Setting Instructional Outcomes

Setting Instructional Outcomes

Standards provide teachers with the map and compass to navigate through the learning process. Instructional outcomes present the student with manageable steps along the learning journey. Student motivation increases when learning steps offers the incentive of challenge and authenticity. The student may give up if a learning step reaches too far. The skillful teacher collaborates with the student to set challenging but attainable outcomes. Student success or failure can appear more obviously in situations such as challenging physical exercise. A core element of the *Outward Bound International* curriculum includes an emphasis on "experiences that involve uncertain outcomes and acceptable risks" (Philosophy: Outward Bound International, n.d.). In practical terms, a student who is adequately prepared and successfully climbs a challenging rock face or easily canoes through a swift river will feel a sense of achievement and is likely to move forward and seek greater challenges. The same student, if not properly prepared for a severe rock climbing trial or an intimidating canoe trip, will disengage from the challenge. Intended learning will not occur. Exactly the same principal applies to academic challenges in the classroom. The expectations of the outcome should encompass a challenge for the student to fulfill. Understanding the wording of the outcome should not be a challenge. Wording should be clear and the task should seem appealing.

Osters & Tiu (n.d.) distinguish between learning [instructional] outcomes and programmed outcomes [standards]: "Broadly speaking, there are two types of outcomes: learning outcomes and program outcomes. Learning outcomes describe what students are expected to demonstrate and program outcomes describe what a program is expected to accomplish" (p. 1).

Instructional outcomes allow teachers to select and organize program and course content that align with appropriate assessments and instructional strategies. Instructional outcomes empower students to prioritize their effort, monitor their own progress, and operate within a clearly understood set of expectations. A syllabus, including instructional standards, describes the subject matter in terms of topics and content. Instructional outcomes describe what students will be able to do with that content. According to A Guide to Writing Student Learning Outcome Statements (2012), the University of Western Australia defines a learning [instructional] outcome as "a statement of what a learner is expected to know, understand or be able to do as a result of a learning process."

An examination of U.S. based and international curricula reveals a variety of terms synonymous with instructional outcomes. Examples include: student goals, learning outcomes, student objectives, and instructional objectives. Educators are not consistent in their usage of these terms and, for example, often use the term goals to mean program goals rather than student goals. Pennsylvania Department of Education (PDE) uses the term *instructional outcomes*. This unit is focused on the type of descriptors that are phrased primarily for the benefit of students.

Instructional outcomes are used to describe three categories of learning; understanding, skills and dispositions. A taxonomy of thinking skills, such as that developed by Bloom, may be used to further subdivide types of learning and match any instructional outcome to a skill level. Low level thinking skills, such as simple recall of knowledge, are the easiest to teach and assess. Higher level skills, such as analyze, synthesize and create are more demanding to teach and assess, but are more transferrable as authentic skills for life. A program of study should reflect a range of levels. Dispositions, such as curiosity and integrity are different from understanding and skills in that they are encouraged and reinforced but not formally assessed.

The distinguished teacher takes account of students' developmental stages and prior learning experience. Appropriate and rigorous instructional outcomes match the capabilities and needs of a group of students. Instructional outcomes are addressed using a range of classroom strategies that take account of the needs of each student. For example, students with learning disabilities often respond well to shorter, staged tasks. Gifted students often succeed best with open-ended, extended tasks. Student feedback gathered from assessments, observations, conversations and student reflections is used to adapt instructional outcomes and select complementary learning activities.

Information Alignment

Materials presented in this eBook align with the following:

Module Questions

- How can appropriate, measurable, and clear instructional outcomes improve professional practice and effectively support student learning?
- How can a balance of different types of learning outcomes that address understanding, skills, and disposition improve student learning?
- How can a better understanding of student needs improve the process of setting clear, appropriate, and rigorous instructional outcomes?

Learning Outcomes

- Determine and explain key elements of appropriate instructional outcomes.
- Compose instructional outcomes that are rigorous, sequentially appropriate, clear, viably assessed, and reflective of student needs.
- Analyze how different types of learning can be integrated into instructional outcomes.
- Examine how instructional outcomes can be aligned to the PA Core Standards.

