Assessment of Student Learning at Heartland Community College

Assessment Committee
www.heartland.edu/ac

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Defining Assessment

Assessment involves the collection and analysis of data, numerical or otherwise, to make inferences about student learning, teaching, curriculum, programs, and more. Assessment is often part of a process that involves decisions-making. The data from an assessment can be used to make an evaluation. Evaluations may lead to decisions that are designed to improve student learning, instruction, curriculum, customer service, etc.

In the classroom, assessment generally involves gathering information about teaching and learning. It allows instructors to measure student achievement and evaluate the effectiveness of their teaching methods. Assessment can and should be both formative and summative in the classroom. Formative assessments are built into the learning process, and may or may not be associated with points or grades. Formative assessments are typically used to provide feedback to students about their levels of understanding or skill sets. The most common type of formative assessment involves using a Classroom Assessment Technique (CAT) suggested by Cross and Angelo. For example, many faculty members choose to use the one-minute paper, a quiz, a worksheet, or a background knowledge probe to provide feedback before administering a summative assessment. Summative assessments are those that examine student work at a specific time after learning has been completed (i.e., at the end of a unit, at midterm, at the end of a course or at the end of a program). Examples of summative assessment include a test, a research paper, a performance, a project, a presentation or a portfolio of work.

Purpose of Assessment

There are essentially three main purposes for assessment. First, assessment is a requirement for accreditation. For us, accreditation is determined by the North Central Association (NCA). While some may claim that assessment is just the latest fad dreamed up by accreditors, the reality is that assessment has been around for many years and shows no signs of going away. At the state level, the Illinois Community College Board (ICCB) expects member institutions to demonstrate student learning through an assessment plan. Assessment plans that have been implemented provide the evidence of student learning that accreditors, legislators, and taxpayers are demanding from educational institutions.

Second, assessment is a learning-centered endeavor. Assessment methods can provide the means to improve the learning experience. The goal of faculty should be to help learners be more effective and efficient in the learning process. In the past, some faculty assumed learning was taking place because they were teaching. A standard for many teachers was to give four exams - one roughly every four weeks in a sixteen week semester - and nothing else. Unless students asked questions, the
assumption was made that the students were learning. Then, when an exam was given, those teachers were often surprised by a lack of student performance. Faculty are now much more in tune with what their students are or are not learning during the process and can adjust their instructional methods before assessing the product of student work. Thus, assessment can be used to improve the quality of the learning in our courses.

The third reason to assess is for the valuable information it provides to the faculty about their instructional practices. Data generated from classroom assessment can lead to valuable insight for the instructor about their instruction. If you have ever asked yourself "Why aren’t my students learning what I am teaching?" after grading a test or a paper, then assessment can be a tool to find the answer. When faculty know whether students are learning, they can continue to do what works and can also modify their instruction to provide better learning opportunities for students.

Assessing Student Learning

Exactly what instructors assess depends on the course being taught. In most courses, there is likely a certain amount of factual information that is important for students to learn. But knowledge of facts isn’t the only goal we have for students. All courses have a Master Syllabus that contains a list of learning goals, or learning outcomes. The learning outcomes detail the cognitive and behavioral skills associated with the course content that students are expected to achieve in order to pass the course.

Types of Learning Outcomes

Course outcomes are the specific learning goals for the course. The course outcomes are developed by the course developer, sometimes in relation to established criteria from certification or accreditation bodies. The course outcomes represent the minimum learning goals for the course that must be assessed by all instructors teaching the course. Instructors have the freedom to assess additional skills and knowledge that are not included in the course outcomes.

Essential Competencies (ECs) used to be titled General Education Outcomes. While once considered important broad learning outcomes for General Education courses, they were renamed in 2014 to reflect the importance of the competencies across the entire curriculum. The ECs are 20 learning outcomes/competencies that represent important skills in thinking and communicating. They are categorized into four areas: Critical Thinking, Problem-Solving, Communication, and Diversity. A complete list of the ECs can be found later in this document and on the Assessment Committee webpage (www.heartland.edu/ac).

The ECs represent the College’s attempt to answer the following questions:

- What do we want our learners to be able to do?
- In what contexts will we teach them how to do these things?
- What level of proficiency do we require?
Essentially, the College expects its graduates to be able to write and speak clearly and effectively to different audiences for a variety of purposes; to appreciate diversity in a global context; and to solve problems and make critical judgments.

HCC considers the ECs as the 20 essential thinking and communication skills expected of all students. They represent the skills and qualities that employers are seeking in graduates and the skills and qualities that help students to function in their everyday lives. While not all students completing coursework at HCC will go on to earn an Associate’s Degree, HCC recognizes its obligation to ensure that students are being exposed to and assessed on these competencies in all of their courses. In order to ensure broad exposure to the ECs, the 20 competencies are split up among courses across the curriculum.

