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# Brown's Useful Guide: Where Theory Becomes Applicable to Classroom Practice

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# Brown's Useful Guide: Where Theory Becomes Applicable to Classroom Practice

*3rd Georgia Edition*

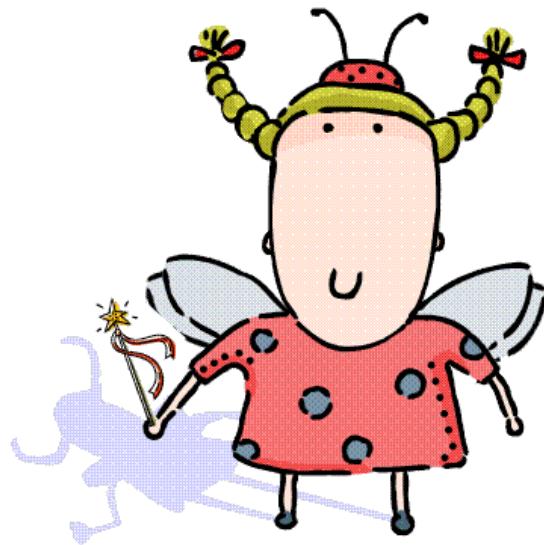
Jennifer L. Brown, Ph.D.  
Columbus State University

# **Brown's Useful Guide:**

## **Where Theory Becomes**

## **Applicable to Classroom Practice**

*3rd Georgia Edition*



**Jennifer L. Brown, Ph.D.**  
**Columbus State University**

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# Preface



**As an educational psychologist, it is important for me to show my undergraduate and graduate students how a particular theory applies to the day-to-day activities within the Classroom.**

The benefit of educational psychology is the application of the various learning theories from the abstract world of psychology into the practitioner's classroom. It is not as important for my students to remember a particular theory word for word, but I want them to implement it in their classroom so that their students can benefit from the years of educational research. Thus, I have written this textbook to illustrate those applications.

Not only have I written about the history of American education, Skinner's Behaviorism, and classroom management principles (to name a few), I have included peer-reviewed articles to explain concepts and

examples from my high school classroom and other teachers' classrooms to provide application. Each chapter begins with learning objectives to outline the intentions of the chapter. There are links to short videos to illustrate the presented concepts and interactive games to review those concepts. In addition, I have included various supplemental reading materials within CougarVIEW.

The beauty of this textbook is the user-friendliness and flexibility of the format. After downloading it, you can read it on your desktop, laptop, or other mobile devices. Some students may choose to print it partially or in its entirety. The flexible format should cater to everyone's preferred learning style. My hope is to give you, the student, a real-world experience regarding the importance of educational foundations and theories.

As we begin this journey, think about why you want to be a teacher. On the next page, you will find what other teachers say when asked the same question. Most people respond that they have a strong desire to work

with children and young adults. Now, pick a favorite, former teacher between your very first day of school and graduation day. Why was he or she your favorite teacher? How would you characterize or describe this teacher? How did this teacher encourage you to learn in his or her classroom? What instructional strategies and/or routines did he or she use when teaching? When examining these strategies and/or routines, how did you know they were effective? What general attitudes and/or beliefs were evident by how he or she conducted his or her classroom?

Next, think about four adjectives that describe a good and effective teacher. Did your favorite teacher exhibit all of those "good and effective" characteristics? How were these adjectives evident in the teacher's daily actions? For example, my adjectives were patient, organized, flexible, and creative. One of my favorite, former teachers in high school was my physical science and chemistry teacher. Regarding patience, if I did not understand the science concept, she would explain the



### Three Main Reasons Selected by All Teachers for Originally Deciding to Become a Teacher, 1971–2006 (%)

Reason	1971	1976	1981	1986	1991	1996	2001	2006
Desire to work with young people	72	71	70	66	66	68	73	71
Value or significance of education in society	37	34	40	37	37	42	44	42
Interest in subject-matter field	35	38	44	37	34	37	36	39
Influence of teacher in elementary or secondary school	18	21	25	25	27	31	32	31
Never really considered anything else	17	17	20	21	24	19	19	14
Influence of family	21	18	22	23	23	19	20	19
Long summer vacation	14	19	22	21	21	20	21	19
Job security	16	17	21	19	17	18	17	17
Opportunity for a lifetime of self-growth	21	17	13	10	8	11	11	8

*Status of the American Public School Teacher, 2005–2006 (NEA, 2010)*

concept again but using either different terminology or analogies. For organized, her lessons were well planned, and they had logical flow. As a student, I knew where the train was heading. Her classroom was nice, neat, and orderly without excess clutter. With respect to flexible, she would arrive at school early so I could work on my science project. I rode the school bus so I was unable to stay afterschool, but my Daddy could drop me off at 7 AM on his way to work. She always accommodated my schedule. For creative, she used science labs and demonstrations to illustrate and guide the learning of the science concepts. Also, all four of my years in high school, I studied acetylsalicylic acid (i.e., aspirin). Each year, she thought of different methods and research questions for me to conduct my science project. As we progress through the course together, keep this brief discussion in mind. These thoughts will establish the basis for your educational philosophy.

Lastly, I want you to think about the roles of a teacher in the 21st century classroom. Teaching is

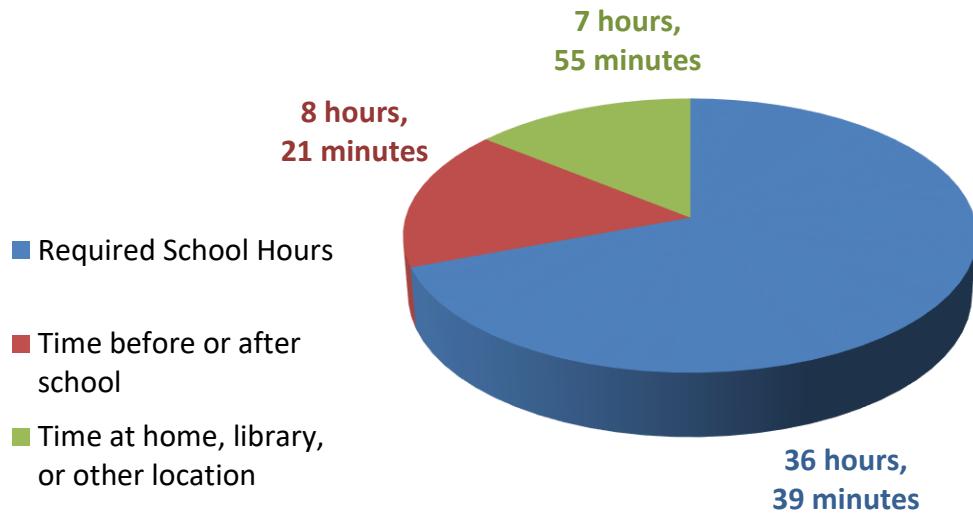
a career – not just a job. Many hours are spent outside of classroom instructional time to complete a variety of tasks necessary to be effective in the classroom. In a recent report by the Bill and Melinda Gates Foundation and Scholastic (2012), it revealed the average teacher works 53 hours per week. Of those 53 hours, approximately 37 hours are considered within the required school day (i.e., 8 AM until 3:30

PM). See the figure at the bottom of this page. According to that same report, a teacher spends:

- **4 hours and 49 minutes on classroom instruction,**
- **36 minutes on student supervision and discipline,**
- **45 minutes on planning, preparing, and collaborating,**
- **36 minutes on grading, documenting, and analyzing student work,**
- **14 minutes contacting parents, and**
- **23 minutes on break or lunch time (depending on the school).**

What are the roles that a teacher will fulfill in his or her classroom? View *Roles of a Teacher* within CougarVIEW. It depicts what I think are the current roles of an effective teacher. While working at the secondary level, I assumed many of them as a teacher and coach.

## How Teachers Spent Their Average Work Week



*Primary Sources: 2012 (Bill and Melinda Gates Foundation, 2012)*

# Unit I



## Foundations of Education

# Chapter 1: History of American Education



## LEARNING OBJECTIVES



1. Explain the rationale for learning educational history.



2. Discuss the impact of events and people during the various time periods in American Education.

**“Those who Cannot remember the past are condemned to repeat it.”** This popular quote by George Santayana (1905, p. 284), who was a Spanish-born American philosopher, can apply to many settings, including education.

### Why do we need to know the history of education?

As an aspiring classroom teacher, it is important to know the history of your future profession. When taking a closer look at the history, you will notice a pendulum swing of ideas. This pendulum swings back, forth, and between the extreme ideas throughout all periods of educational history. Surprisingly, there are some ideas that continue to persist in education that derive from the Colonial Period (1600 – 1776).

The history of American Education can be broken into five time periods: Colonial Period, Early National Period, Common School

Period, Progressive Period, and Modern Period. For each time period, the content will be presented in a timeline format.

### Colonial Period (1600 – 1776)

During the colonial period, the purpose of schooling was to learn the 4 R's (i.e., reading, writing, arithmetic and religion). It was an essentialist curriculum (see Chapter 2) infused with Protestant religious beliefs. (As a

side note, popular childhood games of the Colonial Period were marbles and hopscotch.)

Most children were educated at dame schools. At these dame schools, often at a kitchen table, boys and girls learned the 4 R's curriculum from a neighborhood lady or “dame” while she completed her daily household chores. These dames had minimal qualifications (i.e., basic education) but high moral qualifications.



"A New England Dame school in old colonial times" circa 1713.  
Retrieved from the Bettman Archive (Corbis Corporation, Seattle, WA).

**1636**

Harvard College was established in Cambridge, MA. The curriculum included classic academic course work based on the English university model but consistent with the prevailing Puritan philosophy of the first colonists. Many of the early graduates became ministers in Puritan congregations throughout New England, but the College was never formally affiliated with a specific religion.

**1600**

**1635**

First Latin Grammar School was established in Boston, MA. Only males of certain socioeconomic and social classes were considered for this school in order to prepare boys for higher education similar to the modern high school.



Retrieved from *Columbia Daily Tribune* (Russell, 2009).

**1647**

*Massachusetts Law of 1647 (Old Deluder Satan Act)* was passed. In response to the lack of compliance with the 1642 law, it required every town of at least 50 families to hire a teacher. Towns of at least 100 families were required to have a teacher for their Latin Grammar School.

**1642**

*Massachusetts Bay School Law* was passed. It required parents to see that their children knew how to read, fundamentals of religion, and capital laws of the commonwealth.

**1690**

The New England Primer was first printed in Boston, MA, by Benjamin Harris. It combined the alphabet lessons with Bible reading. It was used by students into the 19th century. Here is an example:

- A In Adam's Fall  
We sinned all.
- B Thy Life to Mend  
This Book Attend.
- C The Cat doth play  
And after slay.
- D A Dog will bite  
A Thief at night.
- E An Eagle's flight  
Is Out of sight.
- F The Idle Fool  
Is Whipt at School.



**1700**

**1693**

The College of William and Mary was established in Williamsburg, VA.

**1751**



Ben Franklin helped to establish the first "English Academy" in Philadelphia, PA. The curriculum included history, geography, navigation, surveying, and modern and classical languages. This academy became the University of Pennsylvania.

**1775**

American Revolutionary War began with the Battle of Lexington and Concord.

**1776**

Declaration of Independence was signed.

**1800**

The textbooks during the Colonial Period were a "hornbook", which was a wooden paddle with lessons tacked on and covered by a piece of transparent horn (hence the name). The wooden paddles measured approximately 2 ¾" by 5". The lessons were handwritten on parchment paper. The typical lessons included the alphabet, vowel and consonant combinations, and the Lord's Prayer.

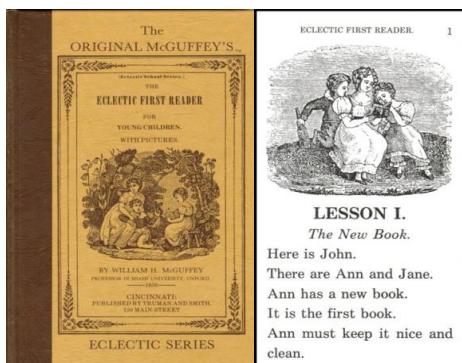
In the New England colonies, by age 9, the parents of the boys, who had mastered the curriculum at the dame school, had three options: (1) the boy could attend a Latin School and study Latin and Greek languages along with their literature in preparation for admittance to Harvard College; (2) the boy could train at home with his father's occupation; or (3) the boy could obtain an apprenticeship. For the apprenticeships, the boy (and girl on rare occasion) lived and worked with the craftsman for 7 years. The craftsman received an extra set of hands while the child learned the skills of the trade to be used in his or her own business. At the end of the 7-year contract, the apprentice left the craftsman and often opened his own "shop".

## Early National Period (1776 – 1840)

Children across the states and territories were encouraged to go to school during the beginning of the nation. For example, an excerpt from Article 3 of the *Northwest Land Ordinance of 1787* read, "Religion, morality, and knowledge being necessary to good government and the happiness of mankind, schools and the means of education shall forever be encouraged."

Thomas Jefferson viewed education of the common people as the most effective means of preserving liberty. For a society to remain free, it must support a continuous system of public education. He designed the *Bill for the More General Diffusion of Knowledge*, which called for state controlled schools that would teach at no cost to parents three years of reading, writing and arithmetic. The bill was presented in the Virginia House in 1778 and again in 1780, but it was not passed. A version of the original bill was passed into law in 1796 as an "Act to Establish Public Schools"; however, there were numerous changes compared to the original bill.

Another development during this period was the publishing of textbooks, such as the McGuffey Reader. Reverend William Holmes McGuffey wrote the books, which emphasized virtues of hard work, honesty, truth, charity, and obedience. In addition, school curriculum expanded to include science.



(Retrieved from [mcguffeyreaders.com](http://mcguffeyreaders.com))



1783

Noah Webster wrote the "blue-backed speller" because he felt schools needed an American language textbook. The book standardized spelling.

American Revolutionary War ended with the Treaty of Paris.

1787

The *Northwest Land Ordinance of 1787* provided land in the Great Lakes and Ohio Valley regions for settlement.

1791

The *Bill of Rights* was passed by Congress without mention of education; therefore, the 10th Amendment allowed education to become "a function of state".

1800

1812 - 1815

War of 1812

1829

New England Asylum for the Blind (now Perkins School for the Blind) opened in Boston, MA.

1839

The first state-funded normal school was opened in Lexington, MA, to provide specific training for teachers.

1779

Thomas Jefferson proposed a two-track educational system: "the laboring and the learned".

1785

The *Land Ordinance of 1785* required each township in the western territories to set aside one acre for public schools.

1788

*US Constitution* was ratified by the states without mention of education or school.

1792

Sarah Pierce opened the Litchfield Female Academy in Litchfield, CT. She believed that women and men were equal intellectually. The curriculum expanded over the years to include subjects that were rarely offered to girls, such as chemistry, botany, and mathematics.

1827

Massachusetts law required towns of more than 500 families to have a public high school.

1836

The first McGuffey Reader was published. The secular textbook became the most influential during the 19th century.

### 1837

Horace Mann became the Secretary of the newly formed State Board of Education in MA. He supervised the creation of common schools that educated all white children using a uniform curriculum.



### 1852

*Compulsory Attendance Act of 1852* was passed in MA. It required mandatory school attendance for children between 8 and 14 years of age for at least 3 months out of each year.

### 1862

*Morrill Act of 1862*, known as Land Grant College Act, was passed. It established higher education institutions in each state that would educate people in agriculture, home economics, mechanical arts, and other applied studies.

### 1865

The Bureau of Refugees, Freedmen, and Abandoned Lands, known as the Freedmen's Bureau, was created by Congress to assist for one year in the transition from slavery to freedom in the South.

### 1874

*Stuart v. School District No. 1 of Village of Kalamazoo*  
Michigan Supreme Court upheld the right of school boards to establish taxes for funding public high schools.

### 1881

Tuskegee Normal School for Colored Teachers was founded with Booker T. Washington as the first principal in Tuskegee, AL. In addition to training teachers, the school taught practical skills needed for life in the rural south.

## Common School Period

(1840 - 1880)

The common school movement began with the ideas of Horace Mann. Common schools were state supported to educate most children within the increasing diverse population. It was thought that education would increase stability and productivity and decrease crime and poverty. City residents, nontaxpayers, democratic leaders, philanthropist, and humanitarians were in favor of the movement. Rural residents, taxpayers, aristocratic and conservative groups, private school owners, conservative religious groups, Southerners, and non-English speaking groups were opposed to the common school movement. In 1885, 16 states had compulsory attendance laws, but most laws were ignored or infrequently enforced. Georgia (in 1916) and Mississippi (in 1918) were the last two states to pass compulsory attendance laws.