Topic Focus

Aligning instructional outcomes with standards, including the PA Core Standards

Writing instructional outcomes
- Clarity
- Rigor
- Using a curriculum to guide outcomes
- Viably assessed
- Appropriate to individual student learning needs

Understanding and composing outcomes for different types of student learning
- Knowledge and understanding
- Skills-based
- Dispositions

Table of Contents

At time of publishing, all of the website information was accurate. Due to the nature of the internet, some of the website information may have changed or become unavailable. Please see the references section of the corresponding online module for the most up-to-date information.

Table of Contents

Aligning Instructional Outcomes With Standards

Learning outcomes are derived from curriculum standards. Teachers develop learning outcomes that reflect the intent of the standards, incorporate local examples, and are appropriate to the developmental stage and prior learning of students in the class. Instructional outcomes are created by teachers with the appropriate standards in mind. According to the Guiding Strategies for PA Core Standards Implementation Plan (2013), "The tools provided by the Pennsylvania Department of Education are intended for guidance purposes only. Educators are free to utilize the resources and tools that fit their redesign plans. The standards continue to be the foundation upon which to build a locally designed curriculum." (p. 1).

The Florida Department of Education (2012) advises that teachers should account for a number of parameters when composing outcomes. Key factors include the transference of understanding between disciplines, inclusion of all students in terms of their learning needs, specificity in wording, a time frame that is realistic for students, and a set of learning activities that allows students to demonstrate their attainment of the outcomes (p. 3). A key characteristic of a good instructional outcome is that it describes what a student will *learn* [knowledge, skill or disposition] rather than what they will *do* [learning activity].

The Pennsylvania Department of Education (PDE) provides teachers with a set of standards across a range of subject areas and at age appropriate levels. Below are some possible examples of learning outcomes that generate from a PDE Core Standards.

Beginning with the eligible content descriptor: "*S8.B.3.1.3: Explain relationships among organisms (e.g., producers/consumers, predator/prey) in an ecosystem,*" some possible instructional outcomes could be:
- Students will define the terms producer, consumer, predator, prey, and ecosystem
- Students will, given visual or written descriptions of an ecosystem, draw a diagram of a food chain showing at least three organisms

Beginning with the eligible content descriptor: "*7.1.3.B: Identify and locate places and regions as defined by physical and human features,*" a possible instructional outcome could be:
- Students will, using a map or directory, recognize place names that are derived from peoples' names or from physical features of the landscape.

Writing Instructional Outcomes

According to the Center for Teaching Excellence at USC: Learning Outcomes (n.d.), learning outcomes help faculty to:
- decide what to teach
- decide how best to teach
- decide how best to assess learning
- communicate expectations to students

and help students by:
- creating a connection between teaching and learning, between teachers and students
- taking much of the guessing out of the student's attempt to learn
- enabling them to truly master the content of the course

Rudolph & Scharff (2008) note that "learning outcomes should be student-centered, measurable and clear." A student-centered outcome is expressed in active language that addresses expectations for the student, not the teacher. Measurability of an outcome ensures that the student may be effectively evaluated and assessed based on how well he or she achieves the outcome. Vague or general outcomes are difficult to assess while clear and concise outcomes effectively measure the students' actions.

Strategies for Effective Lesson Planning: CRLT (2012), offers a set of questions designed for the teacher to use as prompts when specifying appropriate instructional outcomes. They include: "What is the topic of the lesson? What do I want students to learn, understand, and be able to do at the end of class, take away from this particular lesson?"

Williamson, Chow, & Pallant (2011) offer the definition, "The intention of learning outcomes is to give students more idea of what is expected of them during the course they are undertaking." The expectations include knowledge and understanding, applications and practical skills, and intellectual and transferable skills. Some skills may be subject specific; others may apply to multiple fields of learning. Williamson et al. (2011) advocate that to better help students understand what is expected of them—on the program or module—they often benefit from the use of well-chosen verbs to describe the action and adverbs. This helps to qualify the extent of the outcome.

According to How To Write Objectives Outcomes (n.d.), instructional outcomes provide the specifics that allow students to know what to learn, and for teachers to know what to teach. The outcomes may be categorized in three learning domains:
- The cognitive domain includes knowledge and understanding and is the most straightforward of the three to specify and assess.
- The behavioral domain is made up of skills such as reading, calculating, or swimming.
- The affective domain is composed of dispositions such as culturally aware or curious and is the most challenging to assess objectively.