**Learning Outcomes for Every Course**

HCC’s course-embedded approach to assessment begins with the design of the course. Each course has a Master Syllabus, which identifies the learning outcomes to be achieved and the range of assessment methods that may be used in sections of that course. For example, the table below is a portion of the learning outcomes from a chemistry course. Column one lists the course outcomes, column 2 lists the Essential Competencies (ECs) related to the course outcomes, and column 3 lists any means to assess the outcomes.

<table>
<thead>
<tr>
<th>Course Outcomes</th>
<th>Essential Competencies</th>
<th>Range of Assessment Methods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predict and implement the chemical reactivity of organic molecules according to the functional groups that they contain.</td>
<td>CT2, PS4</td>
<td>Problem sets, quizzes, exams, laboratory reports, technique (practical) assessments</td>
</tr>
<tr>
<td>Evaluate and draw conclusions based upon data and results from laboratory experiments.</td>
<td>PS3</td>
<td></td>
</tr>
<tr>
<td>Report significant laboratory findings and conclusions in written reports</td>
<td>CO1</td>
<td></td>
</tr>
</tbody>
</table>

PS3: Students identify the type of problem and, from multiple problem solving methods, choose the best method and solves problem.

PS4: Students analyze the situation, explore different outcomes from multiple frameworks, apply the appropriate solution, analyze the results, and refine the solution.

CT2: Students determine the value of multiple sources or strategies and select those most appropriate in a given context.

CO1: Students compose a message and provide ideas and information suitable to the topic, purpose, and audience.

The ECs in the chemistry course were chosen by the course developer because they represent the skills and thinking qualities expected of students. The ECs are linked directly to course outcomes that are conducive to the qualities of those ECs. Some master syllabi might not have the ECs linked directly to a course outcome. Over time, every syllabus will be submitted for review by the AC, and they will
require a direct link between the course outcome and an associated EC. It should be noted that the link between the course outcome and the EC are to assist instructors in seeing the relationship between the two, but instructors have the freedom to assess the ECs in the context of any course material or course learning outcome that fits well with their instructional practices.

A student’s final grade in the course should reflect, in part, the degree to which the learning outcomes were achieved.

**The Role of the Assessment Committee**

The Assessment Committee (AC) is committed to improving student learning and instruction by providing resources, guidance, training, and feedback to faculty, administrators, and coordinators regarding learning outcomes and assessment practices for courses and programs. The AC works closely with the Curriculum and Academic Standards (CAS) committee on syllabus and program review processes. Members of the AC are faculty and administrators representing all academic divisions, as well as Student Success, Enrollment Services, Community & Corporate Education, and Adult Education.

The Assessment Committee (AC) dedicates much of its time to examining learning outcomes and the means to assess those outcomes. The learning outcomes represent the minimum sets of skills or abilities that a student must demonstrate to successfully complete the course. A variety of methods including Classroom Assessment Techniques (CATs), portfolios, core test items, papers, presentations, and rubrics are then used by faculty to see how well students demonstrate mastery of the learning outcomes.

Following is a list of some items the AC examines when syllabi are submitted for review:

- Key words used in the learning outcomes should reflect the level expected of the learner.
- Learning outcomes should be stated in a manner that describes what the student will do.
- Learning outcomes should be stated in a manner that makes them measurable.
- If a course outcome also reflects an Essential Competency (EC), then the code for the EC must be linked directly to the course outcome.
- The syllabus should include a means to assess the outcomes. This should be a three column table, or alternative format, that shows each learning outcome, each applicable EC, and how each will be assessed.

In conclusion, the AC hopes to ensure that a new or revised course addresses the assessment issues in the course by having clearly stated learning outcomes and assessment expectations in the Master Syllabus. Having such an assessment plan in writing helps to ensure that all faculty are aware of the assessment requirements for all courses.
**Cornerstone Project**

Many assessment projects are aligned with the Academic Quality Improvement Program (AQIP), which is an alternative accreditation process developed by the [Higher Learning Commission](https://www.hlc.org) of the North Central Association of Colleges and Schools, and serves as HCC’s guide to accreditation.

Beginning with what were deemed the "Cornerstone" courses in our General Education Program (those with the highest enrollment), the Cornerstone Project was an intensive course revision process with the aim of linking course learning outcomes to Essential Competencies (Critical Thinking, Problem Solving, Communication, and Diversity) and developing meaningful assessments for those Program outcomes. The project coordinated the efforts of the General Education Program faculty to ensure that faculty have both a common understanding of our Essential Competencies and that they assess those outcomes in ways that reflect that common understanding.