After the US Civil War, the common school movement included freed slaves. The Freedmen's Bureau created schools across the South to educate blacks. Since blacks previously were not allowed by law to be educated, there was a strong desire to learn how to read and write. Many freed slaves worked hard to establish schools despite the lack of approval by the white citizens.

### 1856



Retrieved from  
[www.andrews.edu](http://www.andrews.edu)

The first kindergarten was begun in Watertown, WI, by Margarethe Meyer Schurz, who learned the principles from its creator, Friedrich Froebel.

### 1861 - 1865

#### US Civil War

### 1867

Federal Office of Education, now the US Department of Education, was established to help states establish effective schools.

### 1868

Worcester Polytechnic Institute opened in Worcester, MA. The school was the first vocational school. It combined academics with hands-on learning in science and engineering.

### 1877

Reconstruction ends when President R. B. Hayes removes the last troops from the south. Segregation and discrimination (e.g., "Jim Crow" laws) were established.



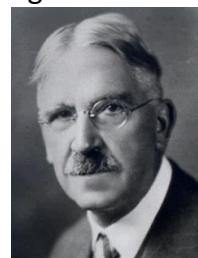
Image taken at the James's Plantation School in North Carolina. (Retrieved from latinamericanstudies.org)

## Progressive Period (1880 - 1920)

At the beginning of the Progressive Period, the Industrial Revolution was in full swing. Efficiency models used in business and industry carried over into the field of education. Elwood Cubberly, a turn-of-the century historian, stated that schools should be like factories where the teachers served as the factory workers and the students served as the raw material that needed manufacturing. Joseph Lancaster led a movement to establish schools that used what he called the Monitorial System, in which more advanced students taught less advanced ones, enabling a small number of adult masters to educate large numbers of students at low cost. The method was similar to the modern day peer tutoring. His method influenced the assembly-line methods of Frederick Taylor's scientific management.

Many parents sent their children to work in the factories or to work in the fields because the family needed the extra income to survive. At the dawning of the 20th century, state laws regarding child labor varied on content and enforcement. Compulsory attendance laws and child labor laws greatly influenced the often one-room schoolhouse. As school enrollment increased, the number of teachers increased. Thus, the role of principal and superintendent were created to supervise the increasing numbers of teachers and students. In addition, elementary and secondary students were separated into individual grade levels with specific curriculums for the given grade level.

John Dewey is considered the Father of the Progressive Education Movement.  
(Retrieved from [www.dewey.pragmatism.org](http://www.dewey.pragmatism.org))



A classroom on the Lower East side in New York City circa 1886.

Retrieved from Bettman Archive  
(Corbis Corporation, Seattle, WA)



Typical student desk from the early 20th century were made of hardwood and iron, organized in columns, and bolted to the floor. This desk was used between 1889 and 1919 in Watonwan, MN.  
(Retrieved from [www.mnhs.org](http://www.mnhs.org))

### 1892

The Committee on Secondary Social Studies, known as the Committee of Ten, recommended high School should consist of grades 7 through 12, courses should be arranged sequentially, students should be given a few electives in high school, and students should be permitted to graduate earlier so they could enter college.

### 1896

*Plessy v. Ferguson*  
US Supreme Court ruled "separate but equal" policies were legal.

### 1900

The College Entrance Examination Board was formed. It administered its first college entrance exams during the next year.

### 1900

**1906**  
The Carnegie Foundation for the Advancement of Teaching encouraged the adoption of a standard system for equating "seat time". The system became "Carnegie Units", which continues today at the secondary level.

### 1905

Alfred Binet published an article that described the Binet-Simon Scale development, which would identify students with mental retardation.

### 1916

Louis M. Terman completed the American version of the Binet-Simon Scale. It became a widely-used individual IQ test.

John Dewey's *Democracy and Education: An Introduction to the Philosophy of Education* was published.

### 1915

Eight states enacted physical education laws based on WWI concerns. The US wanted all men to be fit for battle.

### 1917

The Smith-Hughes Act was passed. It provided federal funding for agricultural and vocational education.

### 1917 - 1919

World War I

### 1918

The Cardinal Principles of Secondary Education were issued by the Commission on the Reorganization of Secondary Education. They provided objectives for secondary education.

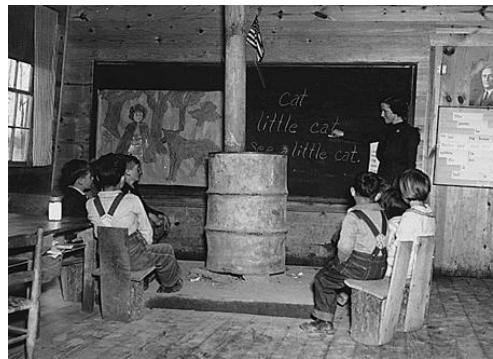
Robert Yerkes became Chairman of the Committee on Psychological Examination of Recruits. The committee developed a group intelligence test for screening recruits intellectual abilities (i.e., Army Alpha and Beta tests), which laid the groundwork for future standardized tests.

## Modern Period (1920 – present)

The Modern Period began with the decline in progressivism due to public criticism; however, there were lasting effects of progressivism, such as inquiry or discovery learning, self-paced instructional approaches, field trips, flexible scheduling, open-concept classrooms, non-graded schools, small group activities, and school-based counseling.

The grade levels were adjusted again during this period. The idea of junior high school, which served grades 7 and 8, began to flourish. By 1920, the number had grown to 883 in the US. By 1960, four out of five students attended a junior high school. Based on criticism that the junior high school was a watered down version of a senior high school, the concept of a middle school was created. These schools would implement developmentally appropriate programs for the students. In 1965, William Alexander and Emmett Williams recommended the creation of grade 5 through 8 middle schools. Currently, nearly 95% of this age group attends a middle school instead of a junior high school.

During this time period, there is an increased involvement in education by the federal government. In addition, numerous US Supreme Court rulings impacted the local classroom.



A classroom during the Great Depression in Alabama circa 1935. (Retrieved from [www.library.sussex.tec.nj.us](http://www.library.sussex.tec.nj.us))

**1926**

Scholastic Aptitude Test (SAT) was first administered. It was based on the Army Alpha test.

**1929**

Jean Piaget's *The Child's Conception of the World* was published.

The Great Depression began with the stock market crash.

**1944**

*GI Bill* was signed by FDR, which provided money for veterans to attend college.

**1954**



September 8, 1954 - Fort Meyers Elementary School in Fort Meyers, VA. (Retrieved from [www.nytimes.com](http://www.nytimes.com))

*Brown v. Board of Education of Topeka, KS*  
US Supreme Court ruled separate facilities were not equal.

**1957**

The Soviet Union launched SPUTNIK I, which was the first satellite to orbit the Earth.

Federal troops enforced integration at Central High School in Little Rock, AR.

**1925**

*Pierce v. Society of Sisters*  
US Supreme Court ruled Oregon could not compel all school-aged students to attend public schools.

*Tennessee v. John Scopes*, known as "the Monkey Trial", ended with a conviction of John Scopes, who was a high school biology teacher charged with teaching evolution.

**1938**



"In the Mill" by Lewis Hine, Pittsburgh, PA, 1909 .(Retrieved from [www.archives.gov](http://www.archives.gov))  
*Fair Labor Standards Act* was passed. It established federal guidelines for child labor.

**1941**

Several pieces of legislation passed that allowed married women to teach.

**1941 - 1945**

World War II

**1950 - 1953**

Korean War

**1955**

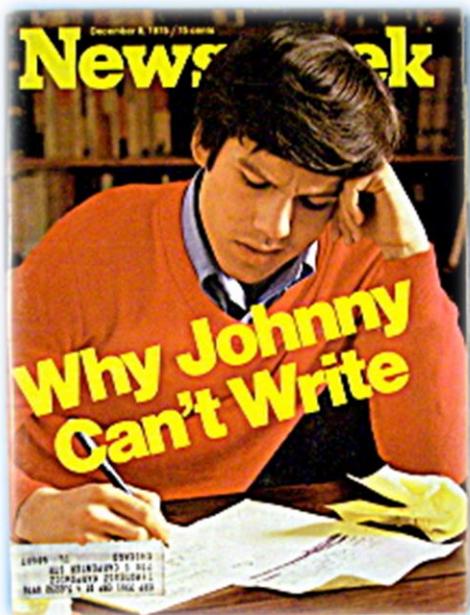
Rosa Parks refused to give her bus seat to a white passenger. Her subsequent arrest and fine served as a catalyst for the Civil Rights Movement.

**1958**

*National Defense Education Act* was passed. It increased funding for math and science education. It was in response to the launching of SPUTNIK I.



Datamath, which was the first hand-held calculator, was created by Texas Instruments in 1972.  
(Retrieved from [www.vintagecalculators.com](http://www.vintagecalculators.com))



The December 8, 1975, Newsweek magazine cover that fueled the Back-to-the-Basics Movement. (Retrieved from [www.tias.com](http://www.tias.com))



An elementary classroom in Littleton, Colorado circa 1970.  
(Retrieved from [www.littletonpublicschools.net](http://www.littletonpublicschools.net))

**1961**  
US involvement in the Vietnam War began.

**1963**  
Samuel A. Kirk used the term "learning disability" at a Chicago conference on children with perceptual disorders.

**1965**  
*Elementary and Secondary Education Act* was passed. It provided federal funds to help low-income students, such as Title I.

Head Start was launched to provide education enrichment for low-income preschoolers.

**1972**  
Texas Instruments introduced the first electronic hand-held calculators.

*Mills v. the Board of Education of Washington, DC*  
US Supreme Court extended the PARC ruling to students with other disabilities.

*Title IX of the Education Amendments of 1972* became law. It prohibits discrimination based on gender in all aspects of education.

**1973**  
US involvement in the Vietnam War ended.

*Rehabilitation Act* became law. Part of the law provided "504 Plans" for students who are not served by special education.

**1981**  
*Plyler v. Doe*  
US Supreme Court ruled Texas law denying access to public education for undocumented school-age children violated the Equal Protection Clause of the 14th Amendment.

**1990**  
*Individuals with Disabilities Education Act* (IDEA) renamed and amended P.L. 94-142. It changed the terminology to people first.

**1962**  
*Engel v. Vitale*  
US Supreme Court ruled school prayer violates the First Amendment.

**1964**  
The *Civil Rights Act* became law. It prohibited discrimination based on race, color, sex, religion, or national origin.

**1969**  
National Assessment of Education Progress (NAEP), known as the Nation's Report Card, began.

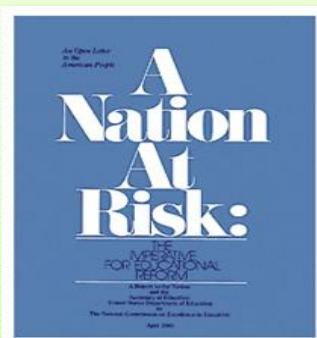
**1970**  
*Diana v. California State Board*  
US Supreme Court ruled that children must be tested in their primary language for special education placement.

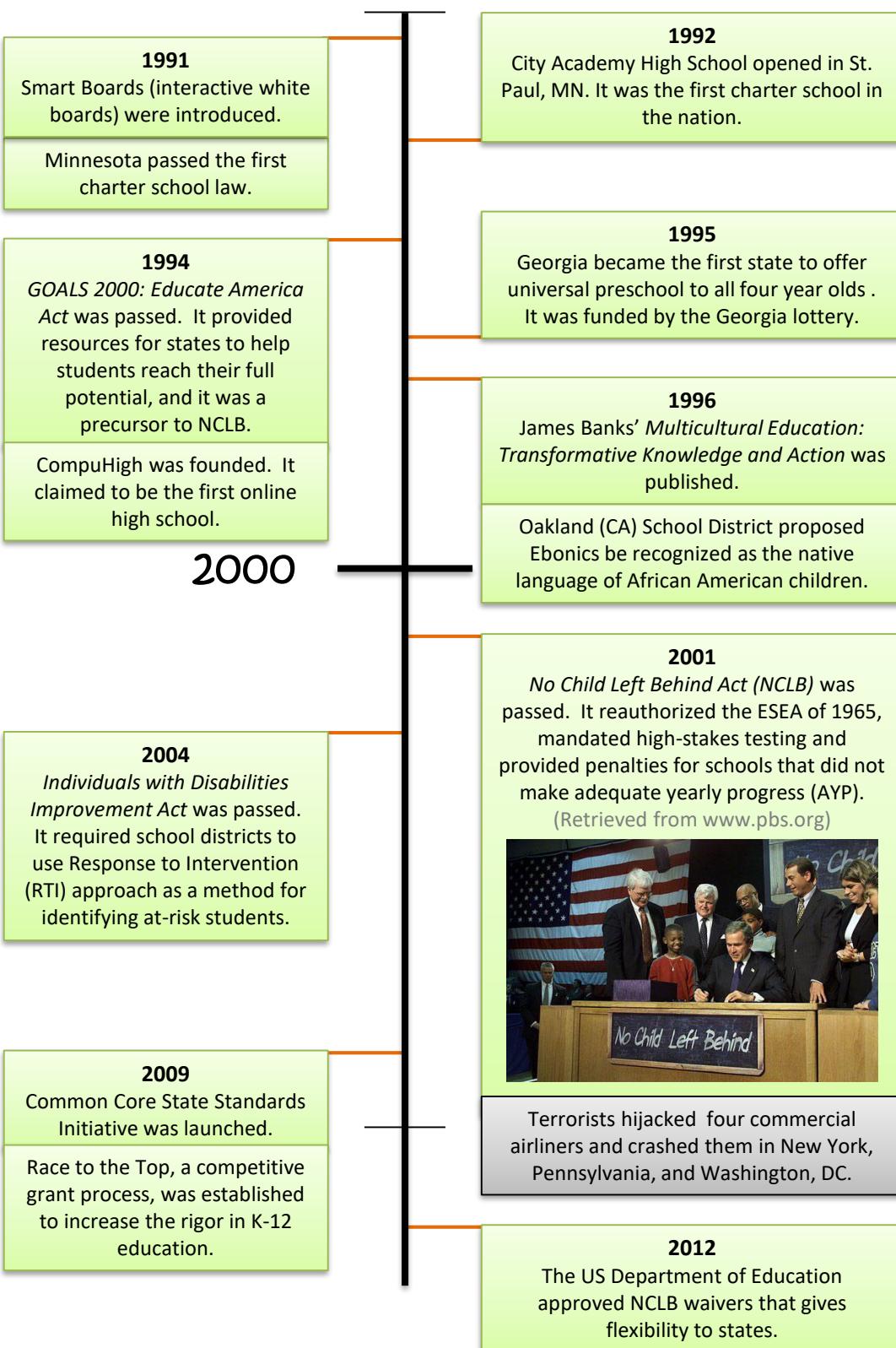
*Pennsylvania Association for Retarded Children (PARC) v. Pennsylvania*  
US Supreme Court ruled that students with mental retardation are entitled to a free public education.

**1975**  
*Education of All Handicapped Children Act* (P.L. 94 – 142) was passed. It required a free and appropriate public education for all children.

Newsweek's December 8 cover story, "Why Johnny Can't Write", fueled the Back-to-the-Basics Movement.

**1983**  
*A Nation at Risk* called for reform in public education and teacher training.





## Conclusion

During this chapter, with the use of this timeline, I tried to show you the relationship between the events in US history and the events in the American educational history. You should notice trends (i.e., pendulum swings of ideas) and cause-effect relationships between society and education. (Note: The gray blocks are events in US history.) According to Horace Mann, "Education is the great equalizer." Often, education is charged with solving all of society's problems.

## References

A variety of online sources were used to create this timeline of American Education. The following websites were utilized:

- <http://www.nd.edu/~rbarger/www7/>
- <http://www.monticello.org>
- [www.annenbergclassroom.org](http://www.annenbergclassroom.org)
- <http://www.cloudnet.com/~edrbass/educationactivity.html>
- [www.schoolright.com](http://www.schoolright.com)
- <http://honestedu.org/essays/novello/computory.php>
- [http://www.chesapeake.edu/library/EDU\\_101/eduhist\\_19thC.asp](http://www.chesapeake.edu/library/EDU_101/eduhist_19thC.asp)
- <http://www.watertownhistory.org/Articles/KinderGardenFirst.htm>
- <http://constitution.org/lanc/monitorial.htm>
- [http://www.continue to learn.uiowa.edu/laborctr/child\\_labor/about/us\\_history.html](http://www.continue to learn.uiowa.edu/laborctr/child_labor/about/us_history.html)
- [www.businessinnovationfactory.com/sxl](http://www.businessinnovationfactory.com/sxl)
- <http://education.stateuniversity.com/pages/2229/Middle-Schools.html>

Russell, N. (2009, September 24). Trace the history of a hornbook. *Columbia Daily Tribune*. Retrieved from <http://www.columbiatribune.com>.

