

Overview

What should students be taught in the years between pre-kindergarten and grade 12? How can we determine whether students are learning what we want them to learn? And how do we determine whether the instructional strategies we are using actually succeed in helping students learn health concepts and skills? Standards and meaningful assessment are valuable tools in answering these questions. Assessment serves a variety of purposes for teachers, students, administrators, other school personnel, family members, policy makers, business leaders, community members, and institutions of higher education.

This section introduces assessment and assessment systems, identifies the purposes and principles of assessment, and discusses standards-based assessment, curricula, and instruction, and describes the various types of assessment.

Standards-based education is closely linked to assessment. Standards-based education demands clear identification of what students should know and be able to do. Standards should guide all decisions related to assessment, curriculum, and instruction, with the focus always on student learning.

For schools to be successful in achieving academic standards, it is essential for stakeholders in the schools, districts, and states to assess student learning, the instructional environment, and instructional programs. All individuals who are responsible for devising, administering, or overseeing the instructional program in the school must take a serious look at their role in guaranteeing that students are learning and making academic progress. The South Dakota Health Education Standards (SDHES) identify the essential concepts that students should know and the essential skills students should be able to do. Assessment provides the evidence that determines whether students have met the standards and performance indicators.

Standards and performance indicators are the foundation for assessment, curriculum, and instruction in health education. In a standards-based approach, assessments and assessment systems are aligned with standards and performance indicators. What we now know about learning indicates that assessment and learning are closely tied to each other. Because of this, it is important to clarify what we mean when we talk about assessment.

Clarifying Assessment

Assessment is a way to measure student learning and/or program effectiveness. Assessment informs teachers and others what health concepts and skills students have learned, how well they have learned these concepts and skills, and whether or not adjustments must be made to health education curricula, instruction or assessments. *Assessment systems* combine multiple assessments into a comprehensive format that provides thorough, valid, reliable, and trustworthy information for making decisions about students' achievement. Assessment of student achievement of the health education standards and performance indicators is an important component of local and state assessment systems. Data regarding student understanding of health concepts and skills are critical to making informed decisions related to health education curriculum and instruction in classrooms, schools, districts, and states.

In the past, educators have demonstrated effective means of *summative assessment*; the assessment of learning. Students of any era can recall studying a chapter or unit of a content area, followed by a quiz or test that revealed how much information was retained from the lessons and/or activities implemented. There remains a need for summative assessment as it measures student performance based on established standards and criteria and usually leads to a report on student achievement or level of proficiency.

Research shows many benefits of incorporating various methods of *formative assessment*, the assessment for learning, to achieve and maximize instructional outcomes. *Formative assessment* continually measures student performance to guide instruction and enhance student learning. Emphasizing assessment for learning is perhaps more important than emphasizing assessment of learning because formative, or classroom-based assessment, can improve understanding of health concepts and skills and thus improve performance on summative or high-stakes assessments. An understanding of the purposes of summative and formative assessment is essential to making decisions related to assessment and assessment systems.

Purposes of Assessment

Summative and formative assessments serve many purposes in health education. Summative assessments document student achievement of health standards. Summative assessments, used in conjunction with formative assessments, can clarify the curriculum and instruction students will need to achieve the standards.

Formative assessment is “*A process used by teachers and students during instruction that provides feedback to adjust ongoing teaching and learning to improve students’ achievement of intended instructional outcome.*” – Council of Chief State School Officers, Formative Assessment for Students and Teachers, State Collaborative on Assessment and Student Standards (CCSSO FAST SCASS)¹

In examining the above definition, two words stand out in the importance of implementing true formative assessment. They are “feedback” and “adjust.” Formative assessment differs from summative assessment in its ability to give students meaningful feedback to enhance learning *prior* to being issued a passing or failing grade. Educators need a deep understanding of what meaningful feedback involves. According to Grant Wiggins, leading expert and author on formative assessment, meaningful feedback “tells you what you just did. Feedback is information you can use. It’s descriptive and useful information about what you did and didn’t do in light of a goal.”²

The second prominent word in this definition of formative assessment deals with the time given students to “adjust” their understanding of knowledge or performance of skills. Summative assessment is an end point, whereas formative assessment gives students sufficient time to make adjustments to enhance their learning. Therefore, the sooner meaningful feedback comes into play, the better for students.