Clarity

Careful wording is paramount to the creation of well-crafted instructional outcomes. Simple language is preferable to non-essential jargon and abbreviations. Teachers create learning outcomes with wording intended for the student. Expectations should be easy to understand. A well-composed instructional outcome is objective, specific, and measurable or observable using an appropriate student-assessment tool. A clear instructional outcome describes the expectations for the result of a lesson or course of instruction. A Clear Guide to Writing Objective Statements (n.d.) maintains that the statement should include descriptions of what the student will achieve, how they will do it, and an indication of the level of accuracy that is expected.

Here are some illustrative examples of strong and poor instructional outcomes:
- "demonstrate a knowledge of valley formation" is a **poor** instructional outcome. It is imprecise and does not help the student to anticipate how he/she should prepare for an assessment.
- "using contour maps and photographs, recognize and explain the formation of v-shaped, u-shaped and flat-floored valleys" is a **strong** instructional outcome because it clearly states what the student should be able to do and outlines the context for learning.

Examples of instructional outcomes with and without jargon:
- "paint pictures using and mixing primary color paints and make interdisciplinary links with science classes" is a **poor** learning outcome because the term *interdisciplinary links* is not likely to be part of student vocabulary.
- "use and mix primary color paints to make a picture and talk about the mixed colors using subtractive color the-

ory learned in science classes" is a **strong** learning outcome because it uses language with which the student is familiar.

Wording should concentrate on the intended learning rather than the process. For example, the phrase "is able to dissect a pollinated flower" is a statement about an activity. A strong phrase (with a focus on learning) would be "understand the functions of components of a pollinated flower." It may be that the technique of dissection, or a virtual simulation of dissection, is used as a supporting learning activity.

Bannister (2002) explains how verbs that infer an active response from the student lend greater precision to the outcome. Strong examples would include: list, describe, evaluate, identify, design, construct, and solve. Poor, passive, examples would be: know, understand, appreciate, be aware of, and be familiar with.

Rigor

Academically rigorous instructional outcomes are likely to be met with student success because they are precise and thorough. A rigorous outcome is written with assessments in mind. Analysis of the assessment tool may necessitate a breakdown of the learning outcome into smaller components, each of which must be mastered in order to successfully complete the assessment. Verbs, taken from familiar taxonomies and used in the wording of the outcome (Figure 1), ensure that an action is specified for the student (Perkins, 2008).

Twenty-first century students operate in an increasingly digital environment. A vocabulary of new, digitally specific words has arisen. Familiar words, such as browse, take on new meanings in a digital context. According to Churches (2009), "An increasing influence on learning is the impact of collaboration in its various forms. These are often facilitated by digital media and are increasingly a feature of our digital classrooms." The table below indicates verb examples for writing both traditional and digital outcomes and is arranged according to taxonomies of cognitive levels.

Bloom's Taxonomy	Webb's Depth of Knowledge	Suggested Verbs for Traditional Outcomes	Suggested Verbs for Digital Outcomes
Knowledge	Recall and Reproduction	Define, describe, identify, know, list, memorize, name, present, quote, relate, recall, show, state	Bookmark, list, locate, network, recognize, search
Comprehension	Recall and Reproduction	Arrange, calculate, clarify, conclude, discuss, explain, illustrate, locate, review, select, summarize	Advanced search, Boolean search, blog, categorize, comment, tag, subscribe
Application	Skills and Concepts	Apply, categorize, classify, compare, demonstrate, examine, graph, interpret, modify, practice, predict, solve, use	Edit, execute, implement, load, operate, play, run, share, upload
Analysis	Strategic Thinking	Analyze, appraise, assess, compare, contrast, criticize, debate, differentiate, distinguish, formulate, investigate, revise	Attribute, crack, integrate, link, mash, map, outline, reverse-engineer, structure
Synthesis	Extended Thinking	Assemble, compose, construct, create, design, develop, manage, modify, organize, propose, specify, support	Collaborate, comment, critique, detect, moderate, monitor, network, test, post, validate
Evaluation	Extended Thinking	Argue, assess, choose, defend, evaluate, judge, measure, rate, select	Animate, blog, build, construct, design, podcast, program, publish, mix, remix, video blog, videocast, wiki

Figure 1: Cognitive verbs for traditional and digital outcomes.