Santayana, G. (1905). *The life of reason or the phases of human progress: Vol. I. Introduction and reason in common sense*. New York, NY: Charles Scribner's Sons.

# Chapter 2: Philosophy of Education



## LEARNING OBJECTIVES



1. Define “**educational philosophy**” and its purposes.



2. Explain the influence of five philosophical orientations on teaching.

Think back to our discussion within the Preface of this textbook. What were your favorite teacher’s educational beliefs and attitudes? What evidence illustrates them? What “good and effective” teaching characteristics are exemplified by your favorite teacher? The answers to these above questions directly connect to your favorite teacher’s educational philosophy.

### What is educational philosophy and why is it important?

A teacher’s **educational philosophy** acts a guide for him or her during establishment of the classroom and interactions with students, parents, colleagues, and community stakeholders. All of these decisions made in the classroom will derive from your educational philosophy. As an aspiring classroom teacher, it is important to articulate your ideal classroom including your role and the students’ role. Also, it is important to realize that your educational philosophy will change as you complete your degree. It will more than likely change during your first few years in the classroom. Often, educational philosophies are given the term “living document”. As you saw with educational history, philosophies have pendulum swings, too. After 11 years of high school classroom experience, my educational philosophy has changed. I laugh when I read my first educational philosophy paper from my sophomore year of college.



Some of the ideals are present today in my practice while others have gone by the wayside.

### Five Philosophical Orientations

The excerpt from Martin and Loomis (2007), which is located within CougarVIEW, provides an overview for the five philosophical orientations (i.e., Perennialism, Essentialism, Progressivism, Existentialism, and Social Reconstructionism) that affect education. In addition to the descriptions, the key philosophers associated with each orientation are discussed. This list of philosophical orientations is not exclusive. Some individuals use the six branches of philosophy (i.e., Metaphysics, Epistemology, Axiology, Reality, Knowledge, Values, and Logic). Others use behavioral or leadership theories to provide philosophical frameworks. Commonalities exist among the various viewpoints.

# Continuum of Educational Philosophies



## What is your Educational Philosophy? Why you teach?

As you write your educational philosophy, utilize pieces from one or more of the five philosophic orientations. For example, think about the following questions as they relate to each orientation. What should be taught within the classroom? Why should it be taught? How should it be taught? These orientations are on a continuum (as pictured above), which progresses from structured and teacher-centered to unstructured and student-centered. You should consider and respond to the following questions when you develop your educational philosophy:

- What is the purpose of education?
- Which philosophical beliefs do you support?
- What is your role as a teacher?

## Whom you teach?

- What is the student's role in his/her education?
- How will you reach the diverse children in your classroom?
- What will be your relationship with the community, parents, teaching colleagues, and administration?

## How and what you teach?

- What are your beliefs about how children learn?
- How will your beliefs affect your classroom instruction and teaching (i.e., classroom management, instructional strategies, curriculum design/content, and assessments)?

Again, I wanted to emphasize that your educational philosophy as you gain classroom experience, participate in professional development, and further your education. It can be overwhelming to design your classroom and develop your educational philosophy within one semester. Remember, Rome was not built in one day. It is a iterative process that will evolve throughout your career in education.



Complete the “philosophic inventory” that begins on the next page to determine your philosophic orientation.

# Philosophic Inventory

**Directions:** Respond to the following statements on the scale from 1 (*Strongly Disagree*) to 5 (*Strongly Agree*) by circling the number that most closely fits your perspective.

Rating Scale	Statement
1 2 3 4 5	1. The curriculum should emphasize essential knowledge, <b>not</b> students' personal interests.
1 2 3 4 5	2. Teachers should emphasize interdisciplinary subject matter that encourages project-oriented, democratic classrooms.
1 2 3 4 5	3. Education should emphasize the search for personal meaning, <b>not</b> a fixed body of knowledge.
1 2 3 4 5	4. The ultimate aim of education is constant, absolute, and universal: to develop the rational person and cultivate the intellect.
1 2 3 4 5	5. Schools should actively involve students in social change to reform society.
1 2 3 4 5	6. Schools should teach basic skills, <b>not</b> humanistic ideals.
1 2 3 4 5	7. Teachers should be facilitators and resources who guide student inquiry, <b>not</b> managers of behavior.
1 2 3 4 5	8. The best teachers encourage personal responses and develop self-awareness in their students.
1 2 3 4 5	9. The curriculum should be the same for everyone: the collective wisdom of Western culture delivered through lecture and discussion.
1 2 3 4 5	10. Schools should lead society toward radical social change, <b>not</b> traditional values.
1 2 3 4 5	11. The purpose of schools is to ensure practical preparation for life and work, <b>not</b> to encourage personal development.
1 2 3 4 5	12. Curriculum should emerge from students' needs and interests: therefore, it should not be prescribed in advance.
1 2 3 4 5	13. Helping students develop personal values is more important than transmitting traditional values.
1 2 3 4 5	14. The best education consists primarily of exposure to great works in the Humanities.
1 2 3 4 5	15. It is more important for teachers to involve students in activities to criticize and transform society than to teach the Great Books.
1 2 3 4 5	16. Schools should emphasize discipline, hard work, and respect for authority, <b>not</b> encourage free choice.
1 2 3 4 5	17. Education should enhance personal growth through problem solving in the present, <b>not</b> emphasize preparation for a distant future.
1 2 3 4 5	18. Because we are born with an unformed personality, personal growth should be the focus of education.

<b>Rating Scale</b>	<b>Statement</b>
1 2 3 4 5	19. Human nature is constant—its most distinctive quality is the ability to reason; therefore, the intellect should be the focus of education.
1 2 3 4 5	20. Schools perpetuate racism and sexism camouflaged as traditional values.
1 2 3 4 5	21. Teachers should efficiently transmit a common core of knowledge, <b>not</b> experiment with curriculum.
1 2 3 4 5	22. Education should involve students in democratic activities and reflective thinking.
1 2 3 4 5	23. Students should have significant involvement in choosing what and how they learn.
1 2 3 4 5	24. Teachers should promote the permanency of the classics.
1 2 3 4 5	25. Learning should lead students to involvement in social reform.
1 2 3 4 5	26. On the whole, school should and must indoctrinate students with traditional values.
1 2 3 4 5	27. The major goal for teachers is to create an environment where students can learn on their own by guided reflection on their experiences.
1 2 3 4 5	28. Teachers should create opportunities for students to make personal choices, <b>not</b> shape their behavior.
1 2 3 4 5	29. The aim of education should be the same in every age and society, <b>not</b> differ from teacher to teacher.
1 2 3 4 5	30. Education should lead society toward social betterment, <b>not</b> confine itself to essential skills.

---

**Directions for Scoring:** In the space provided, record the number you circled for each statement (1-30) from the inventory. Total the number vertically and record it at the bottom. The highest total indicates your “anchor” philosophic orientation. You may have an eclectic philosophy, which involves more than one philosophy.

<u>Perennialism</u>	<u>Essentialism</u>	<u>Progressivism</u>	<u>Existentialism</u>	<u>Social Reconstructionism</u>
4. _____	3. _____	2. _____	1. _____	5. _____
9. _____	8. _____	7. _____	6. _____	10. _____
14. _____	13. _____	12. _____	11. _____	15. _____
19. _____	18. _____	17. _____	16. _____	20. _____
24. _____	23. _____	22. _____	21. _____	25. _____
24. _____	28. _____	27. _____	26. _____	30. _____
Total _____	Total _____	Total _____	Total _____	Total _____

Adapted by Dr. Jennifer L. Brown, Columbus State University, 2012

Original Source: Parkway, F. W., & Stanford, B. H. (2010). *Becoming a teacher* (8th ed.). Upper Saddle River, NJ: Merrill.

## Conclusion

On the preceding pages, you should have completed the "Philosophic Inventory" to determine which of these five orientations you tend to follow. Remember, you may follow more than one orientation, which means you would be considered "eclectic". After scoring the inventory, reflect back to our brief discussion about your favorite teacher and the evidence that illustrates a "good and effective" teacher. Do you see any parallels among your favorite teacher's characteristics and one of the philosophic orientations? In addition, consider how each of these philosophic orientations aligns with the history of American education. These concepts should not be viewed in isolation because they create the foundation of education today.

From this chapter, you should have discovered that educational philosophies are complex guidelines that affect the teaching profession in many ways. As a summarizing review of these five philosophic orientations, complete the interactive game by selecting the link at the top of this page or copying and pasting it into your internet browser. You will match the characteristics with the appropriate philosophic orientation. The software that I used to created this interactive game is available free of charge from [www.contentgenerator.net](http://www.contentgenerator.net).

## References

- Martin, D. J., & Loomis, K. S. (2007). *Building teachers: A constructivist approach to introducing education* (1st ed.). Belmont, CA: Wadsworth Publishing.
- Parkway, F. W., & Stanford, B. H. (2010). *Becoming a teacher* (8th ed.). Upper Saddle River, NJ: Merrill.



[www.bugforteachers.com/philosophies.html](http://www.bugforteachers.com/philosophies.html)



Dr. Brown checking math homework with her notorious clipboard.

# Chapter 3: Law, Ethics, and Dispositions



**As a profession, the field of teaching is governed by its own professional members in addition to federal and state legislation.** These governing agencies and entities outline legal and ethical guidelines for its members to follow. This chapter will discuss these legal and ethical guidelines along with professional dispositions.

## What are ethics?

Ethics serve as guidelines for a person's or group's behavior. The Georgia Professional Standards Commission (GaPSC), who is the governing body for the teaching

profession in Georgia, sets, communicates, and enforces the expected ethical guidelines for Georgia Educators. In addition, this agency sets guidelines for preparing, certifying, and continued licensing of public educators in Georgia. The current Code of Ethics for Educators is linked to CougarVIEW.

After reviewing the Code of Ethics, use what you have learned about the Georgia Code of Ethics to think about how you would handle the following situations as an outside observer.



[www.gapsc.com](http://www.gapsc.com)

## Scenario #1

A teacher discusses the information from Dave's cumulative folder while standing in the hallway and in the presence of another teacher, a school volunteer, and students.



## LEARNING OBJECTIVES



1. Identify the legal and ethical issues that might affect the classroom teacher.



2. Define professional dispositions.

## Scenario #2

A teacher is chaperoning an overnight band trip. It is after curfew for all of the students, and they are sleeping soundly in their rooms. The teacher walks into the fellow teacher's motel room and finds two of the other chaperoning teachers drinking alcohol in celebration of the band's success at the competition. They invite the teacher to join them, but she politely refuses and leaves the room.

## Scenario #3

Over the Christmas break, a student emails a teacher to ask about his Christmas. The student shares a list of gifts she received and a rundown of the activities she did. The teacher sends a response indicating that he had a visit with his family and he took a mini-vacation to the beach with his girlfriend. As the year progresses, they continue to exchange casual e-mails about each other's daily lives.

#### Scenario #4

A teacher has a standing offer for tutoring afterschool on Wednesdays in his classroom. Generally, there are four to five students who attend. On the first Wednesday after spring break, only one 8th grade girl comes to his room for afterschool tutoring. The teacher continues the tutoring session as planned.

#### Scenario #5

A teacher walks away from her computer without logging off. A student sits down and, still logged in as the teacher, sends inflammatory e-mails to students and posts similar messages on the class newsgroup.

#### Scenario #6

The athletic trainer gave a group of students her cell phone number during the football season in case of emergency. One of those students, who is infatuated with the athletic trainer, began texting her after the football season had ended. The athletic trainer is unaware of the student's feelings towards her.

#### Scenario #7

A teacher shares with his students in one of his classes that he really wanted the new Atlanta Falcons poster. The teacher was delighted to receive the poster in May from a senior in one of his classes. Since the student cared enough about the teacher to give such a prized poster, the teacher gives the student an extra assignment so that he could pass the class and graduate.

#### Scenario #8

A teacher for an honors level class discovered that half of the class has plagiarized information from the internet on their projects. The project counts for 30% of their final grades.

#### Scenario #9

A teacher has had a terrible and exasperating day at school. He and a group of friends decide to go to the local restaurant for dinner. At the restaurant, he tells his friends about Sally Sue who cannot solve a one-step math problem to save her life. He goes on to say that she is a student with a behavior disorder so she throws a tantrum when she gets frustrated during the math lesson.

#### **Teacher and the Law**

The following page is an excerpt from *K-12 Classroom Teaching* (4th edition) by Andrea M. Guillaume. Regarding #6, the state of Georgia does allow corporal punishment in schools; however, the decision to use corporal punishment is left to the local school board. About 45% of the 180 school districts do not allow corporal punishment in their districts.



### **How Have Supreme Court Decisions Affected the Public Schools?**

Source: Parkway & Stanford (2010)

For each of the following practices, determine whether the Supreme Court has held that practice to be mandatory (**MUST**), permitted (**MAY**), or prohibited (**MUST NOT**).

1. A school district \_\_\_\_\_ require the posting in each classroom of a copy of the Ten Commandments that has been obtained via private contributions and is expressly labeled as nonreligious material.
2. A school district \_\_\_\_\_ provide classes to nonpublic school students in classrooms located in nonpublic schools.
3. A school district \_\_\_\_\_ dismiss a teacher for expressing criticism of school policies or practices that are not of public interest.
4. A school district \_\_\_\_\_ permit nonexcessive corporal punishment of students under the authorization or in the absence of a state statute.
5. A school district \_\_\_\_\_ conduct a search of a student, without the assistance of police, if the school authorities have reasonable suspicion that the student has violated or is violating the law or school rules.
6. A school district \_\_\_\_\_ refuse to provide clean-intermittent-catheterization for students with disabilities who need this service to attend school.
7. A school district \_\_\_\_\_ deny reenrollment in their public schools to children who are "illegal aliens" in the United States.
8. A school district \_\_\_\_\_ discipline students for using lewd and offensive language that does not cause a substantial disruption in the school.

**Check your answers at the end of the chapter.**

## Teachers and the Law

1. **Public schools must not promote worship.** Religious works may be read as academic experiences if the intent is not to workshop. Students cannot be required to salute the flag if their religious convictions prohibit it.
2. **Academic freedom has limits.** Teachers are permitted to address controversial topics and use controversial methods if they are educationally defensible, appropriate for the students, and are not disruptive. School boards have authority to set curriculum and methods.
3. **Teachers' private activities must not impair their teaching effectiveness.** Although teachers hold the same rights as other citizens, their conduct is held to a higher standard. When teachers' private lives weaken their classroom effectiveness, they may be dismissed. Sexual relationships with students are cause for dismissal.
4. **Students have rights to due process.** Teachers' and schools' rules and procedures must be fair and reasonable, and justice must be administered evenhandedly. Due process is important for such issues as search and seizure, suspension, and expulsion.
5. **Teachers must not use academic penalties to punish behavior.** Students' academic grades cannot be lowered as a result of disciplinary infractions. Students must be allowed to make up work that accumulates during suspensions or other disciplinary periods.
6. **Corporal punishment must not be misused.** Many states prohibit corporal punishment. In states where it is allowed, corporal punishment must be delivered while the teacher is not in a state of anger, it must fit the crime and the student's age and condition, and it must not lead to permanent injury or run the risk of such. Disciplinary actions that serve to humiliate a child may be legal, too. Finally, teachers are obligated to report suspected child abuse. Check local laws for reporting procedures. (The state of Georgia does allow corporal punishment in schools; however, the decision to use corporal punishment is left to the local school boards. About 45% of the 180 school districts do not allow corporal punishment in their districts.)
7. **Teachers must protect children's safety.** Teachers must act in place of the parents, providing prudent, reasonable supervision to protect children from harm. They can be held negligent if they fail to do so. Teachers and schools can protect children's safety by establishing and enforcing rules pertaining to safety and by providing careful supervision.
8. **Teachers must not slander or libel their students.** Teachers must say and write only things about students that they know objectively to be true. Even confidential files must not contain statements that demean a student's character, background, or home life. Share information only with personnel who have a right to such information.
9. **Teachers must photocopy in accordance with copyright laws.** Teachers are allowed some restricted copying, such as a single copy of a chapter for their own use or a class set of copies of a short poem. However, teachers may not make copies to replace collected works, nor may they make copies of consumable materials. Teachers may not make copies of copyrighted software, and they are greatly restricted in their use of videotape in the classroom.
10. Teachers need to know the law. Ignorance is no excuse. Find books and articles that address school law and inquire about professional development activities that can increase your knowledge of the law.

(This ten items were reprinted from Guillaume (Adapted from McDaniel (1979) with support from Fischer, Schimmel, & Kelly (1991) and McCarthy & Cambron-McCabe (1992)).

