

COMPETENCY 1

UNDERSTAND HUMAN DEVELOPMENT, INCLUDING DEVELOPMENTAL PROCESSES AND VARIATIONS, AND USE THIS UNDERSTANDING TO PROMOTE STUDENT DEVELOPMENT AND LEARNING

SKILL 1.1 Demonstrates knowledge of the major concepts, principles, and theories of human development (physical, cognitive, linguistic, social, emotional, and moral) as related to young adolescents and adolescents

To be successful, a teacher must have a broad knowledge and thorough understanding of the development that typically occurs during the students' current period of life. More important, the teacher must understand how children learn best during each period of development. The most important premise of child development is that all domains of development (physical, social, and academic) are integrated. Development in each dimension is influenced by the other dimensions. Moreover, today's educator must also have knowledge of exceptionalities and how these exceptionalities affect all domains of a child's development.

Physical Development

It is important for the teacher to be aware of the physical stage of development and how the child's physical growth and development affect the child's cognitive learning. Factors determined by the physical stage of development include:

- Ability to sit and attend
- The need for activity
- The relationship between physical skills and self-esteem
- The degree to which physical involvement in an activity (as opposed to being able to understand an abstract concept) affects learning

Cognitive (Academic) Development

Children go through patterns of learning, beginning with preoperational thought processes, and they move to concrete operational thoughts. Eventually they begin to acquire the mental ability to think about and solve problems in their heads because they can manipulate objects symbolically. Children of most ages can use

symbols such as words and numbers to represent objects and relations, but they need concrete reference points. To facilitate cognitive development, it is essential that children be encouraged to use and develop the thinking skills that they possess in solving problems that interest them. The content of the curriculum must be relevant, engaging, and meaningful to the students.

Social Development

Children progress through a variety of social stages. First, they begin with an awareness of their peers but have a lack of concern for the presence of these other children. Young children engage in “parallel” activities, playing alongside their peers without directly interacting with one another. Next, during the primary years, children develop an intense interest in peers. They establish productive, positive social and working relationships with one another. This stage of social growth continues throughout the child’s formative period including the primary, middle, and high school years. It is necessary for teachers to recognize the importance of developing positive peer-group relationships and to provide opportunities and support for cooperative small group projects that not only develop cognitive ability but also promote peer interaction. The ability to work and relate effectively with peers is of major importance and contributes greatly to the child’s sense of competence. In order to develop this sense of competence, children need to be successful in acquiring the knowledge and skills recognized by their culture as important; in the United States, among the most important are those skills that promote academic achievement.

SKILL 1.2 Identifies sequences (milestones) and variations of physical, cognitive, linguistic, social, emotional, and moral development of students

See also Skill 1.1

Students at the middle level are continually undergoing physical and emotional changes and development.

Students at the middle level are continually undergoing physical and emotional changes and development. No matter how well we might try to prepare them for this, they have no point of reference within their own life experiences. Everything that is occurring to them is new and unfamiliar to these students and often makes them uncomfortable about themselves and in the company of others. Often these physical, hormonal, and emotional changes will occur in spurts, moving some ahead of their peers, in general, and leaving some behind. In most cases, the individual feels different and often is treated as different by his or her peers. The

student may feel socially awkward, and this may be reflected in schoolwork and especially in classroom participation. The teacher must be sensitive to the issues of a developing child and aware of the impact this may have on student learning, classroom decorum, and the cohesion among classmates that the teacher is trying to foster.

Adolescent Development

The teacher of students in later childhood and early adolescence should have a broad knowledge and understanding of the phases of development that typically occur during this stage of life. And the teacher must be aware of how receptive children are to specific methods of instruction and learning during each period of development. A significant premise in the study of child development holds that all domains of development (physical, social, and academic) are integrated; development in each dimension is influenced by the others. Equally important to the teacher's understanding of the process is the knowledge that developmental advances within the domains occur neither simultaneously nor parallel to one another, necessarily.

A significant premise in the study of child development holds that all domains of development (physical, social, and academic) are integrated; development in each dimension is influenced by the others.

