-class and out-of-class work be coordinated so the students see the assignment as part of their instruction?
- Check the assignment itself with the list in Table 2.

How accurate is your assessment? (Reliability)
- Is the scope of the assignment broad enough that you can really judge a student's performance level?
- Is the task assigned representative of other content domains in your subject?
- Does the cutoff score between failure and passing represent a real difference between acceptable and unacceptable performance?
- Is student performance internally consistent; that is, in any one student's paper, is the level of performance fairly stable throughout?
- Check the quality of your evaluation criteria with the list in Table 3.

How practical is your assignment? (Practicality)
- Does it require active student involvement (not just copying information from an encyclopedia!)?
- Are all necessary resources readily available in the school and local libraries? Elsewhere?
- How much time is required for students to do the assignment? For you to grade it?

The issue of representativeness is an especially important one in the context of term papers and written reports. Think of the actual information you obtain from students and how it relates to the intended outcomes. Does the sample reflect the entire picture? Say a student narrows a topic into a good, researchable question and writes a solid paper on beehives. You are very confident that the student has thought long and hard about beehives—you have direct evidence of that. But one of the decisions on which that evidence will bear is the student's science grade for the second report period, during which insects was just one of the units covered. The sampling question is, if the student has such a good understanding of beehives, how confident are you that the student has achieved well in a unit on insects?

If you and your students are to have confidence in the dependability of the assessment information generated through the judging of papers, your assessment must reflect the thorough and appropriate application of levels of performance on specific criteria. The classic example of what happens when specific criteria are not used is the "snow job," when a student writes elegant prose but doesn't address the subject and is evaluated as having done a good job. The result is an inaccurate—unreliable—assessment of that student's achievement.

If clearly stated criteria are to be carefully applied, levels of performance must be described in enough detail that you can make dependable judgments. "Pass" and "fail" or "excellent" and "average," as labels for levels of achievement, are insufficient. These labels do not say *what* is average, or *what* constitutes failing performance. The section on Criteria that follows will help you write sound performance criteria. These criteria will help you judge each paper on its merits, again contributing to confidence about the dependability of your assessment information.

The questions in the reliability section of Table 1 will help you make technical judgments about the assessment information you get from your students' term papers and written reports. These questions ask about the representativeness of your assignment and of the students' performance on it, your criteria, and your application of them to specified levels of performance.

Practical term paper or report assignments must fit into the same limitations of time and resources as any classroom assignment. They must also fit with the principles of good classroom instruction and management, engendering tasks in which, for the most part, students will willingly and actively participate. The questions in the practicality section of Table 1 will help you think about these issues as you plan your assignment. If you allow student selection of content (within guidelines), you give students the opportunity to work in areas of interest. If you make sure the library has enough information to support students' research before you make the assignment, you ensure that the resources they need will be available.

Designing the Exercise or Assignment

The term paper or report assignment transforms your goals into action. Baron (1991) describes attributes of good performance exercises. From her guidelines, five key attributes for term papers and written reports may be distilled. These are listed in Table 2 as a checklist for you to use as you design your own assignments. Each of the attributes is discussed below.

A Meaningful Task. Your paper assignment should focus students on some important content. Asking students to invest time and energy chasing unimportant material sends the wrong message and trivializes the research and writing process (or worse!). The task should cover content that is meaningful *to the students.* Your students will have to invest themselves in writing a paper, so it should be about a question they care about and *want* to answer. Student investigative work, in fact, makes no sense otherwise—why write a paper about something you don't want to know?

Students Frame Questions. This may require some instruction in questioning, but this instruction will be worth the effort. Papers that begin by simply "picking a topic" invite an encyclopedic, list-like presentation of everything the student can find out about the topic. Assessment of such papers can easily turn into a check for the accuracy of facts. If students frame questions to be answered or state a thesis to support (most theses have underlying questions), they establish a

Table 2
Checklist for Evaluating the Paper or Report Assignment

What you ask the students to do in their papers should:

a. Be a meaningful task, both for the student and the content area.

b. Require that the student frame his/her own question or write his/her own thesis statement.

c. Require that the student locate and analyze information and draw conclusions from it.

d. Communicate his/her results clearly in writing (and orally, too, if possible).

e. Require that students work together for part of the assignment.