## Obtaining a Teaching License

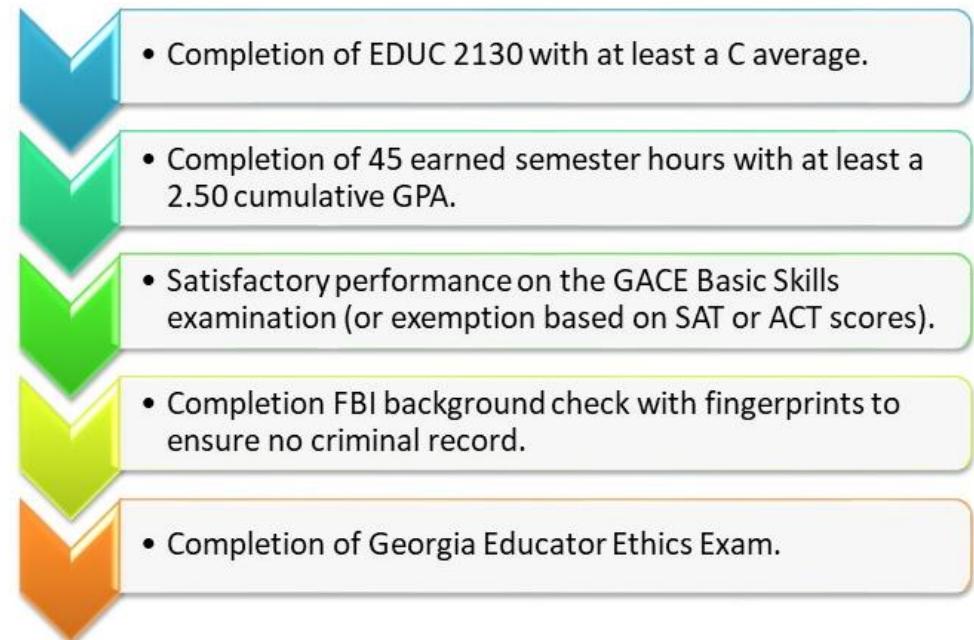
Within the last decade, the GaPSC established various routes to achieve teacher certification. First, the question is whether or not you have a baccalaureate degree. If not, you must complete an approved teacher certification degree program to become a teacher. See the above figure that outlines the undergraduate admission requirements for Teacher Education at Columbus State University. The figure at the bottom of the next page outlines the initial certification process for CSU undergraduate students. If you do hold a baccalaureate degree, then the following options are available:

- **post-baccalaureate teaching certification program,**
- **Troops to Teachers ([www.tttga.net](http://www.tttga.net)),**
- **Georgia Teacher Academy for Preparation and Pedagogy, TAPP, (usually for “career switchers” who hold a college degree but did not complete teacher education requirements), and**
- **Master of Arts in Teaching, MAT, (for those individuals who want to earn a graduate degree along with their teaching certification).**

For more information about these options, contact the GaPSC.

The GaPSC also regulates teacher preparation programs at Georgia post-secondary institutions. This regulatory body grants you the initial teaching license as well as grants you the renewals, change of fields, and upgrades (e.g., moving from a T-4 to a T-5 level after completing a master degree program). The SAFE Office at Columbus State monitors and assists you with the initial certification process. Often, your employer's human resource department helps

## Undergraduate Admission Requirements for Teacher Education at Columbus State University



For more detailed admission procedures, visit the SAFE Office ([safe.columbusstate.edu](http://safe.columbusstate.edu))

you with other licensure applications and keeps you abreast of policy and procedural changes; however, it is your responsibility to maintain your professional learning units (PLUs), if required, and a current teaching license. PLUs are earned by successful completion of professional development courses offered by your school, district, regional educational agencies, and post-secondary institutions. Currently, 10 PLUs are required to renew your teaching license. These policies and procedures are subject to change. When you request a renewal, change of field, or upgrade, the GaPSC will ask you the same questions. See the following nine questions from the current application:

1. **Have you ever had an adverse action (i.e., warning, reprimand, suspension, revocation, denial, voluntary surrender, disbarment) taken against a professional certificate, license or permit issued by an agency OTHER THAN the Georgia Professional Standards Commission?**
2. **Are you currently the subject of an investigation involving a violation of a profession’s laws, rules, standards or Code of Ethics by an agency OTHER THAN the Georgia Professional Standards Commission?**
3. **Have you ever received a less than honorable discharge from any branch of the armed services?**
4. **Have you ever left an employment position (i.e., retired, resigned, been dismissed, terminated, non-renewed, or otherwise) while under investigation?**
5. **Are you currently the subject of an investigation involving sexual misconduct or physical harm to a child?**
6. **Are you the subject of a pending investigation involving a criminal act?**

7. For any felony or any crime involving moral turpitude, have you ever:
  - ◆ Pled guilty;
  - ◆ Entered a plea of *nolo contendere*;
  - ◆ Been found guilty;
  - ◆ Pled guilty to a lesser offense;
  - ◆ Been granted first offender treatment without adjudication of guilt;
  - ◆ Participated in a pre-trial diversion program;
  - ◆ Been found not guilty by reason of insanity; or
  - ◆ Been placed under a court order whereby an adjudication or sentence was withheld?

8. Have you ever been convicted, or pled to a lesser offense for any sexual offense?
9. Have you been convicted of a drug offense (felony or misdemeanor) after July 1, 2008, while holding any professional certificate, license or permit?

however, you may have to complete additional coursework or successful complete additional assessments within a designated time period to become licensed in that state. The National Association of State Directors of Teacher Education and Certification (NASDEC) is an organization that represents the professional standard boards and commissions from all 50 states, the District of Columbia, the Department of Defense Education Activity, and the US Territories. This organization facilitates the interstate agreements among the above listed entities and Canadian Provinces. For more information is available at [www.nasdec.net](http://www.nasdec.net).



Also, if you move to another state, there is no guarantee that state has a reciprocity agreement with Georgia. Such an agreement would mean that state would recognize your teaching license from Georgia;

## Initial Certification Process for CSU Undergraduate Students

Obtain Per-Service Certification

Maintain 2.50 cumulative GPA

Complete an approved program and hold an appropriate education degree from CSU.

Passing score on GACE Content Assessment for the certification field.

Passing score on Georgia Educator Ethics Exam.

Passing score on edTPA portfolio.

For more detailed certification procedures, visit the SAFE Office ([safe.columbusstate.edu](http://safe.columbusstate.edu))

## What are Professional Dispositions?

I am sure that you are asking yourself, "What are professional disposition?" The National Council for Accreditation of Teacher Education (NCATE) defines **professional dispositions** as professional attitudes, beliefs, and values that are demonstrated through verbal and non-verbal behaviors. These behaviors are observed during any interaction with students, families, colleagues, and other community stakeholders. According to NCATE Standard 1, *teacher candidates should know and demonstrate knowledge, skills, and professional dispositions.* In addition, NCATE expects teacher education programs to evaluate professional dispositions within the educational settings; however, each unit (e.g., the Teacher Education Department at Columbus State University) can identify, define, and operationalize professional dispositions (NCATE, 2007).

Even though these attitudes, beliefs, and values are defined by the faculty members within the Teacher Education Department, upon completion of your teacher education program, you will be expected to adhere to these professional dispositions. These behaviors are considered to be appropriate and expected behaviors for the teaching professional from the preschool to post-secondary education levels. Within CougarVIEW, review the current Teacher Candidate Dispositions Assessment for Columbus State University. Your professional dispositions will be self-assessed and assessed by faculty, staff, and cooperating teachers at various points during the teaching preparation program.

## Conclusion

There are a variety of issues under the topic of school law and professional ethics. This overview was meant to give you a practical application to the classroom. Fortunately or unfortunately, depending on how you view the situation, school law changes as society changes; hence, items presented within this chapter are subject to change. Once you are in the classroom, you will need to familiarize yourself with the current laws and code of ethics for your given state and the policies and procedures of your respective school district.



### Check your Supreme Court Answers

1. MUST NOT  
*Stone v. Graham* (1980)
2. MUST NOT  
*Grand Rapids v. Ball* (1985)
3. MAY  
*Pickering v. Board of Education* (1968)
4. MAY  
*Ingraham v. Wright* (1977)
5. MAY  
*New Jersey v. T.L.O.* (1985)
6. MUST NOT  
*Irving Independent School District v. Amber Tatro* (1984)
7. MUST NOT  
*Plyer v. Doe* (1982)
8. MAY  
*Tinker v. Des Moines Independent School District* (1969)

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# Unit II



## Learning Theory

# Chapter 4: General Development



## LEARNING OBJECTIVES

1. Describe the applications of physical development to learning.
2. Describe the applications of cognitive development to learning.
3. Describe the applications of affective development to learning.



### How does a student's development affect his or her learning within the classroom?

There are three domains of development: physical, cognitive, and socio-emotional. Within each domain, there are five developmental periods: infancy, early childhood, middle childhood, early adolescence, and late adolescence. This chapter will discuss some of the main theories associated with development and the applications in the classroom.

#### Physical Development

**Physical development** consists of body and brain growth as well as age-related motor skills. Motor skills include gross motor skills and fine motor skills. **Gross motor skills** consist of large body movements, such as crawling, running, or jumping. **Fine motor skills** are smaller, more precise movements with specific parts of the body, such as the hands. An example of a fine motor skill would be stringing

beads. Physical development has been categorized into developmental periods from infancy to adolescence.

#### Infancy

Infancy covers the developmental span from birth to 2 years of age. During the first year, infants' physical development is rapid and marked by many milestones. By 3 months an infant can respond to light or sound stimuli. At 6 months infants can reach for and grasp an object. Infants learn to roll over, sit up, crawl, pull themselves up (while holding on to stable objects such as furniture) and take steps all by the time they are about 12 months old. ([See the CDC's list of developmental milestones.](#))

By 18 months, physical development begins to provide toddlers with more opportunities for independence such as walking alone, drinking from a cup, and feeding themselves with a spoon. While children are not capable of fully dressing themselves by this age, they can do more simple tasks such as pull off their socks.

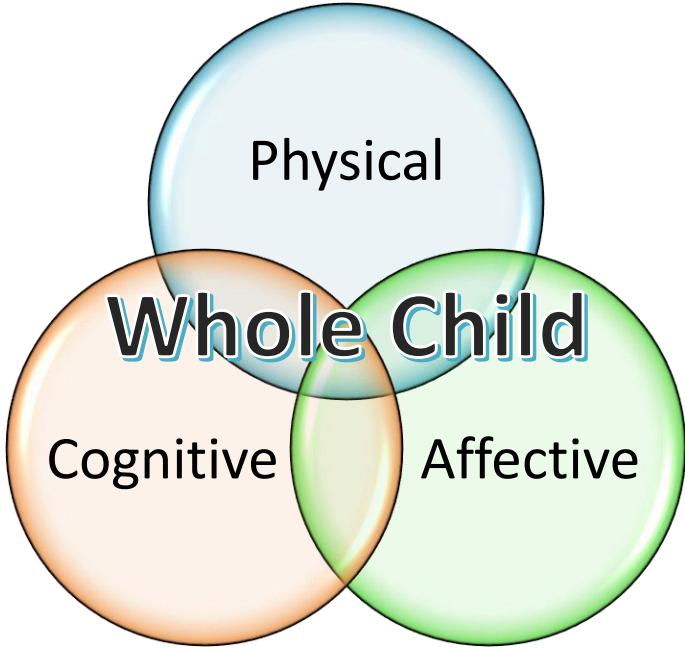
#### Childhood

From age 2 to 6, the early childhood period, children begin to use their new ability to move independently and to explore through activities such as running, climbing, riding a tricycle, and hopping. At three years of age, children can kick a ball forward and throw a ball over their head. During the middle childhood period, 6 to 10 years old, physical growth continues to be slow; however, body size usually increases, and the bones lengthen (Berk, 2004). By age 12, a child's primary teeth are replaced with permanent teeth.

#### Adolescence

Early adolescence, ages 10 to 14, is marked by puberty which includes a growth spurt of both weight and height. During early adolescence girls are usually heavier and taller than boys of the same age; however, the reverse is true by late adolescence, age 14 to 18 (Berk, 2004). The change occurs because adolescent girls are usually finished with their growth

# Domains of Development



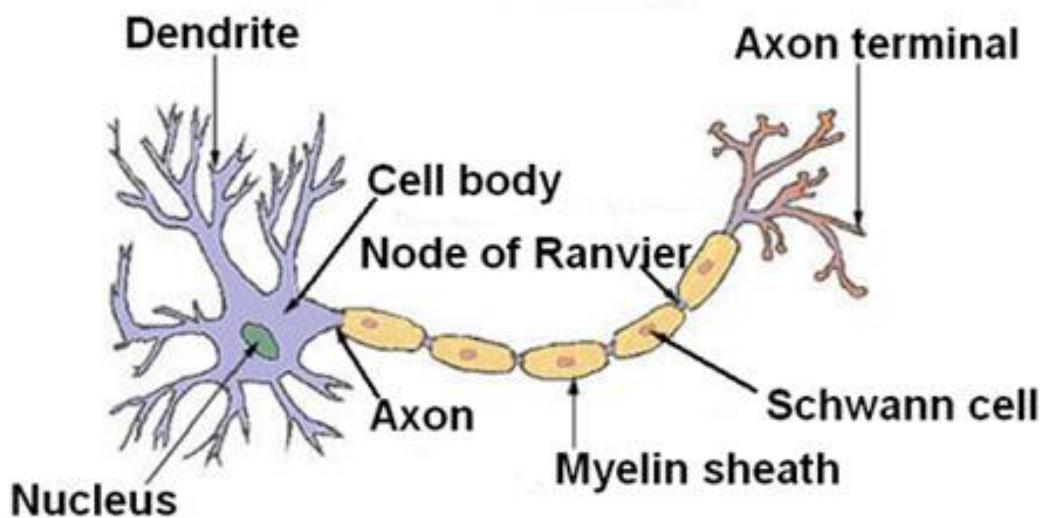
spurt by 14 years of age, while adolescent male growth spurts start around this age.

## Brain Development

The brain consists of **neurons**, which are cells that transmit information to other cells. The long “arm like” part of the neuron that projects from the cell body (see

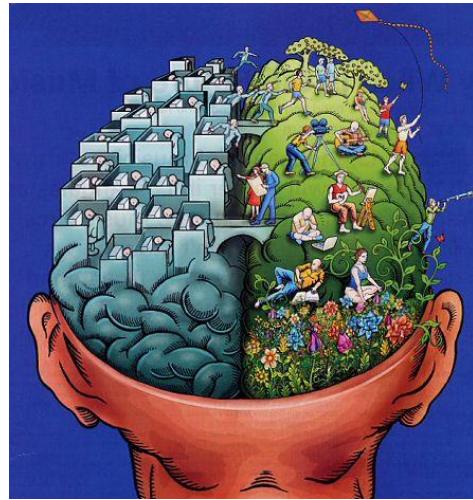
picture below) is called the **axon**. The axon sends information to other neurons. The branch, or “finger like”, part of the neuron that receives information from other neurons is called the **dendrite**. Neurons have small gaps between them that are called **synapses**. When neurons extend their fibers they form synaptic connections with nearby cells.

## Structure of a Typical Neuron



If you plan to teach middle school or high school, see the handout from NIMH about the teenage brain in CougarVIEW.

The brain has a left hemisphere and a right hemisphere. Each hemisphere has its own function that controls the side of the body opposite to it. Most individuals are right-brained; therefore, the left hemisphere mostly controls verbal abilities and positive emotions while the right hemisphere controls spatial abilities and negative emotions. For left-brained individuals, the function of the hemispheres may be reversed, but usually the functions are less specialized. Take the brain dominance quiz within CougarVIEW to determine whether you are left-brained or right-brained.



## Nature versus Nurture

There are various influences on early physical growth including genetics and environmental factors. Human development theorists have debated the importance of nature versus nurture for decades. Some theorists believe **nature**, a person's given biological genetics passed down from their parents, has a greater influence on human development (Berk, 2004). On the other hand, other theorists believe **nurture**, aspects of the physical and social world that influence an individual's development before and after birth, is more influential on human development. Most theorists agree that both nature and nurture play a role in human development but to varying degrees.



## Theory of Evolution

Charles Darwin is known for his theory of evolution, which emphasized natural selection and survival of the fittest. Darwin traveled to the Galapagos Islands and found that though the various species of birds on each island, in particular finches, were similar. The species of finches were later named "Darwin's finches" and are considered the fastest evolving vertebrates in the world because their appearance and behavior adapt quickly to the islands, which



Darwin's observational sketches of the finches from the Galapagos Island.

are a closed and continually changing environment (Earth Watch Institute, n.d.). Darwin defined this observation as **natural selection** (when a species survives in a certain environment because the characteristics of the species either fit with the environment or adapt to the environment, which allows the

species to reproduce and pass on characteristics to their offspring). Darwin described natural selection as "survival of the fittest".

As a review of general development, complete the self-assessment below. The answers will be provided at the end of the chapter.