**Yearly Assessment Projects**

With the Cornerstone Project completed in Spring 2013, the College developed a plan to examine assessment practices and student achievement of Essential Competencies across the curriculum. Each academic year, the AC coordinates a project that focuses discussion, training, and data collection on one of the most commonly assessed ECs. Instructors teaching a course with that competency are asked to complete an assessment form in which they detail their instructional practice, assessment method, and student achievement data for that competency.

The assessment practices and student achievement data are examined by a committee of faculty members during the following summer. Findings of the committee are presented at the College’s Best Practices session prior to the start of the fall semester. Strengths and weaknesses of the assessments are then used to provide feedback and training to faculty for the purpose of improving assessment efforts across the curriculum. In addition, student achievement data is used to determine how well students are achieving the important skill sets represented by the EC that was assessed. Information about each yearly project and full reports of each past project are available on the AC webpage.

**The Assessment Form**

Our approach to assessment continues with individual faculty. Each full-time faculty member must submit two assessment forms as part of the annual self-evaluation process. Part-time faculty members may also be asked to complete the form as part of their employment responsibilities.

The assessment form was developed to allow faculty members to reflect on their assessment activities. The intent was to allow faculty to make curricular changes based on their investigations of one learning outcome or competency each semester. The questions behind the creation of the form were basic. Are the students learning? How do you know?
By completing the form each semester, faculty are reflecting on their instructional and assessment practices and using their professional judgment to assess student learning. One primary goal was to have faculty link graded and non-graded assignments to the course outcomes. Another goal was to have faculty discuss their “findings” with another faculty member, an IDC staff member or their supervisor (Chair, Dean, or Program Coordinator). This goal was loosely based on the scholarship of teaching literature that advocates making classroom research public.

The assessment form includes a list of suggestions regarding assessment practices as well as the types of information instructors can include in each section of the form. The major sections are: Instructional Activity, Method of Assessment and Evidence of Student Learning, and Reflections on Instruction and Curriculum. The assessment form is available on the AC webpage and SharePoint site.

**Program Reviews**

Each instructional area is required to complete a Program Review Report for the Illinois Community College Board (ICCB) every 5 years. The Program Review process is designed to be consistent with HCC’s accreditation requirements (AQIP) and State Recognition (ICCB) requirements, while also facilitating meaningful and ongoing internal review of each Program’s effectiveness. A template is available that guides each program through the process. Each program then presents a preliminary review to the AC for feedback prior to developing its final report. The Program Review is designed to address the following questions:

- Who are we trying to help?
- What are we trying to accomplish?
- How well are we doing?
- Where are the program’s strengths?
- What are the current plans to improve the program?

**Assessment Resources**

**AC Webpage:** [www.heartland.edu/ac](http://www.heartland.edu/ac)

The AC webpage contains documents and forms that faculty use in their assessment efforts. It also includes the list of ECs, AC reports, and information about current assessment projects.

**AC SharePoint site:** [https://share.heartland.edu/sites/workcenter/543/default.aspx?InstanceId=1](https://share.heartland.edu/sites/workcenter/543/default.aspx?InstanceId=1)

The AC SharePoint contains most of the same information found on the webpage, and more. It also contains links to assessment websites, sample assessment forms, meeting notes and agendas, and other AC documents that are used less frequently than those on the webpage.
HCC’s Essential Competencies

Communication Competencies
Note: The term “message” in each of the first three competencies implies any form of communication – whether in written (essay, email, etc.), oral, or non-verbal modes.

<table>
<thead>
<tr>
<th>CODE</th>
<th>STATEMENT</th>
<th>QUALITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO1</td>
<td>Students compose a message and provide ideas and information suitable to the topic, purpose, and audience.</td>
<td>Students create a message using various structures, claims, support, credibility, etc., depending upon their topic, purpose, and audience.</td>
</tr>
<tr>
<td>CO2</td>
<td>Students effectively deliver a message via various channels/modalities.</td>
<td>Students prepare written, oral, visual, and/or experiential materials for an area of study.</td>
</tr>
<tr>
<td>CO3</td>
<td>Students listen in order to comprehend information, critique and evaluate a message, show empathy for the feelings expressed by others, and/or appreciate a performance.</td>
<td>Students determine what is expected of them as listeners in an interaction and respond appropriately.</td>
</tr>
<tr>
<td>CO4</td>
<td>Students are self-reflective of the communication process.</td>
<td>Students objectively analyze their own communication and modify it when necessary.</td>
</tr>
<tr>
<td>CO5</td>
<td>Students communicate ethically through monitoring their behavior and interactions with others.</td>
<td>Students recognize the meanings and values associated with their communication and take these into account during the communication process.</td>
</tr>
<tr>
<td>CO6</td>
<td>Students can recognize and negotiate differences.</td>
<td>Students develop and use appropriate conflict management strategies.</td>
</tr>
</tbody>
</table>

Critical Thinking Competencies
These are leveled from low (CT1) to high (CT4) and are meant to show a progression of the student. The progression is based on the Cognitive Domain of Bloom’s Taxonomy.