Impact of physical changes

Early adolescence is characterized by dramatic physical changes moving the individual from childhood toward physical maturity. Early, prepubescent changes are noted with the appearance of secondary sexual characteristics. Girls experience a concurrent rapid growth in height that occurs between the ages of about 9.5 and 14.5 years, peaking somewhere around 12 years of age. Boys experience a concurrent rapid growth in height that occurs between the ages of about 10.5 to 11 and 16 to 18, peaking around age 14.

The sudden and rapid physical changes that young adolescents experience typically cause this period of development to be one of self-consciousness, sensitivity and concern over one's own body changes, and excruciating comparisons between oneself and peers. Because physical changes may not occur in a smooth, regular schedule, adolescents may go through stages of awkwardness, both in terms of appearance and physical mobility and coordination.

The sudden and rapid physical changes that young adolescents experience typically cause this period of development to be one of self-consciousness, sensitivity and concern over one's own body changes, and excruciating comparisons between oneself and peers.

The impact of these physical changes on individual students is to make them more self-aware, more self-conscious, and more self-absorbed. Constant comparison with peers developing at different rates will cause many individuals to feel inadequate or inferior, at least at times. While remaining sensitive to the genuine, emotional response of early adolescents to changes they cannot control and do not fully comprehend, the teacher will find it necessary to be more proactive in bringing students out of themselves and becoming interactive participants in the classroom learning experience.

SKILL 1.3 Recognizes the range of individual development differences in students within any given age group and the implications of this developmental variation for instructional decision making

Knowledge of age-appropriate expectations is fundamental to the teacher's positive relationship with students and being able to utilize effective instructional strategies. Equally important is the knowledge of what is individually appropriate for the specific children within a classroom. In this way, teachers are able to approach classroom groups and individual students with a respect for their emerging capabilities and meet the developmental needs of their students.

Differences in Development

Developmentalists recognize the fact that children progress through common patterns but may do so at different rates. These rates cannot typically be accelerated by adult pressure or input. Developmentally oriented teachers understand that variances in the school performance of different children often result from differences in their general developmental growth. With the establishment of **inclusion classes** throughout the schools, it is vital for all teachers to have a complete understanding of the characteristics of students' various disabilities and the possible implications on learning.

Selecting Learning Activities

The effective teacher selects learning activities based on specific learning objectives. Ideally, teachers should not plan activities that fail to augment the specific objectives of the lesson. Learning activities should be planned with a learning objective in mind. **Objective-driven learning activities** tend to serve as a tool to reinforce the teacher's lesson presentation. Additionally, teacher-selected learning objectives should be aligned with state and district educational goals. State and district goals should focus on National Educational Goals (Goals 2000), and the specific strengths and weaknesses of individual students assigned to their class.

Activities for younger students

Learning activities selected for younger students (below age eight) should focus on short time frames and be in a highly simplified form. The nature of the activity and the content in which the activity is presented affects the approach the students will use to process the information. Younger children tend to process information at a slower pace than children aged eight and older.

The effective teacher selects learning activities based on specific learning objectives.

The effective teacher is cognizant of students' individual learning styles as well as human growth and development theory. He or she then applies these principles to the selection and implementation of appropriate classroom instructional activities.

Activities for older students

On the other hand, when selecting and implementing learning activities for older children, teachers should focus on more complex ideas. Older students are capable of understanding more complex instructional activities. Moreover, effective teachers maintain a clear understanding of the developmental appropriateness of activities selected.

SKILL 1.4 **Identifies ways in which a student's development in one domain (physical, cognitive, linguistic, social, emotional, and moral) may affect learning and development in other domains**

Elementary-age children face many changes during their early school years, and these changes will impact how learning occurs in either a positive or negative manner. Some **cognitive developments** (i.e., learning to read) may broaden their areas of interest as students realize the amount of information (i.e., novels, magazines, nonfiction books) that is available. On the other hand, a young student's limited comprehension may inhibit some of their confidence (emotional) or conflict with values taught at home (moral). Joke telling (linguistic) becomes popular with children aged six or seven, and children may use this newly discovered "talent" to gain friends or social "stature" in their class (social). Learning within one domain often spills over into other areas for young students.