1. By what age should a child reach for and grasp an object?
  - a) 6 months
  - b) 12 months
  - c) 18 months
2. By the age of 3, a child should be able to perform the following motor skills:
  - a) Kick a ball forward
  - b) Throw a ball overhead
  - c) All of the above
3. By the age of 2 years, a child should be able to say a sentence that contains \_\_\_\_ word(s).
  - a) at least 1
  - b) 2 to 3
  - c) 4 to 5
4. By what age should a child turn toward light and/or sound stimuli?
  - a) 3 months
  - b) 6 months
  - c) 12 months
5. By 18 months, a child should have developed which of the following communication skills:
  - a) Comfort a distressed friend
  - b) Name at least one color
  - c) Recognize himself/herself in the mirror
6. By what age should a child be able to pull off his/her socks?
  - a) 12 months
  - b) 18 months
  - c) 24 months
7. By 18 months, a child should be able to say \_\_\_\_ "understandable" words.
  - a) 4 to 6
  - b) 8 to 10
  - c) 12 to 14
8. By the age of 3 years, a child should be able to name \_\_\_\_ familiar objects.
  - a) 10
  - b) 15
  - c) 20
9. By 2 years of age, a child should be able to point to which of the following body parts:
  - a) nose
  - b) eyes
  - c) all of the above
10. By what age should a child play spontaneously with two or three children in a group?
  - a) 12 months
  - b) 24 months
  - c) 36 months

## Cognitive Development

### Cognitive development

consists of reasoning, concepts, memory, and language. A child's level of cognitive development is evident by a child's learning, thinking, and problem solving skills. Like physical development, cognitive development is categorized into infancy, childhood, and adolescence.

### Infancy

An infant as young as 6 months old will recognize and respond to their name (Development Milestones, n.d.). The foundation of communication begins with infants this young responding to sounds by making sounds (i.e., babbling), usually by stringing vowels sounds together, such as "ah" and "oh". They begin to make some consonant sounds as well. By age 1, a child can say simple words, such as "mama" and "dada," can use simple gestures to communicate such as shaking their head "no" or waving "bye-bye," and can respond to simple spoken requests.

### Childhood

By 2 years of age, children should be able to say a sentence with at least two to four words (Development Milestones, n.d.). A child can point to his or her nose, eyes, mouth, and other body parts; He or she can begin to say the name of each body part. Young children can also point to pictures of the correct objects when prompted with a question, such as "Where is the ball?". By 3 years, children can name 10 familiar items because recognition memory at the preschool age tends to be keen; however, recall is not as well-developed (Berk, 2004).

Once children have reached middle childhood (i.e., 6 to 11 years old), they have a rapid growth in mental skill development (Child Development, n.d.). By the later years of middle childhood (i.e., 9 to 11 years), children begin to have an increased attention span, and they begin to see other peoples' points of view.

### Adolescence

Young adolescents (i.e., 12 to 14 years) have the ability for more complex thought, can begin to express their feelings through conversation more clearly, and have a stronger sense of what is right and wrong. By older adolescence (i.e., 15 to 17 years), teens are able to give reasons for their choices and have a deeper concern and interest in their future plans (e.g., continuing education, career).

## Affective Development

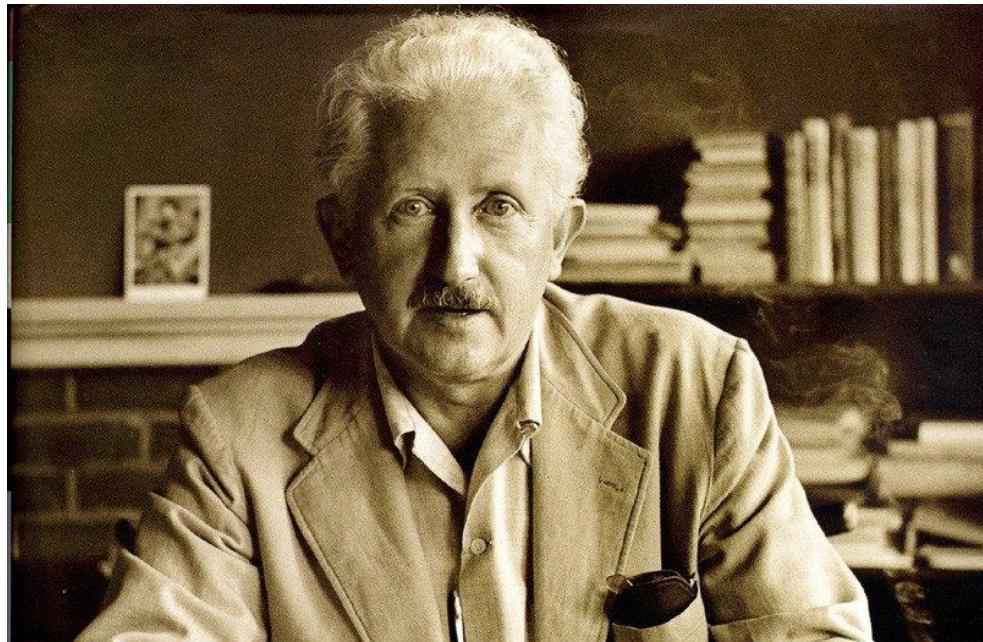
**Affective, socio-emotional, development** consists of the emotions, self-concept, motivation, social relationships, moral reasoning, and moral behavior of an individual. Like physical and

cognitive development, affective development changes as a child grows older and continues through the end of life.

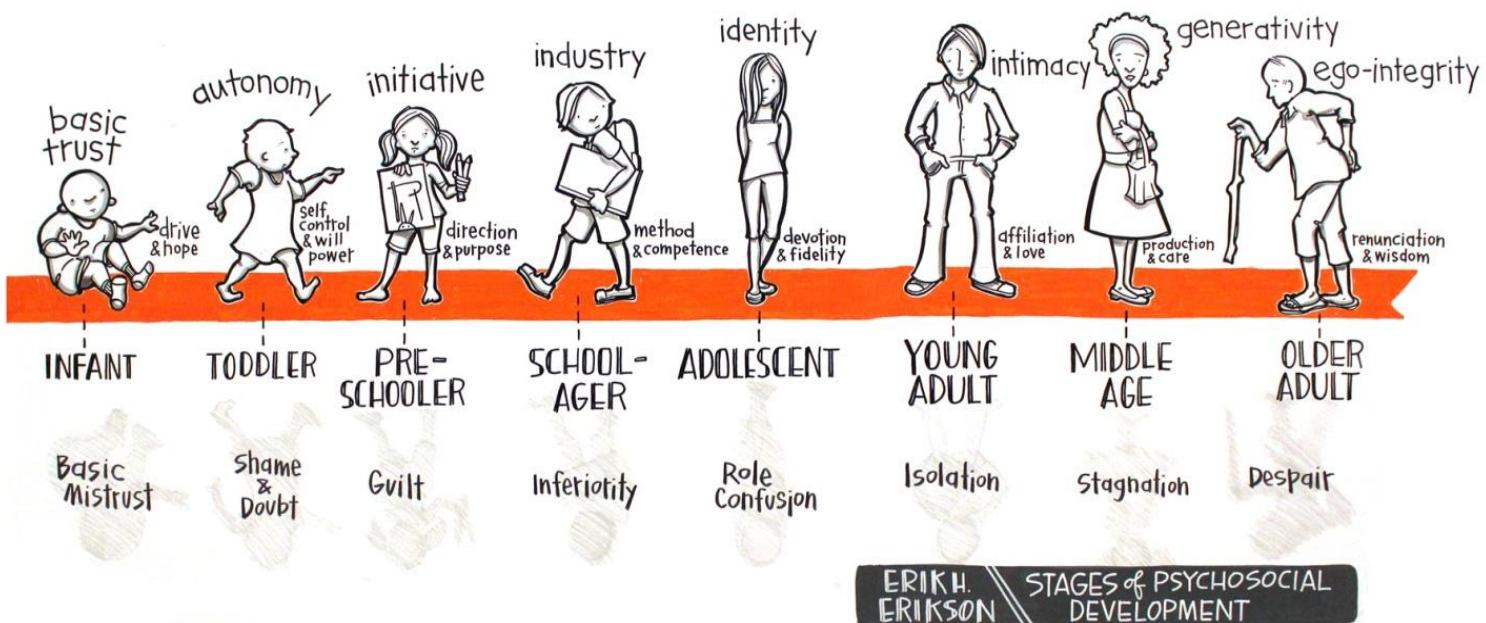
### Infancy

During infancy and toddlerhood, children begin to develop basic emotions (i.e., happiness, interest, surprise, fear, anger, sadness, and disgust). As early as the first 2 to 3 months of life, an infant will engage in a social smile and respond to the facial expressions of adults (Berk, 2004). By 3 to 4 months, infants begin to laugh at active stimuli. Around 6 months, infants laugh and smile more with familiar adults, such as parents, because they become more aware of strangers. By 9 months, they may be afraid of strangers and cling to their caregivers as a result. Self-concept really begins at around 18 months when a child is able to recognize him or herself in a mirror.

A primary developmental psychologist in the affective development domain was Erik Erikson (1902 – 1994), who studied with Sigmund Freud's daughter,



Retrieved from erikerikson.org.



Retrieved from PSYCH2GO

Anna, in Vienna. In addition, he studied Montessori method of education. Erik Erikson's psychosocial theory of personality development theorized that a challenge occurs at each developmental stage of an individual's life span (Berk, 2004). The first developmental stage of infancy has the challenge of basic trust versus mistrust. It is within a healthy caregiver relationship that an infant can achieve a sense of trust and move forward in his or her personality development. The second stage, which occurs between the ages of 1 and 3, involves the challenge of autonomy versus shame in which a toddler begins to want more independence and increased self confidence.

### Childhood

Early childhood development is marked by the emergence of self-concept and self-esteem. Preschoolers often define themselves in relation to their possessions so they act possessive over objects. According to Berk (2004), teachers can acknowledge a child's possessiveness as self-assertion (e.g., "Yes, that's your

toy"), but then the teacher can encourage compromise (e.g., "In a little while, would you give someone else a turn?"), instead of demanding the child share. During Erikson's initiative versus guilt stage, which covers ages 3 to 6, the child begins to try out new skills, especially through play. Children at this age often have a high self-esteem because of their sense of mastery; however, early childhood is also characterized by the development of self-conscious emotions. When adults give a young child feedback that is tied to the worth of the child, the child will have more intense self-conscious emotions. On the other hand, when adults give a child feedback based on how to improve performance, the child will have moderate, more adaptive levels of self-conscious emotions.

By middle childhood, children begin to have more independence from parents and an increased interest in friendships (Child Development, n.d.). They also start to have an understanding of gender differences and have the ability to experience empathy (Berk,

2004). During middle to late childhood development, children begin to engage in social comparison and care more about peer approval (Child Development, n.d.). At this age, children begin to perceive what others are thinking and use the information toward defining themselves (Berk, 2004). The self-conscious emotions are no longer tied to adult recognition but instead are guided by personal responsibility. According to Erikson, children in the industry versus inferiority stage, ages 6 to 11, begin to experience higher expectations of adults, desire greater mastery of skills, and compare themselves to other children (Berk, 2004). When children at this stage feel competent in their ability to perform necessary skills, they feel industrious.

### Adolescence

During adolescence, children become more concerned with their social virtues and being viewed positively by others (Berk, 2004). They often give less attention and affection to their parents or guardians, while giving

more interest and importance to peer interactions (Child Development, n.d.). Adolescents often swing back and forth from having high expectations of themselves to having low confidence in themselves. Their self-esteem is affected by a fluctuating identity, which may result in more moodiness, sadness, or depression. The experience of depression often causes adolescents to struggle in school turn to alcohol or drug use and become involved in unsafe sexual interactions. We will discuss risk-taking behaviors at the end of this chapter. Adolescents begin to focus more on themselves, within the social context, in order to understand themselves and their place in the world. Erickson believed that adolescence was a time to understand and further develop an individual's identity (Berk, 2004). The identity versus role confusion stage involves the challenge of an individual identifying what is true about him or her. Erickson believed that teenagers in complex societies experience **identity crisis**, a temporary period in which adolescent's experience distress due to their experimenting with alternative roles, values, and goals before they settle on their chosen commitments. If a young person develops a solid self-understanding that includes self-chosen values and goals, then the teen resolves the challenge. **Identity confusion** occurs when an adolescent is restricted from exploring their own values and roles or if their previous psychosocial challenges were resolved negatively.

Teachers can help adolescents during this identity exploration stage by providing an "identity safe environment", which

according to Hamman and Hendricks (2005) can be done in two ways. First, teachers can create a classroom that reflects a sense of support, tolerance, and acceptance of the identity struggle during adolescence. Erikson believed it was vital for adults to tolerate identity experimentation and fluctuations because these experiences influence adolescents' future adult roles. Second, teachers can encourage adolescent identity growth by encouraging and expanding the adolescent's potential views and roles that he or she can then choose to adopt as his or her own. Teachers can provide opportunities for the students to be active learners, such as giving them roles as scientists, historians, or authors, rather than simply giving them the facts of a subject.

### Adulthood

As an individual approaches early adulthood, he or she encounters the challenge of intimacy versus isolation (Berk, 2004). This stage involves the successful or unsuccessful development of loving relationships. In later adulthood, individuals face the challenge of generativity versus stagnation in

which the individual is either progressing in his or her life happily or feeling stagnant without a purpose. The last stage of Erikson's psychosocial theory is the ego-integrity versus despair stage, which affects individuals over the age of 65. At this stage, an individual has the challenge of accepting his or her life as it was, both the triumphs and the defeats.

## Risk-taking Behaviors

**Risk-taking behaviors** are behaviors that contribute to the leading causes of morbidity and mortality. They are divided into five categories by the Center for Disease Control (CDC). These categories include (a) unintentional injuries and violence, (b) alcohol, tobacco, and other drugs, (c) sexual behavior, (d) unhealthy dietary behaviors, and (e) inadequate physical activity. View the *Who will be sitting in your classroom?* video based on data from the Youth Risk Behavior Survey, which is conducted by the CDC. Next, complete the risk-taking behaviors quiz on the next page. The answers will be presented at the end of the chapter.

Back to our previous discussions about general development and future discussions



about other theories, why are adolescents concerned with body image? One answer could be media and culture, which connects with behaviorism (see Chapter 5). Also in Chapter 5, Bandura's self-efficacy could answer the question. Another answer could be the process of puberty and mating, which connects with physical development. In addition, females tend to want to be seen as physically active. Directly linked to Erikson is the adolescents' search for their identity. From Bronfenbrenner's Ecological Theory, adolescents are influenced and socialized by their peers, and they desire their peers' approval.

Now, the question is... "How can we, as teachers, address risk-taking behaviors among adolescents?" Here are some possible solutions.

- **Assisting with the development of future-oriented goals.**
- **Explaining the consequences of risk-taking behaviors.**
- **Educating about proper nutrition**
- **Demonstrating how exercise can be enjoyable and beneficial.**
- **Sponsoring extracurricular activities.**

As a high school teacher, I found sponsoring extracurricular activities as the best option. First, participation in extracurricular activities tends to be tied to future-oriented goals, whether academic, social, or athletic. Second, if you keep them "busy", there is less time for those risk-taking behaviors. Lastly, as a coach, I was able to discuss proper nutrition and exercise with my dancers.

## Conclusion

In this chapter, we discussed the three domains of development (i.e., physical, cognitive, and affective). Each of these domains contribute to the whole child's development. From the general development self-assessment, you can see that many pivotal milestones occur before the age of 3, which reinforces the need for early intervention programs and preschool education programs. Regardless of the classroom (e.g., elementary, middle school, or high school), the students will be progressing at different levels of development. As a classroom teacher, you should note the various developmental milestones of each student. These developmental assessments will allow you, as the teacher, to develop developmentally appropriate lessons and differentiated the content, process, or product based on the students' level of development.

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## Risk-taking Behaviors Quiz

1. **True or False.** Adolescents foresee the potential consequences of risk behaviors.
2. **True or False.** Between the ages of 14 and 18, more males tend to participate in sexual activity compared to females.
3. **True or False.** Risk-taking behaviors are interrelated.
4. **True or False.** The percentage of high school students who are considered overweight has remained unchanged over the last 10 years.
5. **True or False.** The rate of marijuana and cocaine use has increased over the last 15 years.
6. **True or False.** The rate of depression for female adolescents has decreased over the last 10 years.

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Hamman, D., & Hendricks, C. B. (2005). The role of the generations in identity formation: Erikson speaks to teachers of adolescents. *The Clearing House*, 79(2), 72-75.