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reason for writing their papers. They also have a mechanism for connecting their new work to their prior knowledge, assuming they understand their questions but do not yet have answers. Students who have asked the questions themselves will have an investment in finding answers.

Students Locate Resource Material and Draw Conclusions. Knowing where and how to locate information and deciding on the relevance of information to a particular question or argument are important analytical skills in themselves. Resources may include books, magazines, newspapers, films, videos, or recordings from libraries; interviews with appropriate adults or other students; textbooks and other classroom instructional materials; and community resources like museums and other public institutions. The exercise should specify what kind of sources are required.

Students Share Results With Clear Writing. Effective communication is essential. If a student cannot share his or her results and conclusions effectively, there will not have been much point to the work. If you prescribe a particular format, provide instruction in its use or supply a handout/model for students to follow. For younger students especially, original formats are appropriate and will vary with the student and the material. In any case, the exercise should make clear what kind of presentation is expected.

Students Work Together for at Least Part of the Assignment. Some exercises can take into account the social dimensions of learning. Group work takes advantage of the fact that in order to share ideas, students must first be able to articulate them. Peer groups working together can help students generate meaningful questions, identify things that need clarification, and give student writers a sense of audience. Student group work provides a forum for ongoing, formative assessment of work in progress and the clarity, meaningfulness, and importance of ideas. In group sessions, the students themselves provide the benchmarks for assessment, namely, "Do I get it (understand what my fellow student says)? Is it interesting?" The students themselves also provide the feedback; namely, they question each other until the idea is communicated clearly.

One suggestion for having students work together is to allow students to "mess around" in the subject area, with introductory material presented in class and some opportunity for library exploration, until they are able to choose a topic. Have them work in groups to help each other frame questions about their topics. Then, orally or in the form of a written paragraph, have each student present his or her research question and a statement of why he or she wants to answer this question, including why the topic is important and why it is of interest to the student. Assess these statements, either as oral or written performance, with criteria like the following: (1) Has the

student framed a researchable question? (2) Is the defense of its importance as a topic sound? (3) Is the statement of its interest to the student clear? This should be a formative assessment. Feedback in the form of suggestions will be useful, and other students in the class can help, especially if the presentation is oral. Teach the students to recognize good work; let them be the evaluators. Have the student incorporate the suggestions in the final written report, where the statement can be used as the introductory paragraph. At that point, you could use the same criteria with rating scales for summative evaluation. You could also use the statement itself as the basis for a student-generated criterion for the final paper: "How completely and accurately does the paper answer the question the student posed?" That is, how well did the student do what he or she set out to do?

More Examples. Let's continue to develop the three examples started earlier by designing assignments for student papers, applying the guidelines for good exercises. In each example, letters refer to the checklist in Table 2.

1. In our intermediate earth science example, an assignment that satisfies the criteria might be, "Imagine that you are a member of a state forest commission. Prepare a report about one aspect of forest ecology. Papers will provide information for a commission hearing in preparation for legislation about the use of forest land in the state." Alternate phrasing for the assignment might be, "Pretend you are on a state committee that will be writing laws about forest use in the state. What would be important for you to find out first? Select one important thing and write a report to share with the committee." (a) This is a meaningful task because it addresses a current, real situation and requires content information relevant to the instructional unit. An introductory lesson might highlight the "real world" aspects of the assignments with newspaper and news magazine clippings. (b) The students will have to ask questions of the type, "What information is important for the forest commission to know?" and narrow these questions. Students could be assigned to work in groups, as above, to choose different aspects of the question. Possibilities include questions about kinds of trees, the ecology of forests, manufacturing of wood and paper products, causes of deforestation, etc. (c) Alone or in smaller groups, they could locate information from the library, museums, and the national or state park services. (d) The teacher might allow the text of the written results to be organized in any format but require that the sources cited should be listed. The teacher should provide simple examples of how to cite articles, books, and pamphlets. (e) Give students opportunities to work together on question formulation and on research, writing, and revising. The teacher might begin with the introductory lesson, connecting the assignment to the rest of the instructional unit, then give the students the main assignment. Steps along the way would be supported with daily lessons that have objectives, activities, and evaluations of different aspects of the task.

