

PERFORMANCE TASK AND RUBRIC DEVELOPMENT ASSESSMENT

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The learning and professional growth on the Performance Assessment program or knowledge component was measured by the professors' performance on the task of designing and developing three complex performance tasks and three corresponding rubrics for scoring task achievement. Using the Rubrics below as guiding criteria, they each designed three complex performance tasks and corresponding rubrics. These assessments were added to their course a new assessment strategy and assessment procedures.

It is important to note that one performance task/rubric was designed to correspond with the midterm, and another to correspond with the final exam using the logic that objective tests usually reflect what students know or know about rather than what they can do. Therefore, we used an unusual scenario where the professors "linked" the objective midterm exam to a midterm performance task/rubric as well as an objective final exam to a final performance task/rubric. They also developed a third performance task/rubric and choose how and when to use it. They were asked to "match" where they thought the test items and performances "overlapped" and measured the same or similar content. It was assumed from studying the literature that performance assessment measures different aspects of learning, sometimes deeper levels of learning through use of knowledge in more active or engaging ways, problems, projects, etc. But performance assessment can also measure some of the same aspects of learning as objective tests. Also some of the professors designed their tests to incorporate some level of performance in subjective or problem based items. In examining the tests and analyzing them, the objective items were separated from the more performance based items.

Professors were provided a presentation about Performance Assessment. Performance Tasks and Rubrics were discussed, and they received a portfolio of sample tasks and rubrics. They were given books on the topic as part of their new library on teaching and learning. Their performance tasks and rubrics reflect the ABET or NAIT standards with corresponding rubrics. Perhaps one professor had used simple and less formalized rubrics before, but none of the professors had developed or used formal, written, scenario-based performance tasks with corresponding rubrics before this initiative. Thus, there were no previous instruments to view from the baseline semester, Fall 2005, and compare to these. Therefore, we judged them based upon the Rubrics below.

Performance Task: Design and develop three complex performance tasks with corresponding rubrics. The tasks must be based upon the ABET outcomes or NAIT standards and corresponding student learning outcomes for the course; they must also reflect real world, authentic performances, tasks, or behaviors in the appropriate community of practice, e.g. industry. The performance tasks and rubrics must be used to measure student learning in the experimental research course, Fall 2006. See the **Rubrics** below for the achievement criteria to use in accomplishing the task.

Performance: The professors accomplished the performance task well. The process involved drafting initial and authentic real world scenarios with embedded task clusters and a corresponding rubric instrument for each task (3). The program leader provided feedback one-on-one as the performance tasks were developed. The professors shared their drafts with each other and benefited from the group critique process. The group process worked especially well. The tasks and rubrics were finalized; the program leader approved them; and then, each professor used the tasks and corresponding rubrics successfully with students during the 2006 experimental research semester. After the semester was completed, the professors copied all rubrics returned to each student in their classes for all three performance tasks. The program leader reviewed the scored/with comments rubrics that each student received back from the professors. Thus, the use of the rubrics was also reviewed. Finally, the professors completed a feedback/evaluation form about the use of performance assessment for the first time. As with test analysis

and development, the feedback from the professors on the value of learning to design, develop, and use performance tasks/rubrics was extremely positive.

The following rubrics were used to guide the professors in the development of the three performance tasks and corresponding rubrics for each task.

Also, the feedback and evaluation questionnaire and professor responses are provided below, following the rubrics. The faculty members truly felt that expanding their assessments to include performance tasks with rubrics was extremely positive. They all indicated that they will continue to use performance assessment, tasks and rubrics, and also expand the use of performance assessment to other courses.

Responses to the feedback and evaluation related to Performance Assessment follows the rubrics below.

Rubric for Assessing the Quality of a Performance Task

Key Components - Properly Designed Performance Tasks must

- I. Be based on content standards established by ABET or NAIT
- II. Describe a “real-life” scenario; are real world, authentic tasks; require active performances
- III. Involve students in complex reasoning – critical thinking at upper levels of Bloom’s Cognitive Dimension
- IV. Require students to collect and process information, using it for an authentic purpose
- V. Incorporate “habits of mind”
- VI. Require student collaboration and cooperation; incorporates “individual” and “group” learning and performance accountability
- VII. Result in a tangible product and/or communication activity

For each component, there are descriptors reflecting levels of achievement possible:

- I. **The Performance Task is based on the ABET or NAIT standards**
 - a. The Performance Task is directly related to the ABET or NAIT standards.
 - b. Learning standards are apparent, but the relation to the task and/or national standards is sketchy or not apparent.
 - c. The Performance Task does not appear to be based on the standards/outcomes, course or national.
- II. **The Performance Task describes a “real-life” scenario that is authentic and requires active performance.**
 - a. The scenario described in the task accurately mirrors an activity in the community of practice outside the classroom.
 - b. The scenario described in the task simulates an activity in the community of practice outside the classroom.
 - c. The scenario described in the task contains some aspects of activity outside the classroom but is largely contrived.
 - d. The scenario described in the task is an academic exercise that usually takes place only in the context of an academic setting.
- III. **The Performance Task involves students in complex reasoning-critical thinking processes at upper levels of Bloom’s Cognitive Dimension.**
 - a. The task requires students to utilize complex reasoning – critical thinking skills, such as induction/deduction, diagnosis, abstracting, experimental inquiry, problem solving; evaluation, creation, synthesis, etc.
 - b. The task requires students to utilize complex reasoning components, such as comparing, classifying, decision making, or investigation.
 - c. The task requires students only to recall facts.
- IV. **The Performance Task requires students to collect and process information, using it for an authentic purpose.**
 - a. The task incorporates a variety of information gathering techniques and information resources. Students are required to interpret and synthesize information and accurately assess the value of information gathered. They are required to collect the right information for an authentic purpose, e.g. solve a problem, apply or use in a complex project, etc.
 - b. The task requires students to gather and synthesize information, but the value of the information gathered is not assessed. Information may not be used for a purpose.
 - c. The task requires the students to gather information, but not to interpret it.
 - d. The task requires no gathering or processing of information.
- V. **The Performance Task incorporates “Habits of Mind.”**
 - a. The task requires students to make effective plans, use necessary resources, evaluate effectiveness of their own actions, seek accuracy, and engage in activities when answers or solutions are not immediately apparent.
 - b. The task only requires students to effectively plan or use resources.
 - c. The task does not require students to engage in self-regulation, critical, or creative thinking.
- VI. **The Performance Task requires student collaboration and cooperation; incorporates “individual” and “group” learning and performance accountability.**
 - a. The task requires students to use interpersonal skills, work toward the achievement of team goals, and perform a variety of roles within the team. There is a formal team structure and process.
 - b. The task requires students to work together in teams but there are no measures described that ensure collaboration or cooperation among team members.
 - c. The task is completed largely by students on an individual basis rather than in student teams.
- VII. **The Performance Task results in a tangible product and/or communication activity.**
 - a. The task result is a tangible product or communication activity comparable to that commonly produced in business or industry community of practice.
 - b. The task results in a product that is similar to those completed in business or industry community of practice, but lacks several components that make the product realistic.
 - c. The task does not result in a product or communication activity relevant to a business or industry community of practice.

(Scarborough, 2006 [Based upon White & Scarborough, 2004])

Rubric for Assessing the Quality of a Rubric

Properly Designed Rubrics Must

- I. Contain a set of key components/standards to be assessed that reflect the student learning outcomes for the course, which are directly linked to the national outcomes.**
- II. Include descriptors for each component/standard that are measurable.**
- III. Have descriptors-criteria that are indicative of observable student performances or behaviors.**
- IV. Incorporate a clear and well-defined scoring system**
- V. (Optional) Include appropriate weights for each component and descriptor**

For each component, there are descriptors reflecting levels of achievement possible:

I. The rubric contains a set of key components (standards) to be assessed.

- a. A complete list of key components-standards is provided for the performance task, including the embedded subtasks, if a cluster. The task(s) are directly connected to student learning outcomes for course and the national outcomes.
- b. Key components/standards listed are not exhaustive for the performance task and/or subtasks embedded are not clear enough for student response or action; components or standards are not clearly connected to student learning outcomes for course.
- c. Not all key components/standards describe student outcomes; some are not directly linked to national outcomes.
- d. No key components are listed.

II. The rubric includes a set of descriptors-criteria for each key component or standard.

- a. Descriptors-criteria for each component or standard are arranged in a clear hierarchy from non-achievement to full-achievement.
- b. Descriptors-criteria are present for each component/standard, but obvious levels in some are missing.
- c. Each component does not have an associated set of descriptors-criteria.

III. The rubric descriptors/criteria are clear and contain observable or measurable student performances or behaviors.

- a. All descriptors-criteria clearly delineate levels of observable student performances or behaviors.
- b. Most descriptors-criteria clearly delineate levels of observable student performances or behaviors.
- c. Only a few descriptors-criteria clearly define levels of observable student performances or behaviors.
- d. Descriptors-criteria do not describe observable student performances or behaviors.

IV. Incorporate a clear and well-defined scoring system

- a. There is a well defined and clear system for scoring each component-standard and its descriptors- criteria. Points or percentages are assigned appropriate to instructional and performance values.
- b. The scoring system lacks definition, clarity, and although there is a scoring system, some aspects are ambiguous, subjective or unclear.
- c. There is no scoring system.

V. Optional: Appropriate weights are assigned to components and descriptors.

- a. Component-standards and descriptors-criteria are each properly weighted according to instructional emphasis and performance values.
- b. Weights are assigned, but point values do not reflect proper instructional emphasis and performance values in all cases.
- c. Weights are assigned to some performance standards and descriptors, but not others.

(Scarborough, 2006 [Based upon White & Scarborough, 2004])