Learning and Adolescent Development

Likewise, learning continues to affect all domains as a child grows. Adolescence is a complex stage of life. While many people joke about the awkwardness of adolescence, it is particularly important to remember that this stage of life is the stage just before adulthood. While people do indeed develop further in adulthood, the changes are not as quick or significant as they are in adolescence.

Development within domains refers to the fact that different aspects of a human change as they mature. Some examples are:

1. **Physical changes:** Body growth, sexuality
2. **Cognitive changes:** Better ability to reason
3. **Linguistic changes:** A child's vocabulary develops further
4. **Social changes:** Figuring out identity
5. **Emotional changes:** Changes in ability to be concerned about other people
6. **Moral changes:** Testing limits

Interconnectedness of adolescent development

The important thing to remember about adolescent development within each of these domains is that they are not exclusive. For example, physical and emotional development are tied intricately, particularly when one feels awkward about his or her body, when emotional feelings are tied to sexuality, or when one feels that he or she does not look old enough (as rates of growth are obviously not similar). Moral and cognitive development often go hand-in-hand when an adolescent begins to identify reasons for behavior or searches for role models.

It is important, as an educator, to be sensitive to changes in adolescents. Just because a change in one area is not apparent does not mean there aren't changes in another area, hidden beneath the surface.

Problems not related to changes

Another area of extreme importance when dealing with adolescents is to realize that they may be deeply hurt over certain issues that may or may not be directly related to the changes they are going through at a specific time. It is particularly important for educators to be on the lookout for signs of depression, drug use, or other damaging activities, behaviors, or symptoms.

See also Skill 1.1

SKILL 1.5 Applies knowledge of developmental characteristics of students to evaluate alternative instructional goals and plans

See Skill 1.3

SKILL 1.6 Selects appropriate instructional strategies, approaches, and delivery systems to promote students' development and learning

No two students are alike. It follows, then, that no students learn alike. All students have the right to an education, but there cannot be a singular path to that education. A teacher must acknowledge the variety of learning styles and abilities among students within a class (and, indeed, the varieties from class to class) by applying multiple instructional and assessment processes to ensure that every child has appropriate opportunities to master the subject matter, demonstrate such mastery, and improve and enhance learning skills with each lesson.

To apply a one-dimensional instructional approach and a strict tunnel vision perspective of testing is to impose learning limits on students.

Direct Instruction and Lectures

It is traditionally assumed a teacher will use **direct instruction** in the classroom. The amount of time devoted to it will vary according by the age of the class and other factors. Lecturing can be very valuable because it is the quickest way for transferring knowledge to students, and as they also learn note taking, the students are able to organize the new information. However, there are many cautions against using too much lecture in a class of any age. In the first place, attention span even of senior high school students is short when they are using only one sense—the sense of hearing. Teachers should limit how much lecture they use and how long the lectures last.

Most teachers find students enjoy the learning process when lecturing is limited, and the students themselves become active in and responsible for their own learning. Students' attitudes and perceptions about learning are the most powerful factors influencing academic focus and success.

Learners must believe that the tasks that they are being asked to perform have some value and that they have both the ability and resources to perform them. If a student believes a task is unimportant, he or she will not put much effort into it. In addition, if a student thinks he lacks the ability or resources to successfully complete a task, even attempting the task becomes too great a risk. Not only must the teacher understand the students' abilities and interests, He or she must also help students develop positive attitudes and perceptions about learning tasks.

When instructional objectives center on students' interests and are relevant to their lives, effective learning occurs.

Differentiated Instruction

The effective teacher will seek to connect all students to the subject matter using multiple techniques, with the goal being that each student, through his or her own abilities, will relate to one or more techniques and excel in the learning process.

See also Skill 8.3

Cooperative Learning

See Skill 11.3

Alternative Assessments

ALTERNATIVE ASSESSMENT is an assessment where students create an answer or a response to a question or task. This is as opposed to traditional, inflexible assessments where students choose a prepared response from among a selection of responses, such as matching, multiple-choice, or true or false.