2. In our junior high history example, an assignment that satisfies the criteria might be, "Describe one aspect of life in colonial America, then compare/contrast it with your experience of life today." (a) This is a meaningful task because the students' own experiences will be directly included in the writing. This fits with the stated purpose of helping students see themselves as participants in history. (b) Students' questions will be of the type, "How did colonial Americans _____? How is my experience similar (or different)?" Possibilities include questions about the family unit, the roles of men, women, and children, education, religious beliefs, work

Table 3
Checklist for Evaluating the Criteria for Judging the Assignment

The criteria you use to judge the final paper should:

a. Be important, focusing on important aspects of the subject-matter content and of student strategies for dealing with the content.
b. Be complete, covering all aspects of the students' performance that you need to asses for your purposes.
c. Have clear, interpretable labels or descriptions.
d. Have clearly described levels, with descriptions for each level phrased in positive language.

in urban and rural settings, slavery, and so forth. (c) Students would get most of their information for these questions from library print materials and films or from museums. (d) The teacher might request that results be written in a certain format: perhaps first, a statement of the question chosen and why the student felt it was important; second, a section with historical details; third, a section with contemporary information; and fourth, a section with comparisons and contrasts. The teacher might also require a chart in this section, presenting the comparison visually. The teacher would provide direction on how to cite the references and models of tables and charts for visual presentation of information. (e) Opportunities for group work could be given at topic selection. Students could also jointly discuss their comparisons and design their charts.

3. In our high school English example, the assignment is, "Define tragedy as a literary genre. You need not agree with other literary critics in your description of what tragedy is, but you must illustrate and support your thesis with tragedies you have read this year. Cite examples from *Macbeth, Hamlet, Waiting for Godot, Rosencrantz and Guildenstern are Dead,* and one other work of your choice." (a) The students would write inductive definitions, based on their reading and analysis, which might or might not include discussions of traditional tragic elements (e.g., the tragic hero, plot elements like a fall or fatal mistake, or audience catharsis). (b) Giving students the latitude to experiment with different definitions of tragedy, even if their attempts are limited, is a way for them to make a literary abstraction their own, creating a meaning on which students can build as they read more literature. Often we dismiss this kind of "meaning" as a purely academic exercise, but beware: The English teacher who gave me this exercise idea reports that she must use this assignment cautiously. If dramatic incidents in the lives of students are too close to the tragic elements of the plays, the assignment becomes too painful for the students to do, she says. (c) The assignment demands analysis of the contents of four plays read for class and requires independent analysis of one other tragedy. (d) The result will be a written paper. As the students are writing, the teacher also plans to diagnose individual writing difficulties and coach students to improve in subsequent drafts. (e) Student discussions about the concept of tragedy and about the four assigned plays, both large-group and small-group, will be invaluable as students analyze the literature and sort out their thoughts about what tragedy is. Peer editing of drafts of the paper also will be useful.

Specifying Performance Criteria

Design performance criteria as you write the assignment, keeping in mind the assessment quality issues discussed above. Quallmalz (1991) produces an excellent review of the characteristics of good criteria for performance assessments in general. Table 3 summarizes her guidelines. They can apply to criteria for evaluating activities or the "process" of doing the paper as well as the final product itself.

Process Criteria

Long before the final papers are turned in, you have many classroom assessment opportunities as you monitor student involvement in the learning process. Consider these issues: How do you expect the students to pursue their tasks? How do the students view their progress? Do you want to monitor progress formally or informally?

Formal. You can include checks on participation, progress, and partial products at specified times. For example, require students to submit outlines, note cards, introductory paragraphs, and so forth. Or require daily journal entries about daily progress, or note card evaluations of group work at the end of group sessions. Progress can be assessed with criteria you have developed and shared with the students ahead of time; for example, specifications for outlines or other partial products. Progress can be assessed with student-generated criteria; for example, daily progress cards in the form, "I did _____ well today. I still need help with _____."