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## Answers to the Risk-taking Behaviors Quiz

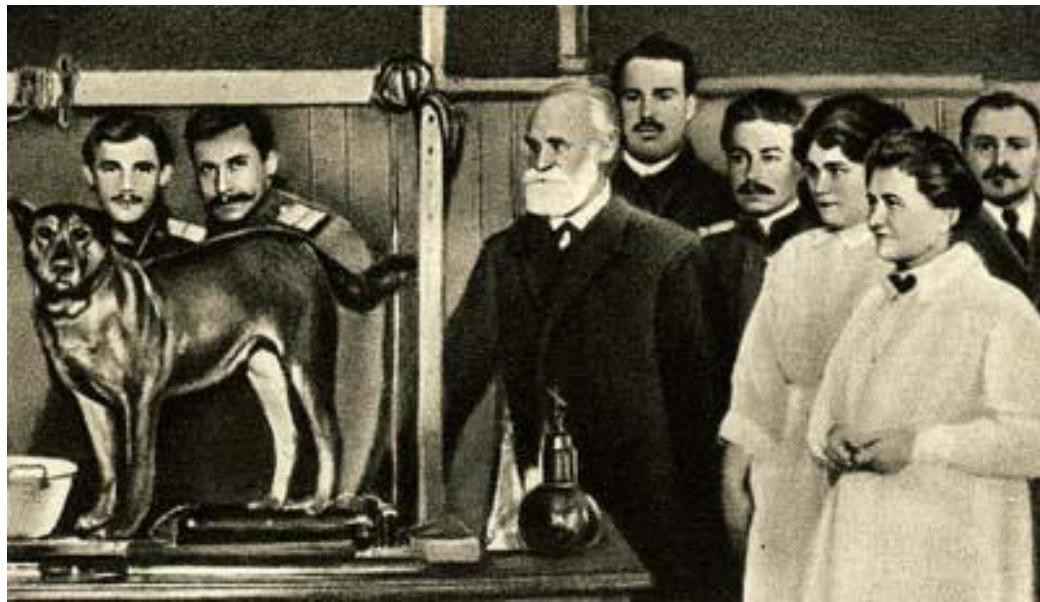
1. False
2. True
3. True
4. False
5. True
6. False



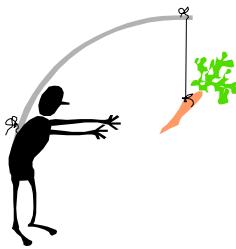
## Answers to the General Development Self-Assessment

1. By what age should a child reach for and grasp an object?
  - a) 6 months
  - b) 12 months
  - c) 18 months
2. By the age of 3, a child should be able to perform the following motor skills:
  - a) Kick a ball forward
  - b) Throw a ball overhead
  - c) All of the above
3. By the age of 2 years, a child should be able to say a sentence that contains \_\_\_\_ word(s).
  - a) at least 1
  - b) 2 to 3
  - c) 4 to 5
4. By what age should a child turn toward light and/or sound stimuli?
  - a) 3 months
  - b) 6 months
  - c) 12 months
5. By 18 months, a child should be have developed which of the following communication skills:
  - a) Comfort a distressed friend
  - b) Name at least one color
  - c) Recognize himself/herself in the mirror
6. By what age should a child be able to pull off his/her socks?
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  - c) 24 months
7. By 18 months, a child should be able to say \_\_\_\_ "understandable" words.
  - a) 4 to 6
  - b) 8 to 10
  - c) 12 to 14
8. By the age of 3 years, a child should be able to name \_\_\_\_ familiar objects.
  - a) 10
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  - c) 20
9. By 2 years of age, a child should be able to point to which of the following body parts:
  - a) nose
  - b) eyes
  - c) all of the above
10. By what age should a child play spontaneously with two or three children in a group?
  - a) 12 months
  - b) 24 months
  - c) 36 months

# Chapter 5: Behavioral and Social Learning Theory



## LEARNING OBJECTIVES



1. Describe the applications of Behaviorism in the classroom
2. Describe the applications of Social Learning Theory in the classroom.

### Behaviorism began in the 1920's with John Watson's Baby Albert experiments.

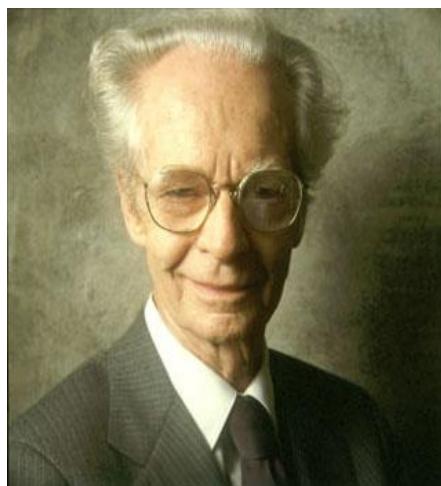
Ivan Pavlov demonstrated who classical conditioning applied to animals (i.e., salivating dogs and ringing a bell). John Watson along with Rosalie Rayner studied the three phases of classical conditioning with humans: generalization, discrimination, and extinction. After the conditioning, Little Albert generalized his fear to a rabbit, fur coat, and Santa Claus mask. His mother withdrew him from the study before it was concluded. Watch the video about Little Albert within CougarVIEW to get an idea of the experimental procedures and results as well as examples of the three phases. Classical conditioning can be observed in the classroom setting (e.g., negative experiences within a particular content area or bullying). As a high school math teacher, I had numerous students who had had negative experiences in previous math classes. Thus, these students felt they could not "do math".

### Behaviorism

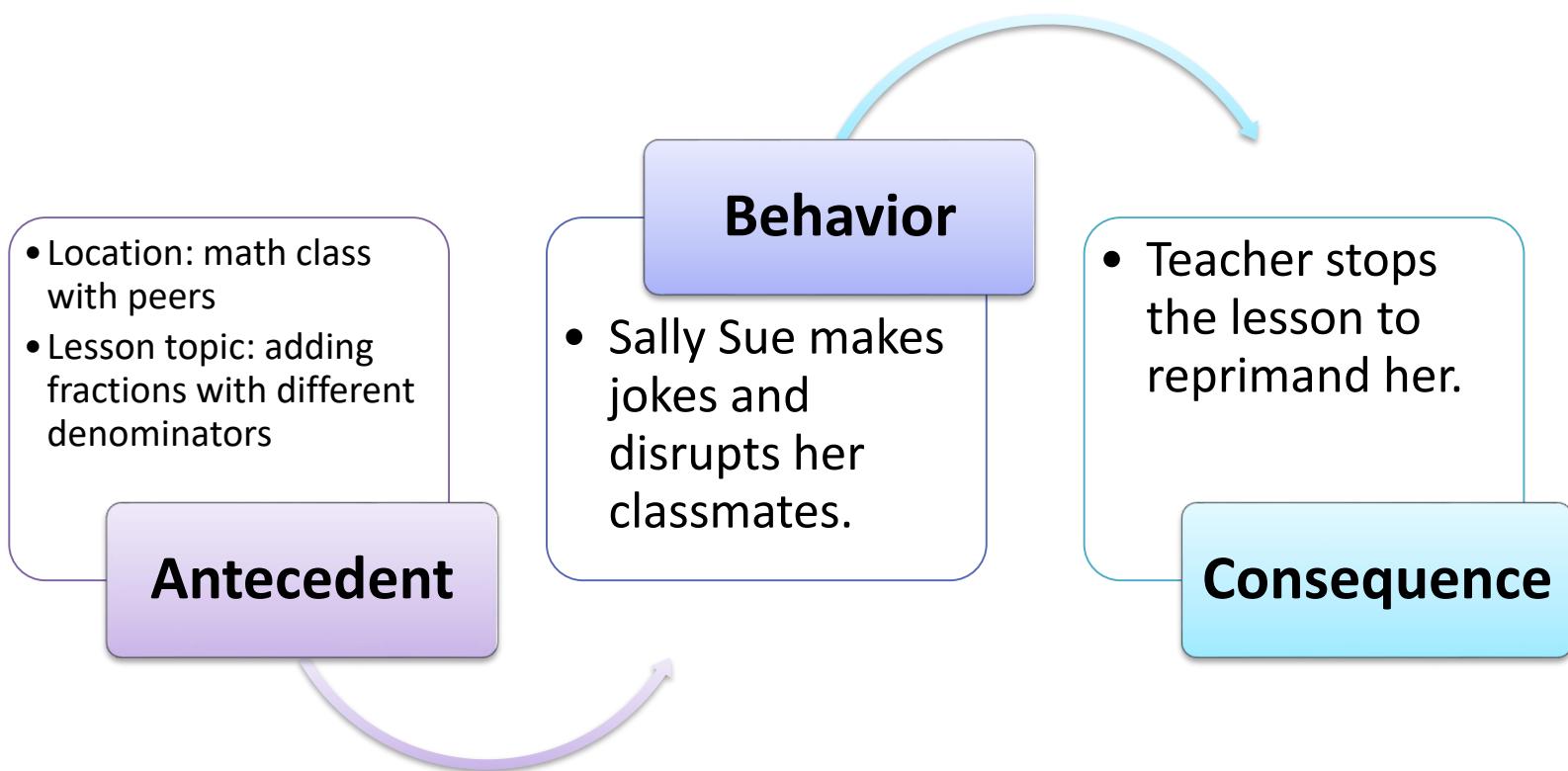
#### Nature of the Learner

Behaviorism sprang from Ivan Pavlov and his salivating dog experiments. From these experiments, the concept of **classical (or stimulus-response) conditioning**, where the learner is trained to respond to stimuli that the learner does not have control over, was defined. In other words, motivation does not play a role in behavior.

Burrhus Frederic (BF) Skinner (1904-1990) was a behavioral psychologist who was influenced by Charles Darwin's Theory of Evolution and natural selection, and Sigmund Freud's psychoanalysis where early experiences shaped the individual



later in life. He felt that motivation did play a factor. Thus, he defined **operant conditioning**, where the learner is motivated to change his or her behavior to receive the reward/consequence. To study this concept, Skinner designed and constructed "Skinner Boxes" where he studied a variety of animals, including pigeons and rats, select a switch to obtain an edible snack. He also created a "Skinner Box" for his daughters as shown above.



There are two principles associated with operant conditioning: (1) any response that is followed by a reinforcing stimulus tends to be repeated, and (2) a reinforcing stimulus is anything that increases the rate with which an operant response occurs. A classroom teacher applies this concept using shaping. **Shaping** involves teaching new behaviors by using differential reinforcement where some responses are reinforced and others are not or using successive approximation by rewarding only those responses that become increasingly similar to the target behavior.

For example, the teacher wants the student to pick up the block using the pincher grasp (i.e., thumb and point finger). She first gives the student verbal praise when the student places his hand on the block. Then, she continues to give him verbal praise when he clinches his fingers on the block, when he attempts to pick up the block, and when he uses his pincher

grasp to pick up the block. This same concept applies to decreasing inappropriate behavior when the teacher rewards appropriate displays of behavior.

As another shaping example, my oldest son would not eat anything but butternut squash and bananas between the ages of 1 and 2. In addition, those two foods had to be mashed like mashed potatoes before he would eat them. Nothing else could even be near or on his plate. I began the shaping process by giving him one new food to “poke” with his fork each day (e.g., blueberries and carrots). Then, we moved onto tasting one new food every day. To begin, he only had to eat one bite, then the required number of bites increased to two and so forth. Now, he is willing to have a new food on his plate and tasting it.

In order to shape the behavior, a teacher must define the **antecedent** (i.e., behavior or event immediately preceding the targeted behavior), the **targeted behavior**,

and the **consequence** (i.e., the behavior or event immediately following the targeted behavior). In the above example, Sally Sue disrupted her math class during a fractions lesson. Why do you think Sally Sue disrupted her math class? There are a few possible options. Option 1: She could feel frustrated because she cannot add the fractions with different denominators. Option 2: She had an argument with her parents before school. Option 3: She wants the attention from the teacher, whether it is for appropriate or inappropriate behaviors. As a teacher, you would need to examine all possible options based on your knowledge of the student to determine the possible rationale.

### Practical Application

Watch the video of Peppermint Patty at school within CougarVIEW, and complete the antecedent-behavior-consequence (ABC) form for Peppermint Patty.

## Nature of the Learning Process

Reinforcing stimulus is anything that increases the rate of a target behavior occurring.

**Punishment** is a consequence that decreases the probability of an undesirable behavior. It involves either taking away a positive reinforcer or adding a negative reinforcer. A **positive reinforcer** is a pleasant consequence that increases the probability of the behavior occurring again (i.e., receiving an A on the assignment or a piece of candy). A **negative reinforcer** is an unpleasant consequence that increases the probability of the behavior occurring again because the learner wants to avoid the consequence (i.e., staying on task to avoid detention or exhibiting appropriate behavior to avoid an office referral). Skinner did not believe punishment was effective. He felt it suppresses a behavior as long as it was applied; however, it does not weaken the likelihood of the behavior occurring again. According to Skinner, rewards change the frequency of a behavior reoccurring and punishments do not.

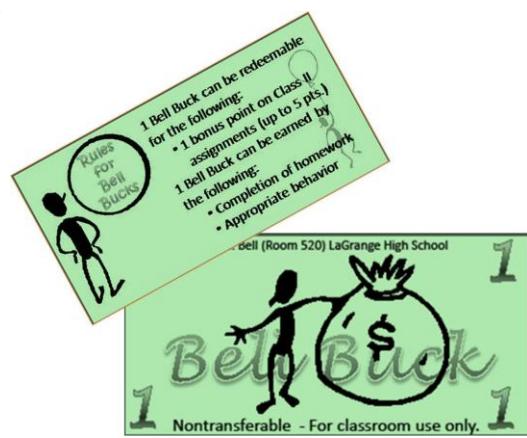
In Behaviorism, learning requires the students to master current objective before moving onto another, to be presented with new material when they are ready, and to be motivated through immediate and frequent reinforcement. Consider the previous example of the child picking up a block using her pincher grasp. In education, Behaviorism is the primary approach for behavior analysis (i.e., antecedent, behavior, and consequence) and behavior modification (i.e., token economy). For example, IDEA 1997 required all students who faced a possible change in placement for disciplinary



reasons to have a functional behavior assessment (i.e., antecedent, behavior, and consequence) prior to their manifestation determination hearing. This assessment would determine the target behavior(s), antecedents, and consequences for the student along with possible rewards for appropriate behavior.

In my classroom, I used a token economy approach to increase homework completion. I called it "Bell Bucks". (See the "Bell Bucks" pictured above.) If the student attempted all of the homework problems, which usually was 5 to 7 problems, then he or she would receive one "Bell Buck". I also gave them as prizes when we played BINGO and other math games. The students could use up to five "Bell Bucks" on a quiz, which gave them up to five extra points added to the final grade. I saw homework completion dramatically improve, which is vital to mastering mathematical concepts and procedures.

In other teachers' classrooms, I have seen similar reward systems. "Powell Bucks", pictured at the top of the next page, are given when the student contributes meaningfully to the discussion. Mrs. Powell at Northside High School allows the students to apply their "Powell Bucks" to their final nine week point total. Jones Elementary (a pseudonym) uses the token money idea to reward attendance and punctuality. The students can then use the token money at the school store. Miss Smith (a pseudonym) utilizes punch cards to reward





appropriate behavior. Once the student earns 10 punches on one card, he or she can get one prize from the Treasure Chest. Mrs. G from Hickory Hills Elementary School employs a token economy for the class. If the class exhibits appropriate behavior during the drama lesson, then they earn popcorn (actually pom-poms) in their class jar. Once filled, the entire class receives popcorn as a reward. Teachers of older students can utilize a similar concept by using a point system. Miss George (a pseudonym) uses the traffic light idea. The students begin each day on green. If Vanessa breaks a classroom rule, then she moves her color from green to yellow. If the inappropriate behavior continues, Vanessa would change the yellow to red. See the example below.

A common misconception within the classroom is whether or not the teacher is reinforcing the

behavior or punishing the behavior. We discussed earlier in this chapter that a reinforcer can be either positive or negative. **Reinforcement** is a consequence that increases the probability of a desirable behavior. As a classroom teacher, you should know that your intended punishment could increase the rate of a target behavior occurring, thus becoming a reinforcement. For example, Vanessa sings "You are my Sunshine" during calendar time each day. If Vanessa likes the attention she receives from the teacher during the intended punishment, she will continue to misbehave to receive the attention, which is considered a positive reinforcer. However, if the teacher ignores the inappropriate behaviors, then ignoring becomes a negative reinforcer since Vanessa will stop singing to avoid the ignoring consequence. More than likely, the teacher will see Vanessa's behavior improve over time based

on her desire for attention, and the frequent misbehaviors for attention will become extinct or cease. Other positive reinforcers could include verbal praise, hand gestures, stickers, games, and candy. (I would caution you about the overuse of candy and other sweets.)