“Assessment should promote growth (formative) and then verify it (summative).”³

Teachers use both formative and summative assessments to evaluate student learning, assign grades, and communicate with students and their families about student progress. Formative and summative assessments also provide important information for planning, implementing, and evaluating services and interventions designed to support student learning.

To select and administer quality assessments, a clearly defined purpose is essential. There are several important questions to consider when using an assessment:

How will the results of the assessment be used?

- To inform curriculum and instruction?
- To assign a grade?
- To document students' achievement of a standard and/or performance indicator?

What concept and/or skill is being assessed?

- What level of knowledge of the concepts and/or ability to demonstrate health skills is being assessed: remembering, understanding, applying, analyzing, evaluating, or creating?

What curriculum and instructional activities are needed to ensure that students have the opportunity to develop the knowledge and/or skill they need to succeed on the assessment?

What resources are available for developing, conducting, and scoring the assessment and communicating the results of the assessment?

By answering these questions, teachers and other school personnel can decide the assessment activity or activities that best meet their needs.

Uses of Assessment Linked to Standards

Another important question is: What are possible uses of assessment linked to the SDHES? The SDHES tied to assessment measures can be used for developing, refining, or evaluating assessment and assessment systems. For example:

- Teachers, curriculum directors, and other school personnel can use the standards to guide assessment reform in classrooms.

- Teachers, curriculum directors, and other school personnel can use the standards in their continuing professional development.
- Institutions of higher education, especially those involved in teacher preparation, can use the standards in their own instructional and assessment practices.
- Community, parent, advocacy, and business organizations can use the standards to evaluate and help improve student assessment systems.
- Policymakers who are developing new systems of assessment at the national, state, and district levels can use the standards to redefine the role of large-scale assessment and ensure support for classroom-based assessment.
- Educational researchers can use the standards to design, research, and conduct evaluations of schools and school systems.

Guiding Principles of Assessment

There are key guidelines related to the appropriate development and use of assessment and assessment systems by classroom teachers, school administrators, and state and national policymakers.

These key principles include the following:

- Promotion of student learning;
- Alignment of standards, assessment, curriculum, and instruction;
- Use of a variety of equitable, valid, and reliable assessments that ensure flexibility to meet the needs of a diverse student body;
- Provision to students of clear information about performance criteria;
- Provision to students of multiple opportunities to apply and master health-related concepts and skills, and ongoing feedback to enhance their learning of these concepts and skills;
- Provision to students and family members of information regarding student achievement; and
- Ongoing review and improvement of assessments and assessment systems.

Assessment for learning in health education includes giving students:

- Explicit information about the health concepts and skills that will be covered by an assessment;
- Clear performance targets prior to instruction;
- Clear evaluation criteria;
- Multiple models or demonstrations of excellence;
- Multiple opportunities to learn, practice, and apply health concepts and skills;
- Assessments in which they create products and performances that are authentic in the application of health concepts and skills;
- Support for assuming responsibility for learning;
- Opportunities to engage in regular self assessment;
- Opportunities to build their confidence as learners; and
- Frequent and specific feedback that gives them insight about ways to improve.

Assessment for learning in health education also includes continual modification of instruction based on the results of classroom assessment and involvement of students in communication with their families about their progress toward, and achievement of, health literacy.

Standards-Based Assessment, Curriculum, and Instruction

We know that a guiding principle of assessment is the alignment of standards, assessment, curriculum, and instruction. The link between assessment, curriculum, and instruction can be thought of as a continuous cycle in which the assessment of standards and performance indicators informs curriculum, curriculum informs instruction, instruction informs assessment, and evidence from the assessment once again informs curriculum (**Fig. 4.2**). Approaches to standards-based assessment, curriculum, and instruction include *backward design*.