Usage and testing prove the integrity of a curriculum. Student feedback about activities, assessments, and written instructional outcomes provides essential data needed to measure and review the success of a curriculum. Types of assessment, differentiated strategies, classroom strategies, and culture of the classroom all contribute to the successful achievement of outcomes by students. Well-chosen instructional outcomes target the capabilities of a typical student. The associated assessment tool and rubric provide the possibility for students to achieve or exceed the basic expectations of the outcome.

Instructional outcomes do not exist in isolation. Rather, they form part of the student's holistic learning experience and take into account the year on year articulation of learning.
Danielson (2011) asserts that "they are connected by a sequence of learning both in the discipline and in related disciplines" (p. 54). Danielson also maintains that "the important ideas in a discipline are grounded in multiple instances of the same idea. For example, general characteristics of revolutions can only be understood by examining a number of revolutions through history" (p. 51).

A component's relative importance within a set of instructional outcomes may be considered by using Miklova's (2012) questions below:
- What are the most important concepts, ideas, or skills I want students to be able to grasp and apply?
- Why are they important?
- If I ran out of time, which ones could not be omitted?
- And conversely, which ones could I skip if pressed for time?

Teachers firstly decide what their students should learn and secondly communicate those decisions to students. The choice of appropriate

wording for learning outcomes ensures that students encounter an appropriate balance between the levels of thinking skills used in their learning process.

Using a Curriculum to Guide Outcomes

Many definitions exist for the term curriculum. We are assuming that curriculum includes all of the core and added content, teaching strategies and materials, and assessments. Usage and testing prove the integrity of a curriculum. Student feedback about activities, assessments, and written instructional outcomes provides essential data needed to measure and review the success of a curriculum. Types of assessment, differentiated strategies, classroom strategies, and culture of the classroom all contribute to the successful achievement of outcomes by students.

Curriculum maps make links between learning outcomes and standards across grade levels and between subject areas. They constitute an accessible record of student learning throughout a school curriculum. Curriculum Model - Curriculum Mapping 101 (n.d.), "Maps are designed to provide *authentic evidence* of what has happened or is being planned to happen in a school or throughout a district. Encouraging frequent individual and collaborative revisiting, reviewing, and renewing of available data." The instructional outcome is the one source of data that precisely describes what skills and content a student is expected to learn.

Viably Assessed

Assessment of student performance may be achieved using a variety of techniques. Stiggins, Arter, Chappuis, J. & Chappuis, S. (2004), suggest the following four categories of assessment tools:
1. Selected response and short answer
2. Extended written response
3. Performance assessment
4. Personal communication

Answers to **selected response and short answer assessments** are generally graded right or wrong. Formats include multiple response, fill in the missing word, matching words, and short answer.

Extended response assessments require a written response of at a least a few sentences in length. Answers may be graded using an assessment rubric or by tallying the number of correct points included in the answer.

Performance assessment is used for performances, such as playing music and creating extended products like written projects or works of art. Additionally, it may be used for assessing the performance of a skillful task such as throwing a javelin or titrating chemical solutions. Grading may use an assessment rubric or can be a simple tally of correct points achieved.

Formative assessment by personal communication tends to be less formal. It involves giving feedback to students while observing them in action or by discussing a piece of work.

All four of the methods described could be used for both formative or summative assessment. The distinction lies with how the teacher uses the information from the assessment. Formative assessment is characterized by timely feedback and a willingness to modify learning activities in order to address the needs of students. Summative assessment is used primarily to measure student performance against the intended instructional outcomes and is often used to generate grades for school reports or transcripts.

Stiggins et al. (2004) assert that all four of the above assessment methods are viable options and should be selected based upon instructional outcomes, the purpose of the assessment, and the characteristics of students such as learning abilities and age. Two questions are asked before selecting the method of assessment.
- What is the purpose of the assessment?
- What are the instructional outcomes to be assessed?