Another concept, which incorporates positive reinforcers, is shaping. As we discussed earlier, **shaping** is process of teaching new behaviors using positive reinforcers to reward successive approximations until the target behavior is achieved. For example, Martha Sue exhibits off-task behavior (e.g., talking out of turn). Miss Smith tells Martha Sue that she will give her a sticker if she exhibits appropriate behavior 2 out of 5 ten-minute intervals. Martha Sue achieves that goal and receives her shiny new sticker. After maintaining this pattern for three days, Miss Smith tells Martha Sue that she will get two stickers if she exhibits on-task behavior 4 out of 5 ten-minute intervals. Again, Martha Sue achieves that goal and earns two stickers. Each student is different. Some students may need many rewards across a longer period of time before increasing the goal. Other students may need the goals to have smaller time intervals or smaller increments (e.g., 5 out of 10 two-minute intervals).

Watch the following video about Skinner's Shaping Experiments in CougarVIEW. Consider how you could apply this concept of positive reinforcement into your future classroom with behavior and/or instruction. What other types of positive and negative reinforcers exist within the classroom? Which of these reinforcers lead to unintended consequences?



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## Advantages and Disadvantages

The greatest advantages for the theory of behaviorism are applied behavior analysis and behavior modification. First, applied behavior analysis can target a behavior, assess the frequency of the behavior, determine methods for either decreasing or increasing the behavior, and collect data to decide if the selected method was successful or unsuccessful. In practice, this analysis can reduce off-task behaviors, such as biting a classmate, and increase daily living skills, such as using a coin operated vending machine. Second, the antecedent-behavior-consequence (ABC) is an excellent method for behavior modification. The ABC method can be used to determine the positive or negative reinforcers for target behaviors or causes for those target behaviors. For instance, by using the ABC method, a teacher can pinpoint the cause of a student's sudden outburst in class, the reason why a student fails to complete his assignment, or

a positive reinforcer for a target behavior. Both methods are invaluable when educating students with and without disabilities.

Behaviorism does not view people as living organisms, which grow, adapt, think, or feel. Instead, people are viewed as machines. Also, it does not consider the learner in relation to organized social life, mental and spiritual state. Instead, the learner is viewed in isolation. Behaviorism is directly linked with the behaviors and actions of the learner. For example, if I offer a student a pizza lunch if the student completes his or her homework every night for a two-week period, then the ultimate goal at the end of the conditioning period would be for the learner to complete his or her homework every night. As a result, the lower functioning students become conditioned to think that they should only complete tasks when they are given a tangible reward. As a high school teacher, I witnessed this response when

Fridays rolled around and my students expected a “free” day for being good during the week. Often, the behaviorism model is used for drill and practice or other rote situations. With this theory, higher order thinking skills are neglected. To develop critical thinking skills, assessments and other assignments should be written to assess higher order thinking skills instead of the basic knowledge and comprehension levels in Bloom’s Taxonomy. A strict application of Behaviorism would put these students at a great disadvantage.

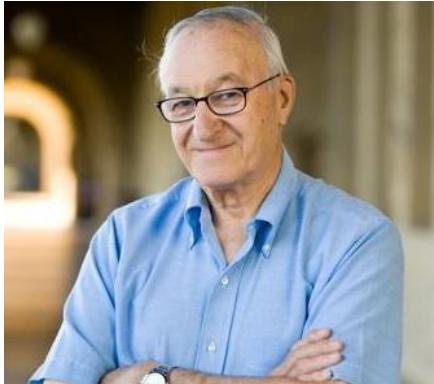
With Behaviorism, a major caution for its use is extrinsic motivation. First, as a learner matures, you want to replace extrinsic motivation with intrinsic motivation so the learner wants to learn for the joy of learning instead of a piece of candy, but intrinsic motivation involves metacognitive skills or self-regulation which are not addressed with the theory of Behaviorism. Another point of caution is satiation with extrinsic motivators. If the same reward or punisher is continually employed, then satiation with that reward or punishment will decrease the desired behavior. Therefore, the teacher would need to seek new extrinsic motivators for that student so he or she will continue to be engaged or disengaged in the target behavior. As I pointed to earlier, this situation is a disadvantage of Behaviorism because the theory only addresses behaviors instead of the cognitive and developmental level of the learner.

## Conclusion

As a special education teacher, I used Behaviorism in a variety of ways, such as classic conditioning when students came to me with math anxiety or

operant conditioning to promote generalization between mathematical processes, such as solving two-step word problems and three-step word problems. My primary utilization was classroom management (i.e., proximity control and regulation of appropriate and inappropriate behavior). In the beginning of the school year, I would establish policies and procedures for the classroom. These policies involved maintaining appropriate behaviors and eliminating inappropriate behaviors. The goal of these policies and procedures was for the class to run efficiently with or without the teacher in the classroom. If I had to leave the classroom and go to the office or miss class to attend a conference, my teaching assistant and students carried on "business as usual". The students were conditioned to follow a specific and systematic routine.

### Social Learning Theory



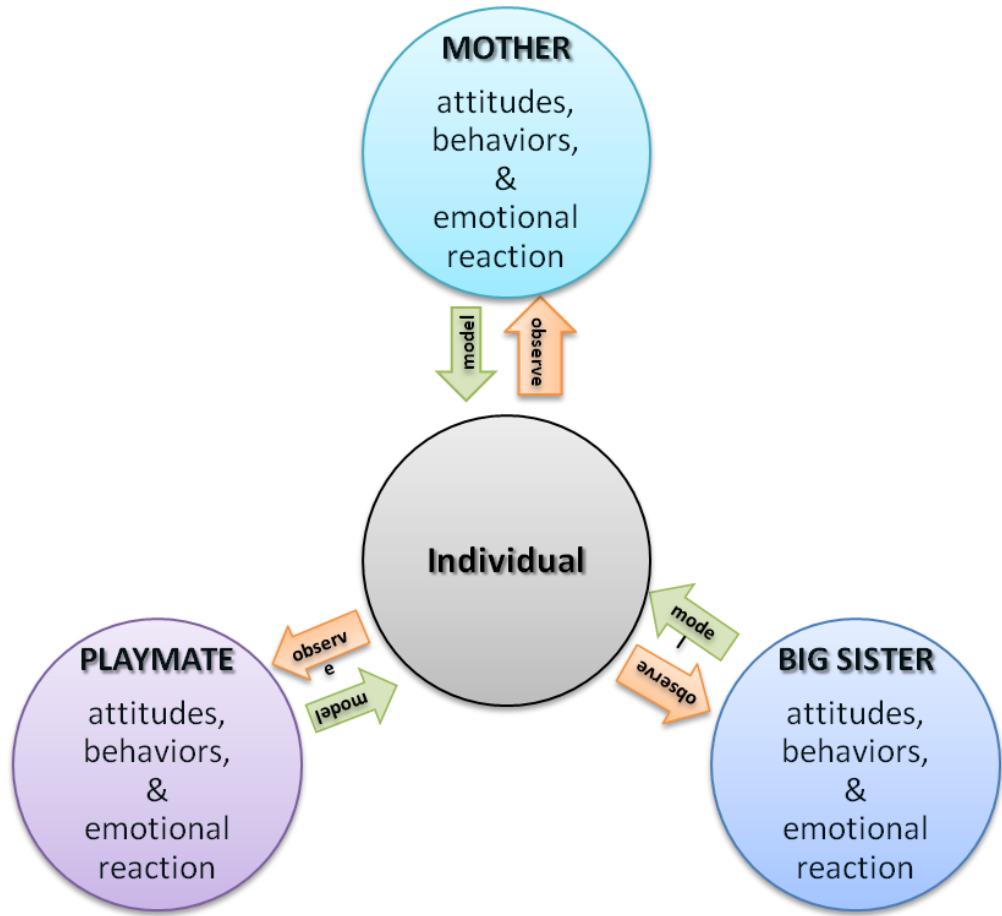
With Behaviorism, the relationship between motivation and performance of the learner are not addressed. Albert Bandura (1925 - ) is a psychologist and social learning theorist who developed the Social Learning Theory. The main focus of Social Learning is socialization. Behaviors are influenced by the social context in which they occur, such as observational learning, which is applicable each day in the classroom.



Retrieved from [www.amazon.com](http://www.amazon.com).

### Nature of the Learner

Learning is vicarious (i.e., watching someone complete the task). Bandura conducted the famous Bobo Doll Study in the 1960s where children watched an adult beat on a bobo doll and repeated the observed behavior once they played with the doll themselves. Watch the video about the Bobo Doll Study in CougarVIEW to provide you with a brief overview. Using the principle of **observational learning**, the individual can learn new behaviors, change or assist new behaviors, and/or arouse emotions. See the figure below. The individual observes and models the attitudes, behaviors, and emotional reactions from the mother, big sister, and playmate. This scenario is the reason children exhibit foul language or temper tantrums when



entering a new school or daycare center despite no prior history of such episodes. A positive use for observational learning is the game "Compliment". As the students are in the hallways or transitioning from one activity to the next, the teacher will compliment only the students who are exhibiting appropriate behavior. For example, "Johnny, I like how you are sitting on the carpet." When Martha Sue hears the compliment, she realizes that she needs to sit on the carpet so she can earn a compliment. The teacher did not need to give her a verbal reprimand for standing during circle time.

Another concept from Social Learning is self-regulation, which was missing from Behaviorism. **Self-regulation** is the controlling one's own behavior. Bandura outlined three steps for achieving self-regulation.

- 1. Self-observation** - monitor one's self and progress of the behavior;
- 2. Self-Assessment** - compare one's behavior with a standard;
- 3. Self-response** - reward or punish one's responses.

For example, in special education, students are taught to self-regulate their behavior. A teen student may be working on solving one-step word problems. He could have a simple tally sheet on his desk or in his folder where he marks the number of correctly solved word problems each day during the bellringer activity (step 1). At the end of the week, he could graph the recorded numbers and compare them to the previous

week's recorded numbers (step 2). If he met his goal for the week, then he could receive computer time, candy, or breakfast, which I often used (Step 3).

#### Nature of the Learning Process

The process of observational learning, according to Bandura, includes four modeling steps. See the below figure that outlines those four modeling steps.

According to Social Learning, rewards motivate learning, but negative motives, or punishments, could cause the learner to not imitate. The primary purpose of reinforcement is to provide the learner with information about conditions likely to yield reinforcement in the future. See the types of motivation or rewards from the Social Learning perspective on the following page.

## Observational Learning Modeling Steps (based on four skills)

1. Careful attention to the model and observing appropriate features of act.
2. Retention of the main features of the behavior.
3. Adequate reproduction of modeled act.
4. Justification of the imitative act in terms of external, internal, or vicarious rewards (motivation).



Teaching fundamental techniques for football, basketball, soccer, cheerleading, and dance involve the use of observational learning.

## Types of Motivation

- **Past reinforcements** (from traditional behaviorism)
- **Promised reinforcements** (rewards that can be imagined)
- **Vicarious reinforcements** (seeing and recalling the model being reinforced)

## Advantages and Disadvantages

The social learning theory rejects the stimulus-response component of Behaviorism. Reactions to various stimuli, such as a book dropping on the floor or a sudden loud noise, tend to be more innate reactions than learned responses through observation.

Bandura discusses **metacognition** (i.e., think about one's thinking); however, he does not address that a child could choose not to imitate the observed behaviors. Social influences, such as parents, peers, and environment, also play into his or her decision making (e.g., learning inappropriate behaviors from peers and adults, such as toddlers using profanity). This theory does

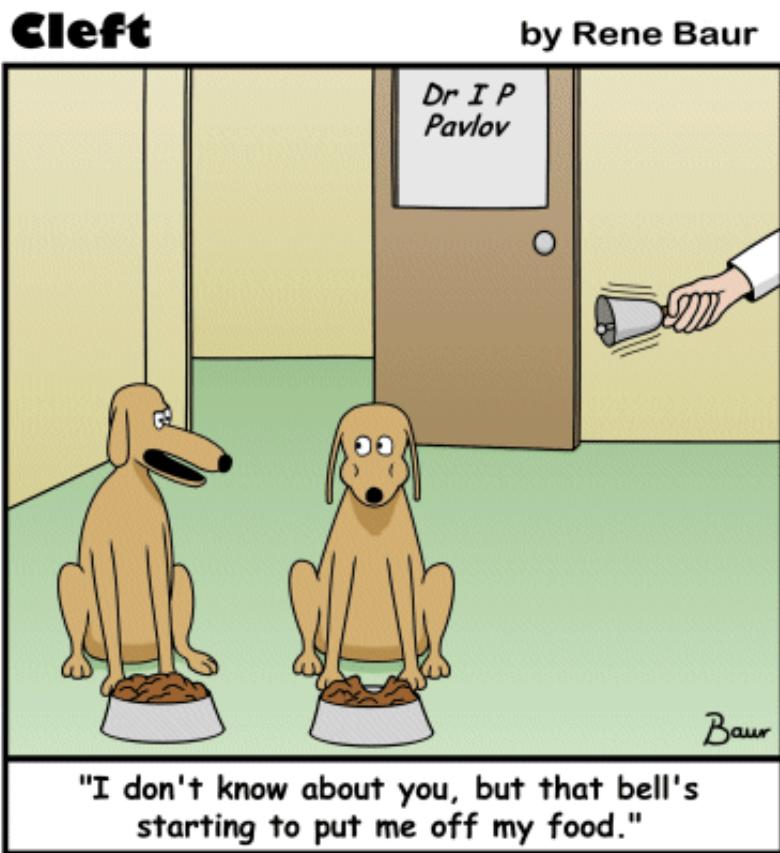
not consider learning differences among individuals. Some students can successfully learn behaviors visually, but other students are either kinesthetic or auditory learners, which require them to learn by doing or by hearing instead of by watching others perform the target behavior.

## Conclusion

As a side note, there is uncertainty in the literature about whether children learn violent behaviors from television and video games. Bandura thinks most behaviors are learned through observation, which leaves room for some behaviors to be innate. Despite children playing violent video games all day, they have cognitive ability. Depending on the stage of development, their perceptions will vary, but they are able to think for themselves and make decisions about inappropriate behaviors. There is empirical evidence that attempts to connect violence and video games and to explain violence among children (e.g., the Bobo Doll experiment).

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# Chapter 6: Cognitive Learning Theory



## LEARNING OBJECTIVES



1. Describe the applications of Piaget's theories to a classroom.



2. Describe the applications of Vygotsky's theories to a classroom.

(a) sensorimotor, (b) preoperational, (c) concrete operational, and (d) formal operational (Piaget & Inhelder, 2000; Pressley & McCormick, 2007).

### A teacher should identify the student's instructional level and match the instructional approach to the student's learning characteristics and stage of cognitive development.

In the classroom, Piaget's cognitive development theory and Vygotsky's zone of proximal development can adjust instruction to match the cognitive needs of the student. This chapter will discuss the theories of Piaget and Vygotsky along with possible classroom applications.

#### Piaget

##### Nature of the Learner

Jean Piaget (1896 – 1980) was a developmental psychologist; however, Piaget earned a doctorate in biology before turning his interests to psychology and psychoanalysis. In 1929, Piaget published *The Child's Conception of the World*. This book

explained his theory of cognitive development and became an important influence in American developmental psychology and education.

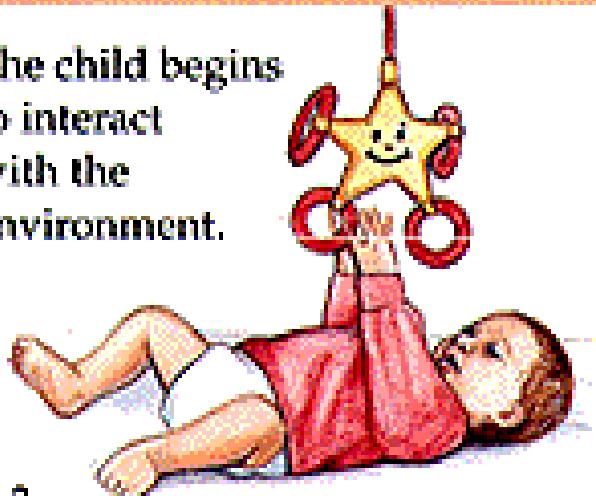
According to Piaget, learning (readiness) and instructional methods are limited to a developmental stage. Each stage is characterized by the acquisition of new schema. **Schema** is cognitive framework for organizing information. For example, your concept of a house may or may not be the same based on our cognitive experiences. As individuals progress through the stages, they are thought to be able to have more complex thinking and behavior. Different age levels are characterized by distinct stages of cognitive development:



**Sensorimotor.** At the sensorimotor stage, from birth to approximately 2 years of age, children use their interactions through the senses and motor skills to acquire schemas (Saylor, Alexander, & Lewis, 1981). These schemas are action-oriented relative to the environment (e.g., an infant who reaches and grasps a building block). These innate reflexes that infants use to explore their environment eventually develops into object permanence. Prior to developing object permanence, if an object is out of sight, it no longer exists; however, once object permanence is achieved, the child understands that the object exists whether the child can see it or not. For example, the peek-a-boo game is successful with children in the sensorimotor stage because they are surprised by the appearance of another person when they uncover their eyes. At this stage, interactions with physical environment and other people are critical for cognitive

## SENSORIMOTOR STAGE

The child begins to interact with the environment.