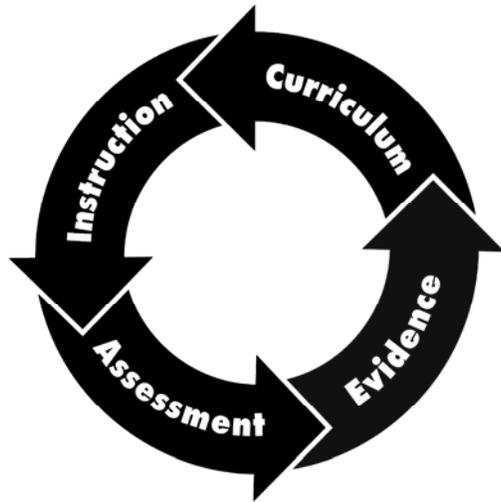


Figure 4.2 The diagram depicts a continuum in which standards, curriculum, instruction, and assessment work together 1) to ensure that students achieve health literacy and 2) to provide an effective tool to direct future health education policy. Copyright © 2003 CCSSO ~ SCASS Health Education Assessment Project

Backward Design

Planning in a standards-based environment is often called “backward” because it “begins with the end” in mind. In a standards-based classroom, “the end” that teachers concentrate on involves the standards and performance indicators (what students should know and be able to do) that have been identified as those that students must meet at the end of the grade or course that they are in (versus completion of a particular activity or project, chapters in a book, or a packaged curriculum). Standards and performance indicators help clarify that what students are doing on a day-to-day basis is tied to the outcomes sought for the school year and for their entire pre-kindergarten through grade 12 educational experience. Assessments aligned to standards and performance indicators allow the students to recognize what they should know and be able to do “at the end” of instruction and practice. The evidence of student learning provides direction for curriculum and instruction.

Clarifying curricular priorities is another key component of backward design. Curriculum and assessment decisions are made based on the desired end result. The desired end result in health education is the set of health concepts and skills that students should know and be able to do to become health literate and practice healthy behaviors.

Backward design is a three-step approach to aligning standards, assessment, curriculum, and instruction with a specific goal in mind. ⁴ (**Fig. 4.3**)

- The **FIRST STEP** in backward design is to use standards and performance indicators to identify the health concepts and skills that students should know and be able to do.
(What should students know and be able to do?)
- The **SECOND STEP** is to identify assessments that will provide evidence of students' achievement of these concepts and skills.
(How will we know if students have achieved the desired results and have met the standards? What will we accept as evidence of student understanding and proficiency?)
- The **THIRD STEP** is to plan learning experiences and instruction that give students the opportunity to practice and master health concepts and skills.
(What instructional activities will we need in order to match the selected learning goals and planned assessment?)

Although these three steps outline an approach to the design of assessment, curriculum, and instruction, it is important to understand that these steps are interconnected and that there will be interplay between the development and implementation of assessments, curriculum, and instruction.

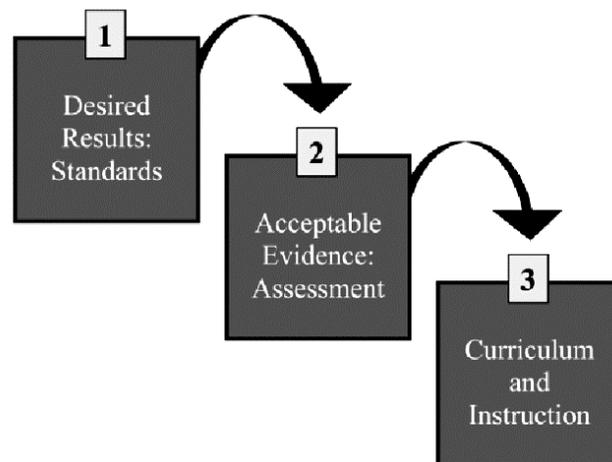


Figure 4.3 The backward-design approach to standards-based assessment, curriculum, and instruction. Standards arise from the desired results; assessment provides evidence that students are meeting or not meeting standards, which allows educators to shape curricula and instruction. Adapted, with permission, from Stages in backward design process. G. Wiggins and J. McTighe in *Understanding By Design, Expanded 2nd Edition*, 2005. Alexandria, VA: ASCD, 2005. Copyright © 2005 by Association for Supervision and Curriculum Development. Reprinted with permission