ALTERNATIVE ASSESSMENT: an assessment where students create an answer or a response to a question or task

Characteristics of alternative assessments

When implemented effectively, an alternative assessment approach will exhibit these characteristics, among others:

- Requires higher-order thinking and problem-solving
- Provides opportunities for student self-reflection and self-assessment
- Uses real world applications to connect students to the subject
- Provides opportunities for students to learn and examine subjects on their own, as well as to collaborate with their peers
- Encourages students to continuing learning beyond the requirements of the assignment
- Clearly defines objective and performance goals

Teachers realize the value of giving assignments that meet the individual abilities and needs of students. After instruction, discussion, questioning, and practice have been provided, rather than assigning one task to all students, teachers are asking students to generate tasks that will show their knowledge of the information presented. Students are given choices and thereby have the opportunity to demonstrate more effectively the skills, concepts, or topics that they, as individuals, have learned. It has been established that student choice increases student originality, intrinsic motivation, and higher mental processes.

COMPETENCY 2

UNDERSTAND LEARNING PROCESSES, AND USE THIS UNDERSTANDING TO PROMOTE STUDENT DEVELOPMENT AND LEARNING

SKILL 2.1 Analyzes ways in which development and learning processes interact

It is important for teachers to consider students' development and readiness when making instructional decisions. If an educational program is **child-centered**, it will surely address the developmental abilities and needs of the students because it will take its cues from students' interests, concerns, and questions.

Implementing Child-Centered Curriculum

Teachers help students to identify their own questions, puzzles, and goals, and they then structure for them widening circles of experiences and investigations of those topics. Teachers manage to infuse all of the skills, knowledge, and concepts that society mandates into a child-centered curriculum. This does not imply that teachers are passive and only respond to students' explicit cues; teachers also draw on their understanding of children's developmental characteristic needs and individual enthusiasms to design experiences that lead children into areas they might not otherwise choose, but that they do enjoy and find engaging. Teachers also bring their own interests and enthusiasms into the classroom to share and act as a motivational means of guiding children.

Planning

Implementing such a child-centered curriculum requires careful and deliberate planning. Planning serves as a means of organizing instruction and influences classroom teaching. Well thought-out planning includes:

- Specifying behavioral objectives
- Specifying students' entry behavior (knowledge and skills)
- Selecting and sequencing learning activities so as to move students from entry behavior to objective
- Evaluating the outcomes of instruction in order to improve planning

Making an educational program child-centered involves building on the natural curiosity children bring to school and asking children what they want to learn.

SKILL 2.2 Analyzes processes by which students construct meaning and develop skills, and applies strategies to facilitate learning in given situations (e.g., by building connections between new information and prior knowledge; by relating learning to world issues and community concerns; by engaging students in purposeful practice and application of knowledge and skills; by using tools, materials and resources)

BEHAVIORAL LEARNING: theory that suggests that people learn socially, by stimulation, or through repetition

Behavioral Learning

Historically, two main theories readily help describe how students construct knowledge, acquire skills, and develop habits of mind. The first theory is behavioral learning. **BEHAVIORAL LEARNING** theory suggests that people learn socially, by stimulation, or through repetition. For example, if you touch a hot stove, you learn not to repeat that action. Another example would be when a person makes a social error that leads to teasing or taunting; that person would likely learn acceptable social conventions. Learning by watching another complete an activity would be a third example of behavioral learning theory.

COGNITIVE LEARNING: theory that suggests that learning takes place within the mind

Cognitive Learning

The second broad theory is cognitive learning. **COGNITIVE LEARNING** theories suggest that learning takes place within the mind. It goes further to explain that the mind processes ideas through brain mapping and connections with other material and experiences. In other words, with behaviorism, learning is somewhat external. For example, we see something, and then we copy it. With cognitive theories, learning is internal. We see something, analyze it in our minds, and make sense of it for ourselves. Then, if we choose to copy it, we do, but we do so having internalized (or thought about) the process.

Behavioral and Cognitive Theories in Today's Classroom

Today, even though behavioral theories exist, most educators believe that children learn cognitively. Based on this information, teachers introduce new topics by relating those topics to information students may have already been exposed to or with which they are already familiar. In this way, the teacher is expecting that students will be able to better integrate this new information into their memories by attaching it to something that is already there. Or, when teachers apply new learning to real-world situations, they are expecting that the information will make more sense because it has been related to a real situation.

Today, even though behavioral theories exist, most educators believe that children learn cognitively.