<table>
<thead>
<tr>
<th>CODE</th>
<th>STATEMENT</th>
<th>QUALITIES</th>
<th>DOMAIN LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT1</td>
<td>Students gather knowledge, apply it to a new situation, and draw reasonable conclusions in ways that demonstrate comprehension.</td>
<td>Students inquire into an unfamiliar situation given a strategy or concept. (Responding in a similar situation)</td>
<td>Applying</td>
</tr>
<tr>
<td>CT2</td>
<td>Students determine the value of multiple sources or strategies and select those most appropriate in a given context.</td>
<td>Students compare various perspectives, strategies or concepts and respond using the most appropriate alternative. (Making a decision)</td>
<td>Applying Analyzing Evaluating</td>
</tr>
<tr>
<td>CT3</td>
<td>Students generate an answer, approach, or solution through an effective synthesis of diverse sources and arguments and provide a rationale.</td>
<td>Students use creative thinking to produce a product, idea, or method that is new to them. (Designing your own)</td>
<td>Analyzing Evaluating Creating</td>
</tr>
<tr>
<td>CT4</td>
<td>Students actively reflect on their answer, approach, or solution and act upon those reflections to improve the final result.</td>
<td>Students justify, challenge, and revise their position, judgment, or conclusion through self-assessment and active reflection. (Reflecting upon one’s own thought process)</td>
<td>Evaluating Creating</td>
</tr>
</tbody>
</table>
### Problem Solving Competencies

These are leveled from low (PS1) to high (PS5) and are meant to show a progression of the student. The progression is based on the Cognitive Domain of Bloom’s Taxonomy.

<table>
<thead>
<tr>
<th>CODE</th>
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<th>QUALITIES</th>
<th>DOMAIN LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>PS1</td>
<td>Students can solve problems based on examples and frameworks provided by instructor.</td>
<td>Students can only solve problems that they are shown first. Students see answers as only being right or wrong. Students are highly dependent on the instructor.</td>
<td>Remembering Understanding</td>
</tr>
<tr>
<td>PS2</td>
<td>Students identify the type of problem and use a framework to solve the problem.</td>
<td>Students can solve problems different from those shown. Students recognize where the process broke down when incorrect answers result.</td>
<td>Understanding Applying</td>
</tr>
<tr>
<td>PS3</td>
<td>Students identify the type of problem and, from multiple problem solving methods, choose the best method and solves problem.</td>
<td>Students try to apply multiple strategies to solve problems. Students show ability to solve problems which have not been previously demonstrated by the instructor. Students are not as dependent on the instructor.</td>
<td>Applying Analyzing Evaluating</td>
</tr>
<tr>
<td>PS4</td>
<td>Students analyze the situation, explore different outcomes from multiple frameworks, apply the appropriate solution, analyze the results, and refine the solution.</td>
<td>Students see problem solving as a process and are not satisfied with the first answer to the problem - review answers for validity. Students transfer problem solving ability across the disciplines.</td>
<td>Applying Analyzing Evaluating</td>
</tr>
<tr>
<td>PS5</td>
<td>Students have the ability to define, interpret, and solve problems through collaboration with others.</td>
<td>Students have the ability to consult with students from other disciplines to solve problems in all situations. Students persevere until solution is found.</td>
<td>Analyzing Evaluating Creating</td>
</tr>
</tbody>
</table>

### Diversity Competencies

These are leveled from low (DI1) to high (DI5) and are meant to show a progression of the student. The progression is based on the Affective Domain of Bloom’s Taxonomy.

<table>
<thead>
<tr>
<th>CODE</th>
<th>STATEMENT</th>
<th>DOMAIN LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DI1</td>
<td>Students are receptive to beliefs and values that differ from their own.</td>
<td>Receiving</td>
</tr>
<tr>
<td>DI2</td>
<td>Students consider the views of others in light of those persons’ experiences and particular understandings.</td>
<td>Receiving Responding</td>
</tr>
<tr>
<td>DI3</td>
<td>Students reflect upon the formation of their own perspectives, beliefs, opinions, attitudes, ideals, and values.</td>
<td>Valuing</td>
</tr>
<tr>
<td>DI4</td>
<td>Students explain the contributions of diverse perspectives to the development of various fields of inquiry and to society as a whole, and re-examine their own values and beliefs in light of the insights they have gained from their study of other cultures.</td>
<td>Organizing</td>
</tr>
<tr>
<td>DI5</td>
<td>Students consistently and characteristically approach diversity issues in a manner that exemplifies respect for and appreciation of difference.</td>
<td>Characterizing</td>
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