Backward design requires that teachers, administrators, and other school personnel make adjustments to teaching and learning in four key ways.⁴ First, the assessments that are used to measure students' knowledge of health concepts and ability to perform health skills must be well thought out prior to the development of lessons. Second, favorite activities and projects may need to be revised or eliminated in order to have assessments aligned with the SDHES and performance indicators. Third, the methods and materials used for teaching health concepts and skills are chosen *after* teachers, administrators, and other school personnel have established the tasks that students must complete to demonstrate their knowledge and skills. Fourth, the resources used to support instruction in health education may shift from textbooks to a wide variety of materials such as the Internet, information from governmental agencies (e.g., Centers for Disease Control and Prevention), and/or voluntary health organizations (e.g., the American Cancer Society).

Identification and development of assessments prior to the development of curriculum and instruction has many instructional dividends for teachers and students. It helps teachers more accurately analyze health concepts and skills that are included in assessments. By doing so, teachers can provide clear criteria, instruction and opportunities for students to practice and develop proficiency in health knowledge and skills.

Types of Assessment

Assessment items vary according to the type of response that students are asked to provide by a question, a written prompt or a demonstration. Assessment items lie on a continuum, from informal to formal assessment. Different types of assessment items are emphasized in formative assessment (observation of students' ability to perform a skill during classroom instruction) and summative assessment (questions on a test). The goal of formative assessment is to improve student achievement as well as classroom instruction. The goal of summative assessment is individual student accountability – a measure of what the student knows and does not know, and can and can not do.

The two major types of assessment items include *selected response items* and *constructed response items* (Fig. 4.4). Selected response items are questions in which the students are prompted to select an answer from two or more response options. Examples of selected response items include multiple

choice, true/false, and matching items. Constructed response items are questions in which students are prompted to construct an answer to the question. Examples of constructed response items include short answer, essay, or other types of responses. Selected response and constructed response items are most commonly used on quizzes and tests to assess student understanding of health concepts and skills. *Performance tasks* require students to actively demonstrate what they know and can do.

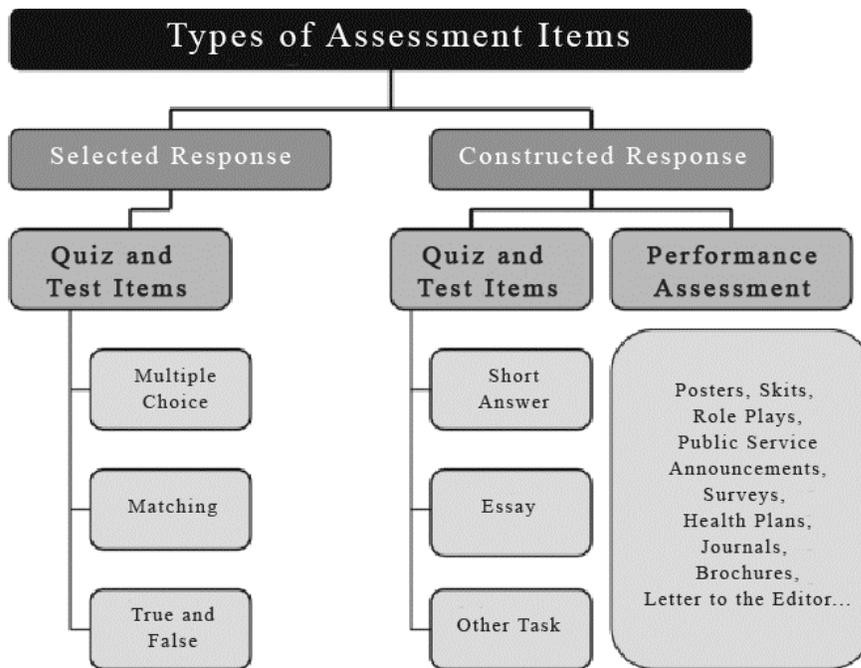


Figure 4.4 The different types of assessment

Performance assessment is often referred to as *alternative assessment* or *authentic assessment*. Performance assessment requires students to create a product or performance which demonstrates mastery of one or more health concepts and skills. (see **Fig. 4.4**). An “authentic assessment” generally refers to the real-life tasks and everyday situations that children and adolescents face. Performance assessments are often a more valid indicator of a student’s knowledge and skills as they require a demonstration of learning.