Selected response assessment instruments offer the advantages of speed and efficiency. Stiggins et al. (2004) recommend the use of selected response questions for the assessment of discrete knowledge such as "important history facts, spelling words, foreign language vocabulary, and parts of plants."

Teachers create assessments in order to measure the level of student success at attaining the instructional outcomes. The resultant feedback to students serves to aid learning by indicating the degree of progress and in the right environment will encourage and motivate. A complementary view is that assessments provide teacher feedback about the effectiveness of their classroom practice. When students are involved in the process of planning outcomes and assessment they are likely to progress in challenging and measurable steps. Outcome Based Assessment (2009), illustrates the process by which a teacher and student may interact and agree on the next step for an assessment task.

Instructional outcomes and assessment are closely linked to student reporting. Meaningful, personalized anecdotal reporting comments may link directly to the outcomes a student completely or partially achieved. For example, "Chris successfully created and displayed a scaled timeline of significant events using the information in her chosen reader, Holes, by Louis Sachar." The reporting comment in this case is really an instructional outcome expressed in the past tense.

Wiggins & McTighe (2004) promote a three stage process of backward design that begins with the instructional outcome. The steps are "1.

Identify desired results, 2. Determine acceptable evidence, 3. Plan learning experiences & instruction" (p. 2). The crucial part of this process is the creation of the assessment together with the instructional outcome before any learning activities are planned. The assessment is aligned, as it should be, with the instructional outcomes.

Appropriate to Individual Student Learning Needs

According to Bashinski (2002), four factors may be varied in order to accommodate the diverse needs of students: "instructional strategies, instructional materials, curricular content, assessment practices." Differentiated instruction takes into account individual learning preferences and provides students with a choice of experiences and assessments that reflect a range of learning styles and differences in prior learning. Bashinski (2002) suggests, especially with younger students in mind, assessment tools that are based upon alternative learner responses, including: "collage, sculpture, pantomime, dramatic portrayal, musical composition, motoric demonstration, photographic presentation, or graphics display." Shields-Ramsay et al. (2010) describe categories of expression for assessment purposes as "writing, making, doing and saying" (p. 55).

Meeting the Needs of Diverse Learners (2012) makes recommendations to address the needs of a diverse range of student needs that may be founded in cultural and socioeconomic differences. Universal Design for Learning is comprised of a set of three principles to address the diverse needs of students:
- "Provide multiple representations of information (e.g., printed or spoken text, vocabulary support, strategies and devices to support memory and transfer).
- Provide for multiple forms of expressing and acting on learning (e.g., written and voice responses, word processing, word prediction software, and other assistive technology).
- Provide for multiple ways to engage students (e.g., individual choices, collaborative work tasks, setting of personal goals and expectations)."

Teachers are provided with a four-step planning process that begins with the creation of instructional outcomes:
- "established learning goals aligned to state and local standards,
- analyzed the existing curriculum and classroom composition for potential barriers to student learning,
- applied the three principles [above] of UDL to develop lessons and instructional units, and
- implemented the lessons."

Motivated students are more likely to succeed. Activities that appeal to the student and bring the possibilities of enjoyment and fun are more likely to result in engagement and learning. Making a choice from a range of activities empowers the student and demands responsibility for the learning process. Available choices should take account of students' learning styles, interests and prior learning. The choice may be about the process of learning, the product described in the instructional outcome or between individual and group work contexts. Some students may need more time than others in order to complete a task. Teachers may need to plan the lesson so that meaningful alternative activities are in place for fast finishers. Shields-Ramsay et al. (2010) advise that students may need explicit training in how to make successful choices in this context and offer a set of best practices to guide the teacher when offering choice. Platforms for offering choice include choice boards and activity menus.

Choice boards. A sample choice board (Figure 2) for a language class on the theme of travel and culture could be:

Choice Board: Travel and Culture Unit.