Informal. Even if you have decided that the product (the written paper or report) is the only thing you will evaluate in writing, you will still want to do informal monitoring of student progress. As you circulate among students during work sessions, giving suggestions and encouragement, your informal assessment will be more valid if you decide ahead of time what you will be looking for, and why. For example, if you have scheduled a question-framing group discussion, you may monitor group work looking to see that (a) everyone in the group is contributing to the discussions, (b) discussions are dealing with the chosen topics, and (c) discussions are generating decisions about out-of-class work students will do. Intervention will be based on your observations in these categories. Your informal assessments will be more reliable if you apply your group evaluation criteria consistently with each group and if you make an effort to get to all groups. Following this process will assure your informal assessment contributes to your instructional goals.

Product Criteria

What do you want the paper to look like? What will you accept as evidence that the students know the content and can demonstrate the thinking processes that formed your basis for making the assignment? Communicate the criteria to students right from the beginning. These criteria become the objectives of your lessons as the students work on their papers.

Maximizing Student Involvement. Students can play a direct role in developing product criteria. One contribution they make is defining the attributes of "good researchable questions." If the assignment does require that students ask their own questions or state their own theses, then a final criterion on which their papers are judged is how well they met their own expectations. Did they gather complete and accurate information and use it to draw a well-reasoned conclusion? They can help define "complete," "accurate," and "well-reasoned."

Another way in which students can be involved in assessing their papers is in the application of the criteria. One of the goals of education is that students should internalize criteria for good writing, so that they can judge their own work in whatever setting it occurs. *Giving* the students the criteria ahead of time makes the goal clear to them. Having them *develop* those criteria adds ownership to the equation. If

examples of a few papers from the past are available, some very good and some very poor, students can use them to learn to distinguish levels of performance. Have them state explicitly: How does a good paper differ from a poor one? Then they are equipped to apply this knowledge to their own work as they do their research and writing. In this way, the students develop some ownership of the criteria and some personal experience with them. The teacher's feedback using these criteria becomes less something done to students and more something done with them. Examining models with your students and deciding why they are good or poor is an excellent teaching strategy. This kind of student evaluation also can be useful for revising successive drafts of the paper.

Sound Criteria. Table 3 lists the most important qualities for good criteria. They follow the rules of evidence for good assessment. If the criteria focus on important elements and cover completely the aspects the paper should have for the purpose you established (a and b on the checklist), then you can make valid judgments based on the achievement information the criteria will yield. Make sure your criteria completely describe what you want to assess. For example, you will need to decide whether grammar and spelling will be included in the criteria. Whether or not grammar and spelling should "count" is a decision that should directly relate to your purposes for the assignment. If you have multiple purposes, you may include grammar and spelling as a criterion for gathering information for one purpose (e.g., diagnosis) and not for another (e.g., grading). Your instruction will be clearer to students if you use criteria consistently. The criteria should tend to take on a life of their own in the students' minds, because you want students to learn to evaluate their performances along the way to the final product. This argues against criteria that are too complicated. If the criteria are clear (c and d on the checklist), both you and your students can apply them consistently to each student's paper. Resulting judgments will be more reliable.

Back to the Examples! Possible criteria for each of our three running examples are listed below. Note that they satisfy guidelines a, b, and c on the checklist for criteria in Table 3. Each set of criteria refers to important points, is complete in that it covers all aspects necessary for the assignment's purpose, and is clearly written. To conserve space, a full discussion of the levels of performance under each criterion (guideline d in the checklist in Table 3) is limited to Example 3. See if you can add descriptions of levels of performance under each of the criteria for Examples 1 and 2.

1. Final paper criteria for the intermediate earth science example might include the following: (a) Does the question touch on an issue important to decisions about forest use? (b) Is there evidence of student analysis of why it is important? (c) Is the information (facts) accurate? (d) Is the information/answer to question complete? (e) Is the written presentation clear (format may be original but must be understandable)? (f) Are the reference citations complete and according to format?