In all of the examples given in this standard, the importance is the application of new learning to something concrete. In essence, what is going on with these examples is that the teacher is slowly building on knowledge or adding knowledge to what students already know. Cognitively, this makes a great deal of sense. Think of a file cabinet. When we already have files for certain things, it's easy for us to find a file and put new information into it. When we're given something that doesn't fit into one of the preexisting files, we struggle to know what to do with it. The same is true with human minds.

In all of the examples given in this standard, the importance is the application of new learning to something concrete.

SKILL 2.3 Demonstrates knowledge of different types of learning strategies (e.g., rehearsal, elaboration, organization, metacognition) and how learners use each type of strategy

Teachers should be familiar with several approaches to learning. The **interdisciplinary curriculum planning approach** creates a meaningful balance of both curriculum depth and breadth. Take for instance the following scenario:

Mrs. Jackson presents her Language Arts class with an assignment for collaborative group work. She provides them with the birth and death dates of the author Ernest Hemingway and asks them to determine how old he was when he died. She gives them five minutes as a group to work on the final answer. After five minutes, she asks each group for their answer and writes the answers on the board. Each group gives a different answer. When Mrs. Jackson comes to the last group, a female student asks, "Why do we have to do math in a Language Arts class?"

If the students had applied the knowledge learned from their basic math classes, they easily would have been able to solve the Language Arts question. The teacher was providing the students with a constructivist model by having them apply their knowledge of problem solving to pertinent information for a language arts' class. This type of learning should be an integral part of instructional practice in an interdisciplinary classroom.

Cognitive Learning and Interdisciplinary Curriculum

Centuries of educational research have shown a strong correlation between the need for interdisciplinary instruction and the application of cognitive learning skills. Understanding how students process information and create learning was the goal of early educators. Earlier researchers looked at how the brain connected information with meaning and found that learning occurs along intricate neural pathways. These paths formulate processing and meaning from data input into

Centuries of educational research have shown a strong correlation between the need for interdisciplinary instruction and the application of cognitive learning skills.

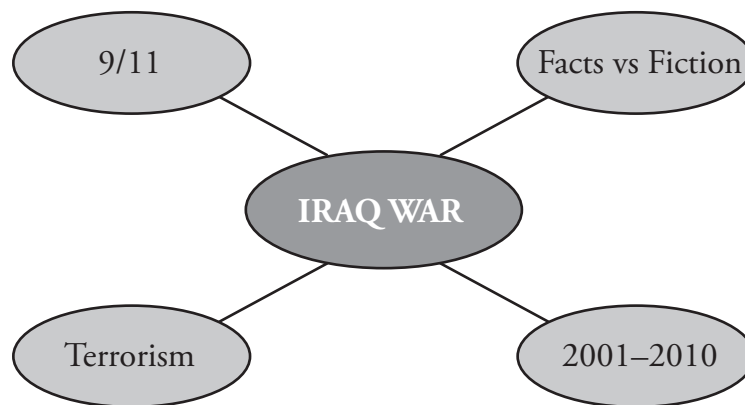
the brain. The implications of this information on teaching and student learning are vast. It can help teachers learn to work with students to break down subject content into bits of information that can be memorized, learned, and then applied to a former learning experience. Then the information is processed into integral resources of previously acquired information.

Brain learning theorists believe students formulate schematic structures of hundreds, often thousands, of interconnected and integrated bits of information that provide a framework for learning and meaning. The research of Ausubel (1968) explains the schematic structure of processing and “cognitive hooks” where students create links of connection in applying prior knowledge to new learning experiences.

Techniques for Interconnected Learning

Providing students with learning toolkits, such as clustering/mind mapping techniques, that provide organizational tools for large quantities of information is vital to the visual or tactile-kinesthetic learner. The figure shows a cluster of how students might establish associations between major and minor contexts using an example of the current events in Iraq.

The Making of a Conflict—Iraq



When students are provided opportunities in brainstorming sessions to construct meaning around specific content, they are able to create new meaning and expand upon prior knowledge of the event.

Teachers who utilize a diversity of instructional strategies in the classroom provide students with multiple styles of learning modalities, which for students can translate into academic and life successes.