Directions: Choose three boxes to form a tic-tac-toe row. My chosen boxes are #_____ #_____ #_____

1 Verb Practice Play a game of charades using 10 new verbs you learned this week.	2 Question Practice Survey classmates to find out their favorite holiday choices.	3 Vocabulary Practice Write a 7–10 line travel report using travel and culture vocabulary.
4 Question Practice Create 10 questions to ask about someone's favorite holiday.	5 Vocabulary Practice Design a crossword puzzle using vocabulary related to travel and culture.	6 Verb Practice Design a 10-question quiz using verbs about travel and culture.
7 Vocabulary Practice Watch a travel video clip and make a list of 10 key words used in the video.	8 Verb Practice Draw a picture to represent each of the new verbs.	9 Question Practice Create a song that will help you remember the new words.

Figure 2: Choice board sample.

2-5-8 Menus. Another option, the 2-5-8 Menu (Figure 3), provides students with a controlled degree of choice and ensures that learning activities address thinking skills above the level of knowledge and understanding. Students choose two activities with a combined value of 10 points. Variations of the 2-5-8 Menu exist for more long-term or involved projects.

2-5-8 Menu

Directions: Students choose two activities with a combined value of 10 points.

2 points Knowledge & Comprehension	Activity Instructions
Activity choice #1	
Activity choice #2	
Activity choice #3	

5 points Application & Analysis	Activity Instructions
Activity choice #1	
Activity choice #2	
Activity choice #3	

8 points Synthesis & Evaluation	Activity Instructions
Activity choice #1	
Activity choice #2	
Activity choice #3	

Figure 3: 2-5-8 Menu template.

Advanced and gifted students are known to respond to self-initiated projects, open-ended activities, solving problems that have many possible solutions, and opportunities to pursue avenues of personal interest. Kingore (2011) describes how advanced and gifted students respond well to projects they care about and are prepared to devote extra personal time when given autonomy and responsibility for their learning. Teachers are recommended to involve students in the design of the learning process, including instructional outcomes, and encourage the inclusion of more high level thinking skills.

Learning disabled students benefit from adaptations such as additional oral instructions, frequent progress checks, and immediate feedback. Short and concise activities are likely to be more successful than extended projects. Clayton (2007) recommends reference to student expectations documented in an individualized educational plan. Instructional outcomes for the target student should be prioritized, reduced in number and made less complex when compared with outcomes designed for the majority of students.

Understanding and Composing Outcomes for Different Types of Student Learning

Three broad categories of instructional outcomes are knowledge and understanding, skills, and dispositions.

Writing Objectives (2007) details a four-stage process for creating an instructional outcome: audience, behavior, condition, and degree. **Audience** refers to school students in our examples. **Behavior** describes what the student is expected to do. **Condition** qualifies the context such as prior learning. **Degree** indicates the expected level of mastery. An example from the cognitive domain could be: *the student/ given a suitable set of raw data/ will be able to categorize using a Venn diagram/ and correctly display intersections.*

An important sequence when planning lessons is to create the instructional outcome first and only then plan activities that enable students to achieve the outcome. In a short video, Dr. Marcia J. Jackson explains how student-based activities may be designed by starting with the intended outcome and selecting activities to match (Jackson, 2011).

Stiggins et al. (2004) provide a matrix to assist in the selection of assessment tools for categories of student learning (p. 99). The four proposed categories of learning are "knowledge mastery, reasoning proficiency, performance skills, ability to create products." The types of assessment are "selected response, extended written response, performance assessment, personal communication."

A single area of the curriculum could easily generate instructional outcomes for the three domains (see more details below) of knowledge, skills, and dispositions.
- For example, a study of the causes of the First World War could require, as a knowledge outcome, "the student will be able to list the main events that preceded the start of the first world war."
- A skills-based outcome could be "the student distinguishes between original and secondary historical sources when considering the causes for the start of the first world war."
- A dispositional outcome could be "the student cares about avoiding war and conflict in the future."

Knowledge and Understanding

The domain of knowledge and understanding is weighted heavily in traditional curricula. Knowledge and understanding is the most straightforward of the domains to teach and assess, often using selected response instruments.