Rubrics

Rubrics provide students with clear criteria for a specific assignment, and teachers with a guide when scoring students' work. A typical rubric includes assessment criteria and a numeric or proficiency scale (basic, proficient, advanced) designed to rate students' work.

A holistic rubric requires the teacher to score the overall process or product as a whole, without judging the component parts separately.⁵ In contrast, with an analytic rubric, the teacher scores separate, individual parts of the product or performance first, then sums the individual scores to obtain a total score.^{5,6}

A Continuum of Assessment

The types of assessment may be placed on a continuum of informal to formal assessment strategies (Fig. 4.5). At the informal end of the continuum are checks for understanding; performance tasks fall at the formal end. Classroom-based assessment utilizes the full continuum of activities. It is important to match the types of assessment used with the purpose of assessment and the desired student outcomes.

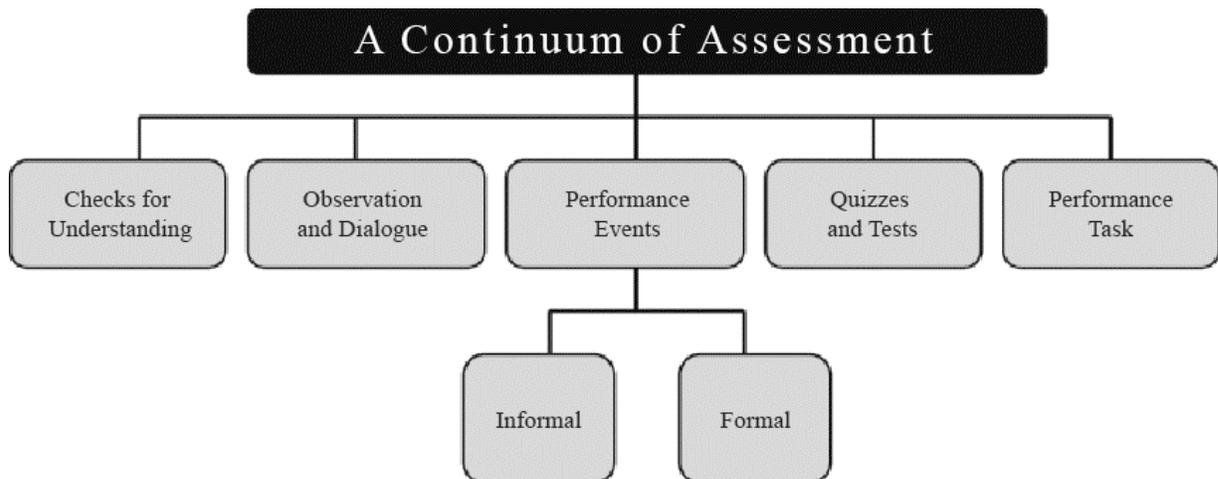


Figure 4.5 A continuum of assessment, from informal (checks for understanding) to formal (performance tasks). Adapted, with permission from *A Continuum of Assessment*. In G. Wiggins and J. McTighe: *Understanding by Design, Expanded 2nd edition*, 2005. Alexandria VA: ASCD. 2005. Copyright 2005 by Association for Supervision and Curriculum Development. Reprinted with permission.

Assessment linked to health education standards, performance indicators, curriculum, and instruction is critical to students' mastery of health concepts and skills. Assessment in health education serves a variety of purposes and provides important information for making decisions for students, schools, districts, and states. There are a variety of valid assessments that range from a simple check for understanding to high-level performance tasks. The use of an assessment should be matched to a purpose, and clearly-defined rubrics should be used to help guide students from the beginning of a task to its final appraisal. Finally, recognizing the value of both formative assessment and summative assessment in the educational process is vital to reaching the level of health literacy, which will ultimately support healthy behaviors.

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