2. Final paper criteria for the junior high American history example might include the following: (a) Does the paper describe an aspect of life in colonial America that is important? (b) Is there evidence of student understanding of the historical importance? (c) Is the presentation of historical facts accurate and complete? (d) Is the description of current experience accurate? (e) Are comparisons and contrasts with present day life made logically and clearly? (f) Is prescribed format (text in four sections, references in specified style) followed? (g) Is the visual display (comparison chart) complete, logical, readable?

3. Final paper criteria for the high school English example might include the following: (a) Is the definition of tragedy (thesis) clearly stated? (b) Are the examples (and

counter-examples if appropriate) illustrative and complete? (c) Is the support for the thesis from each required work of literature appropriate? (d) Are the ideas well organized (Is the argument persuasive)? (e) Is the writing style clear and easy to follow? Table 4 presents the criteria for Example 3 and performance-based descriptions of levels of achievement for each.

These are only examples of how such performance might be specified; these will differ with context. Use criteria as your goals and objectives. What levels of performance do you expect? Share these expectations with your students, who can then use them as achievement targets—that is, use them to judge their own and others' work. Make sure your levels *describe* performance—that is, use "Basic writing conventions are not followed," and do not merely judge, "Poor writing." Table 4 is set up as a feedback sheet for students and thus also includes rating scales and grading information.

Feedback to Students

Grading Papers

Performance assessment results translate effectively into feedback to students, either as grades or as more complete profiles of achievement. Teachers need to develop a grading philosophy and establish a grading plan that is consistent with their own values, district and building policies, and the principles of good assessment. Another NCME ITEMS module (Frisbie & Waltman, 1992) offers teachers help in making these decisions. The following recommendations are technically sound, fit with many district and school grading policies, define scores and grades in a clear and specific performance-based manner, and are thus consistent with a model of teaching driven by instructional goals and objectives.

The criteria you have developed can be used in several kinds of scoring, providing different kinds of information. These are applicable to all types of performance assessment and are further described in another NCME ITEMS module (Stiggins, 1987). One is holistic scoring, in which an overall judgment of quality is made by considering the criteria simultaneously. Holistic scoring is useful for grouping and selection decisions but does not result in the kind of information that is likely to be diagnostic of strengths or weaknesses. Another option is analytic scoring. In analytic scoring, each criterion is given its own scale, which defines several levels of performance for that factor. Each criterion is evaluated separately in scoring.

If a grade is to result, use analytical scores. They can be averaged for conversion to that grade. Analytical scales based on the criteria and levels are the key communication link between teacher and students. These are the criteria that have guided students' work, functioning as their target. So be sure each level represents a meaningful distinction for students.

Consider also the option of weighting the criteria. All criteria may be equally important. Each criterion may contribute equally to the total grade. But realize also you can alter the weight of scales if necessary. Keep the weighting scheme simple and interpretable. For example, one or more important criteria may be given double weight. This is accomplished by multiplying by two the scale points earned on those criteria. Rate the paper on scales for each of the criteria; weight if desired; sum the ratings for each criterion; calculate the percentage of points earned. Just be sure everyone knows the grading process from the outset, so there are no surprises at the end.

Consider using a feedback sheet for reporting scores. One way to do this is simply to make a "worksheet" with the criteria listed, and points for each, with enough blank space for comments. Duplicate two for each student. Give them one when you give them the assignment, and use the second for feedback on the student's paper when it is returned. This saves time and maximizes communication. Provide comments. Include explanations whenever a student scored low. Also include

Table 4

Feedback Sheet for Scoring Tragedy Papers (Example 3)

Definition of tragedy (thesis) clearly stated? ___ points (5 possible)

5 A clear thesis sentence, followed by an explanatory paragraph, introduces the paper. Concepts are defined; all are relevant.

4 A clear thesis sentence, followed by an explanatory paragraph, introduces the paper. Some concepts are not well defined, but all are relevant.