Norman Webb's Depth of Knowledge Levels (DoK) categorizes tasks according to the complexity of thinking required to successfully complete them (Aungst, 2014). The Center for Learning and Teaching at UNC Charlotte also presents a taxonomy based upon the work of L. W. Anderson & L. A. Sosniak (The Bloom's Taxonomy of Educational Objectives, n.d.). Descriptions of knowledge-based goals include:
- recall, or recognition of terms, ideas, procedure, theories
- translate, interpret, extrapolate,
- apply abstractions, general principles, or methods to specific concrete situations
- separation of a complex idea into its constituent parts
- the distinction between hypothesis
- the distinction between relevant and extraneous variables
- creative, mental construction of ideas and concepts from multiple sources
- judgment of ideas or methods using external evidence or self-selected criteria

Skills-based

Skills are referred to in a number of taxonomies used by educators. Some definitions limit skills to actions that include a physical or psychomotor component. This is a wider definition to include thinking skills. Lucas & Claxton (2009) define a skill as "a learned capacity to do something useful" (p. 9). Skills range from the simple and specific to the complex. For example, a simple skill could be the ability to fasten a shirt button while a more complex one may be partnering a new student with a buddy in order to make him or her feel welcome.

Webb's Depth of Knowledge and Bloom's Taxonomy both indicate descriptive language that facilitate students' skill-based abilities in making decisions. These include tasks with more than one mental step like comparing, organizing, and summarizing.

Dispositions

Dispositions are the habits of mind, some such as curiosity, persistence, and risk-taking, enable the learning process. Simple skills may become dispositions if put into practice. For example, a student may exhibit the skill of being able to communicate effectively. The same student exhibits a disposition if he or she practices the skill and consistently communicates effectively. Some of the competencies named in the PDE Curriculum framework could be described as dispositions. Examples include, *make decisions, value diversity, share authority (when appropriate)*.

According to Lucas & Claxton (2009), there is a "yawning chasm between school *skills* and *life skills*" (p. 9). The term "wider skills" is used to encompass some of the values, attitudes, dispositions, and orientations displayed by learners. Lucas & Claxton describe "dispositions as something close to character in thought and action" and add that orientations are "more settled dispositions" (p. 10). Lucas & Claxton suggest that wider skills such as dispositions are best cultured in the classroom by consistently inviting, rewarding, and exemplifying those that are deemed to be valuable (p. 21).

Assessment of dispositions proves more of a challenge. Teachers, especially from early childhood schools, have developed techniques such as learning stories captured with photographs and video, teacher observations, portfolios, diaries, and reflections. There are currently no attempts to grade dispositions such as collaboration or risk-taking.

The relative value of dispositions may vary depending upon the interested party. Academic institutions may focus on lifelong learning. Employers may wish for dispositions of responsibility, punctuality, and reliability in their recruits.

The *Visible Thinking* project from Harvard University's Project Zero asserts that "really good thinking involves abilities, attitudes, and alertness, all three at once." It also emphasizes routines that promote the acquisition of dispositional thinking based upon the three ideas of fairness, truth, and creativity (Visible Thinking, n.d.).

David Krathwohl, considered the father of the affective domain, created a taxonomy that is perhaps the best known of any of the affective taxonomies (Wilson, 2014). Teachers can use the cognitive taxonomies more frequently but should consider using the affective taxonomy when designing instruction that includes any group work, collaboration, or any exercises that provide the potential for growth in feelings or emotional areas. This taxonomy is presented in five stages: Receiving, Responding, Valuing, Organization, and Characterization.

Conclusion

Faculty commitment to the use of instructional outcomes moves the learning focus away from curricular coverage and towards student achievement. Teachers are able to make teaching decisions by creating learning outcomes together with associated and realistic assessments. Students are provided clear expectations for learning, are able to understand course requirements and anticipate assessment requirements without ambiguity or guesswork.

Instructional outcomes may be designed to suit the learning needs of a specific group of students and can—under the umbrella of learning standards—reflect local resources and learning opportunities. The wording of the instructional outcome infers the learning domain and level of thinking required, ranging from simple recall to more complex creative skills. A formulaic approach to writing instructional outcomes, such as subject-verb-object, works well and ensures clarity and rigor. Instructional outcomes provide the data to identify links between subjects and to map the articulation of student learning year on year. Where designated, by districts or government, the learning standards are a fixed requirement. Instructional outcomes are where the individual teacher may demonstrate their professional skills by developing an appropriate learning needs of students in their class.

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