3 A tenable thesis is stated. Some concepts are not well defined.

2 A thesis is stated. Meaning is difficult to pin down.

1 No thesis or an irrelevant thesis is stated. (The paper begins with something other than tragedy.)

Examples (and counter-examples if appropriate) illustrative and complete? ___ points (5 possible)

5 Many examples clearly and completely illustrate each point.

4 Many examples clearly and completely illustrate most points, but some are thinly supported.

3 Each point is supported by at least one illustration.

2 Examples from the literature are not given for some points and/or some illustrations are not appropriate.

1 Illustrations are haphazard and do not support points.

Support for thesis from each required work of literature appropriate? ___ points (15 possible)

for *Hamlet, Macbeth, Waiting for Godot, Rosencrantz and Guildenstern are Dead,* and play of student's choice (assumes teacher had approved selection), 3 points possible for each play.

3 appropriate example illustrates each point in the thesis

2 appropriate example illustrates at least one point

1 no examples or inappropriate examples from this play used

Ideas well organized/argument persuasive? ___ points (5 possible)

5 Each idea from the thesis is presented, explained, and illustrated clearly. Ideas flow smoothly, and the arguments are easy to follow. Paper has a clear beginning, middle, and end.

4 Each idea is presented and illustrated clearly. Transitions are sometimes lacking.

3 Each idea is explained, but organization is sometimes disjointed. The reader can tell what examples are supposed to support what point.

2 It is often not clear what point illustrations and examples are intended to support.

1 It is often not clear what point is being made.

Writing style clear and easy to follow? ___ points (5 possible)

5 Sentences and paragraphs are sound. No obvious grammar or spelling errors are present. A few minor errors do not slow the reader down.

4 Some grammatical errors are present, but meaning remains clear.

3 Meaning is clear, but the reader must work to overcome grammar or usage errors in order to figure it out.

2 Many errors in sentence structure, usage, and paragraphing begin to obscure meaning.

1 Basic conventions are not followed.

___ points/35 points = ___ %

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positive comments when the student did something particularly well. A feedback sheet contributes to scoring reliability by ensuring consistent, complete application of all criteria to each paper. It contributes to score validity by forcing clear thinking *in advance* about the meaning of success.

An Example. Table 4 presents a sample feedback sheet for the high school English example. Points are allocated according to the criteria the students have been using as they wrote their papers. The sum of the points, divided by the total possible points, gives a percent-correct score that can be entered in a grade book and contribute to a term average. The students have played a role in setting these standards, used these scoring sheets for guidance while they were writing, and practiced using them to do peer editing. The chances of their success on this assignment are very high. The descriptions of various levels of performance give students who want to improve some guidance on what they need to do. Peer editing

can provide additional aid, as a student might say to another, "I can't tell what this example is supposed to support" as he or she looks at the performance levels for organization of ideas.

When this teacher grades the final papers, he or she will attach one of these sheets to each paper, with points filled in and comments in the blank spaces. Notice that in this example, the first two criteria (total 10 possible points) ask about the thesis and its logical support, the third criterion (total 15 possible points) asks about the specific use of each work of literature, and the last two criteria (total 10 possible points) ask about the organization and style of the writing itself. Because these points were set to reflect the relative emphasis the teacher wishes the criteria to have, no additional weighting is necessary.

Follow-Up Activities

Once the papers have been written, evaluated, and returned, do not stop there. Follow-up activities expand the purpose of the

assignments. Here are some added follow-up activities:

1. Oral presentations of research results allow students to share their interests and expertise with classmates and to practice public speaking. For example, our intermediate earth science class might prepare a presentation to the forest commission or write letters based on research and conclusions. These additional performances allow for the development of more criteria.
2. Students can also share the written papers. Follow-up activities might include a paper swap, or a "library" table for browsing during study time. For example, the junior high American history students could make a class book, or fill a hallway display case, titled, "Colonial America—Life Then and Now." Work with students to define the attributes of a good display or book.
3. If the students have not already turned in several drafts of the paper as part of the assignment, an excellent follow-up activity is to have the students revise and resubmit their papers, based on the feedback they received from the teacher and from their own and their peers' evaluations.

Summary

When we assign term papers and written reports, we must attend to issues of assessment quality. This module has looked at setting goals, designing assignments, selecting criteria, monitoring progress, grading papers, and using follow-up activities from an assessment perspective. Integrating assessment and instruction in this manner will result in dependable information about student achievement for teacher and student. This module also explored giving students a role in the assessment and practicing a policy of continuous feedback: The expected results are higher levels of student engagement and achievement.

Self-Test

Instructions: Use this exercise to practice the skills you have learned in this module. In assessing your progress, pay special attention to being able to answer the assessment quality questions without stretching or straining. Repeat the exercise several times, generating different assessments, until you are comfortable with the process.

Exercise: Construct a written assignment requiring that students investigate and write a paper. Make the assignment match instructional goals in a unit or series of units you teach. Follow the procedure suggested in this module to integrate learning and assessment:

a. Specify the purpose for the assignment.
b. Design the assignment, then describe the tasks for students.
c. Answer each of the Assessment Quality Questions (Table 1) for your assignment.
d. Define criteria for student performance, describing how you would involve students in the process:
   1. Process criteria (formal or informal).
   2. Product criteria.
e. Describe how you would present these criteria to students in an instructional context.
f. Use the criteria to construct a scoring scheme and a feedback sheet for students.
g. Decide how you would use follow-up activities.

Note

[1]The author would like to thank Marie Bintner, Chair of the Department of English at Cheltenham High School in Wyncote, PA, for this idea.

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Baron, J. B. (1991). Strategies for the development of effective performance exercises. *Applied Measurement in Education, 4,* 305–318.

Frisbie, D. A., & Waltman, K. K. (1992). Developing a personal grading plan. *Educational Measurement: Issues and Practice, 11*(3), 35–42.

Quellmalz, E. S. (1991). Developing criteria for performance assessments: The missing link. *Applied Measurement in Education, 4,* 319–331.

Stiggins, R. J. (1987). Design and development of performance assessments. *Educational Measurement: Issues and Practice, 6*(3), 33–42.

Additional Readings

Calfee, R., & Hiebert, E. (1991). Teacher assessment of student achievement. In R. Stake (Ed.), *Adventures in program evaluation: Volume 1A* (pp. 103–131). Greenwich, CT: JAI Press.

This overview defines classroom assessment as practical research. Important points include a stress on purpose for assessment, conceptualizing assessment as gathering data for answering questions about student knowledge and activities, and discussing validity and reliability as keys to the trustworthiness of evidence for educational decisions.

Dietz, M. E., & Moon, C. J. (1992). What do we want students to know? . . . and other important questions. *Educational Leadership, 49*(8), 38–41.

Four questions link learning and assessment: "What do we want students to know and be able to do? What will count as acceptable performance? How can we assure expert judgments? How can we provide feedback?" Article includes a good example of criteria for a Social Studies assignment about the Civil War. This entire issue of *Educational Leadership* is devoted to performance assessment.

Kraft, R. F. (1986). *The Los Altos Writing Project.* Hacienda Heights, CA: Los Altos High School. (ERIC Document No. ED 289 811)

This manual for student writing covers essays, journal writing, and research papers. The research paper section is appropriate to this module because criteria are communicated to students from the beginning and because plans for formal assessment of the writing process and evaluation sheets for final assessment are included.

Walker, M. (1987). *Writing research papers: A Norton guide* (2nd ed.). New York: W. W. Norton.

This is a "how-to" book aimed at college students. Its first chapter, "Understanding What Research Is," is an excellent apology for the exercise of writing research papers. Its content will support teachers in making this sometimes unpopular but very important kind of assignment.

Wiggins, G. (1989). A true test: Toward more authentic and equitable assessment. *Phi Delta Kappan, 70,* 703–713.

In the context of a polemic against standardized testing, Wiggins examines the nature of assessment defined as "the performance of exemplary tasks." He makes the point that the intellectual aspects of an authentic assessment go beyond monitoring achievement to include encouraging the development of student abilities to use knowledge. Article includes a good example of a ninth-grade final exam that fits this module's definition of a report.

Teaching Aids Are Available

A set of teaching aids, designed by Susan M. Brookhart to complement her ITEMS module, "Assessing Student Achievement With Term Papers and Reports," is available at cost from NCME. These teaching aids suggest additional articles and tips for instructors who want more information. As long as they are available, they can be obtained by sending $2.00 to: **Teaching Aids, ITEMS Module #8, NCME, 1230 17th St., NW, Washington, DC 20036.**