0-2

## PREOPERATIONAL STAGE

The child begins to represent the world symbolically.



2-6 or 7

## CONCRETE OPERATIONAL STAGE

The child learns rules such as conservation.



7-11 or 12

## FORMAL OPERATIONAL STAGE

The adolescent can transcend the concrete situation and think about the future.



12-Adulthood

development (Piaget & Inhelder, 2000; Pressley & McCormick, 2007).

**Preoperational.** For individuals at the preoperational stage, which continues through age 7, symbolic thought represents objects and events (e.g., language and gestures). The first indication of this symbolic representation is deferred imitation, when the child imitates behavior that has occurred previously. Another indication is symbolic play, when the child uses an empty bowl as a hat or a bath toy as a helicopter. Both of my sons love cars and trucks! My oldest son

will pretend his placement, hair brush, or another else is a car “going down the road”. Preschool-aged children exhibit **egocentrism** (i.e., unaware of the perceptions of others). Thus, they are unable to understand a situation from another person’s viewpoint. For example, the preschoolers will tend to talk at all once instead of taking turns, or, when they are retelling a story, they will tend to leave out contextual information (Pressley & McCormick, 2007). Watch the Delaney video in CougarVIEW. The conversation between Delaney

Retrieved from [edu.glogster.com](http://edu.glogster.com).

and her mother is a great example of egocentrism. According to the research of Piaget, children at the preoperational stage are unable to solve **conservation** (i.e., changes in appearance does not equal change in quantity). One of Piaget’s conservation tasks involved pouring water from a tall, slender glass into a short, wide glass. The child at the preoperational stage believes that water has been added or subtracted by pouring the water from one glass to another (Pressley & McCormick, 2007). If the child was asked to select the glass with the most

liquid, he or she would select the short, wide glass based on this child's egocentric perception.

### Concrete Operational.

Beginning at the age of 7, children at the concrete operational stage can apply cognitive operations to problems using concrete manipulatives. The learner depends on concrete manipulatives to reason. For example, children at this stage would calculate the addition problem "2 + 2" by counting two sets of two blocks because they are unable to represent the action of adding two plus two mentally. The concrete operational structures are weak and require step by step reasoning because the exchanges are based on directly related information or objects. For instance, it is possible for a child to verbally count the numbers 1 through 20 but not understand the sequencing from smallest to largest (Piaget & Inhelder, 2000). Children at the concrete operational stage moves from egocentric, where interactions revolve about them, to **sociocentric**, where they are able to see interactions from the perspective of the other participants.

Piaget believed that effective learning occurs in a child's everyday experiences; therefore, the school must provide opportunities for concrete, first-hand experiences and activities where children can share their beliefs and perspectives with each other (Pressley & McCormick, 2007). This discovery learning approach or constructivism allows the students to interact with their environment and "construct" their own connections with new information and prior knowledge.

**Formal Operational.** During early adolescence, around age 11, the individual moves into the formal operational stage, where they are

capable of reasoning and formulating abstract ideas, which are critical for problem solving, and are capable of thinking ahead (Pressley & McCormick, 2007). Where the individual at the concrete operational stage can seriate or sequence objects in one dimension (e.g., from smallest to largest), a child at the formal operational stage can seriate in several dimensions (e.g., color, shape, size, weight, or texture) (Piaget, 2006; Pressley & McCormick, 2007). Likewise, children at this stage can think without the use of concrete manipulatives (Pressley & McCormick, 2007), and their thinking no longer depends upon direct experiences (Saylor et al., 1981). Therefore, they can identify a problem, develop possible hypotheses, and test these hypotheses. Through this trial and error process, the child can reflect on the identified questions and anticipate the possible solutions. Thus, they have obtained abstract reasoning skills (Piaget, 2006).

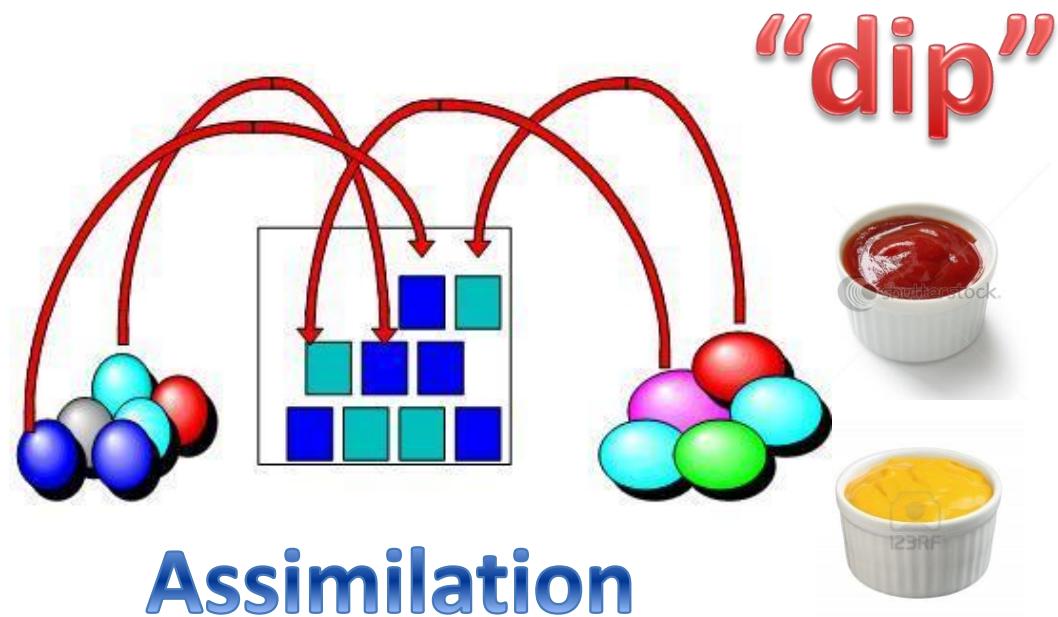
### Nature of the Learning Process

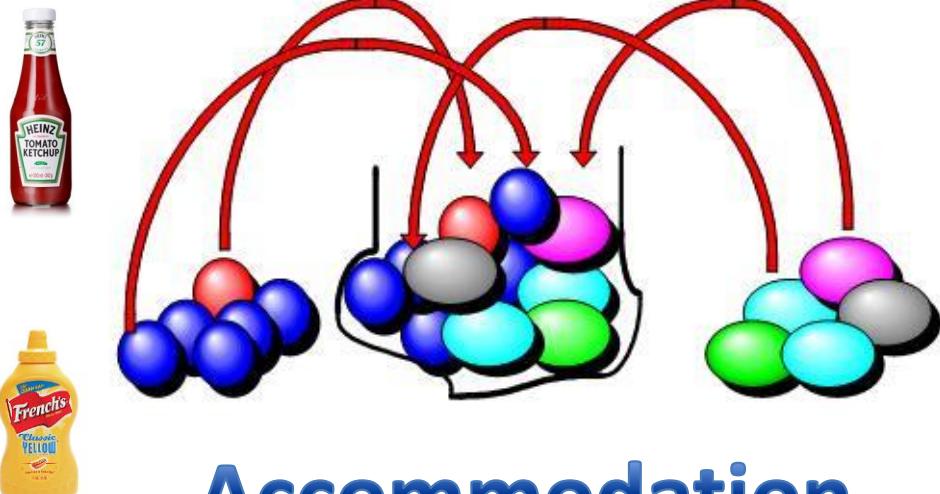
Individuals progress through the stages of cognitive development at different rates, and formal thought is acquired during the adolescence period. However, some individuals do not reach the formal operational stage. In the classroom, according to Piaget,

all thinking reflects the characteristics of the cognitive stage, and instruction should match those cognitive characteristics. An individual may reach the formal operational stage in different areas according to their aptitudes and experiences (Pressley & McCormick, 2007). Thus, readiness according to their cognitive stage becomes an important consideration for instruction (Saylor et al., 1981). For example, an art teacher would not assign a group of first grade students to create a Vincent Van Gogh type painting without prior instruction, examples, or manipulatives because their current cognitive development inhibits them from understanding abstract concept.

The way children develop schemas or storage containers as they adapt to the changing environment. New information is organized through two separate processes: assimilation and accommodation. **Assimilation** is the incorporation of environmental stimuli into existing schema.

**Accommodation** is a modification of existing cognitive structures in response to environmental stimuli. For example, a young child often refers to ketchup and mustard as "dip" because the child knows the sauces are used for dipping purposes. In other words, the child is assimilating. As the child





## Accommodation

grows older, he or she will learn the specific names for the sauces (e.g., ketchup and mustard); therefore, the child has accommodated the new schema. In the case of my oldest son, anything with wheels was referred to as a “car”. As he got older, he would identify the car, truck, van, motorcycle, wagon, and so forth.

Piaget used the term **disequilibrium** to refer to the state where two ways of thinking contradict each other. This uncertainty, or disequilibrium, requires the learner to accommodate or assimilate the contradicting idea and return to the state of equilibrium or balance. At any stage of development, this process of disequilibrium occurs. Thus, cognitive development involves the continuous cycle of disequilibrium followed by equilibrium at a higher level of competence using active inquiry by the learner (Pressley & McCormick, 2007). Using this concept, the teacher should provide the learner with the opportunity to construct new knowledge and understanding from authentic experiences to promote cognitive development.

### Criticisms of the Theory

With Piaget’s developmental levels, ages, and stages are not

perfectly matched with all children at all times. Logical reasoning varies depending on the circumstances and is affected by prior knowledge, experience, education, and culture. Recent research revealed symbolic thought and object permanence for infants occur sooner than thought by Piaget. Other examples include preschoolers who are not completely egocentric and able to make inferences, elementary school students who show evidence of abstract thought and able to reason deductively, and adolescents and young adults who gradually move into the formal operations stage.

Also, some theorists propose the idea of a post-formal stage where the learner can solve the problem with multiple approaches. Since Piaget emphasized the process of learning new knowledge, the art of teaching and the interaction between the teacher and learner are not addressed. He viewed the learner as independent and motivated by experience. Lower functioning students may lack self-discipline and cognitive skills to work independently with grade level material. Following Piaget’s theory, they would fall through the cracks. Vygotsky’s theories leave room for greater diversity than Piaget. For

example, Piaget thought cognitive development was independent of language. Vygotsky thought language was critical for cognitive development. (See the next section that discusses Vygotsky’s zone of proximal development.)

### Vygotsky

#### Nature of the Learner

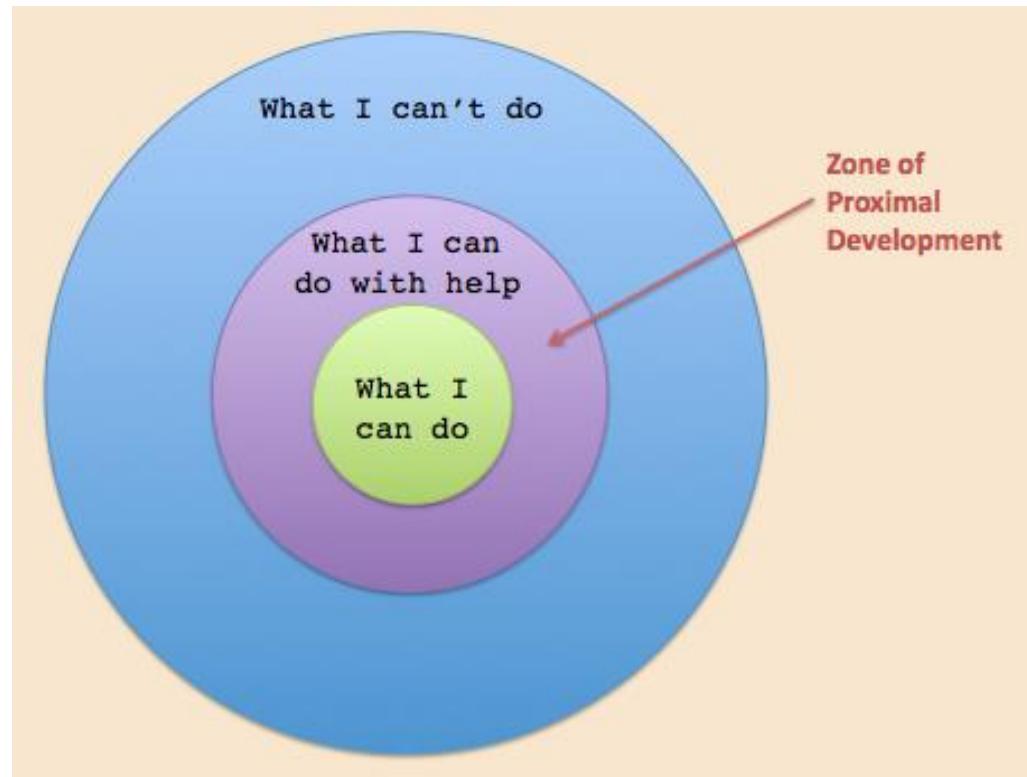
Lev Vygotsky (1896-1934) placed more significance on the impact of language and social interaction in cognitive development compared to Piaget. He recognized interdependence exists between the individual, interpersonal, and cultural-historical aspects. Vygotsky’s concept of **zone of proximal development** allows the teacher to develop instructional methods, or scaffolded instruction, to promote cognitive development. At the proximal or instructional level, the learner can perform a task with the assistance of teachers or peers at his or her developmentally-appropriate level. In Piagetian terms, the learner’s developmentally-appropriate level is the learner’s stage of cognitive development.

Learning through play (e.g., preschool classrooms) helps children understand language. When I worked with Early Intervention (i.e., children with special needs birth to age three), I used play therapy with my little babies. As we played with different toys, I was constantly naming objects, colors, shapes, and sounds. This dialogue could help the child to associate the object with the spoken word. A similar technique is used when the child is nonverbal. The dialogue helps the child associate wants and needs with gestures and spoken words of the caretaker. Involvement in social activities allows the learner to develop conceptual tools (i.e., interpreting, organizing, and problem solving).

## Nature of the Learning Process

See the diagram to the right that illustrates the zone of proximal development. In the center, the child's **actual level** is depicted. What can the child do independently? Often, this independent level of functioning is determined by formal or informal assessments. In the next ring, the child's **proximal level** is depicted. What can the child do with assistance from peers or adults? The tasks should be developmentally appropriate. At this instructional level, or zone of proximal development, the child can perform more challenging and difficult tasks with assistance. These challenging and difficult tasks promote maximum cognitive development.

In the outer ring, the **frustration level** is depicted. What can the child not do with or without assistance? If a child receives instruction at this level, he or she will shut down and/or become nonresponsive. For example, if a child reads on a second grade level, then the independent reading level is second grade or less, the instructional reading level is third grade, and the frustration level is fourth grade or higher. However, you must consider developmentally and age-appropriate materials. If the child is 16 years old, giving him or her a second grade



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reader would insult him or her. You must be more creative when looking for age-appropriate reading materials.

To demonstrate the zone of proximal development, find a partner to serve as your "learner". Use the artwork at the bottom left by Ricky Salisbury. You are the "teacher" so you will assist the learner with recreating this artwork. The learner cannot view the artwork or ask questions of the teacher. The teacher cannot view the work in progress. The creation must result from the teacher's

verbal description only. What were the results? What were the obstacles encountered? Do the differences between the original and the recreation reflect the teacher's lack of knowledge or lack of ability?

As a second demonstration, use the Scribble lamp by Thout, which is pictured at the bottom right. You will use a similar process; however, the learner can ask questions, and the teacher can answer those questions to the best of his or her ability. Also, the teacher can monitor the progress and give corrective feedback. Were the results better? Why or why not?



## Piaget

## Vygotsky

### Criticisms of Theory

One of the biggest criticisms of Vygotsky's theories was the translation of "obuchenie" (i.e., teaching or learning). Vygotsky was a Russian psychologist. Many of his ideas were viewed as anti-communist so his work was not translated until many years after his death in 1934. A few published books from 1962 and the 1980's translated the term to mean "instruction"; therefore, the teacher provided instruction, and the child learned the material. *Mind in Society* (1978) translated the term to mean "learning". These translations implied an unidirectional relationship between the teacher and child. Actually, Vygotsky viewed the relationship as bidirectional. The teacher provides instruction to the child, but the teacher also learns from the

experience with the child. Vygotsky's theory emphasized the effect of interpersonal and cultural influences on development. According to Vygotsky, social interactions provide the basis for cognitive development.

### Conclusion

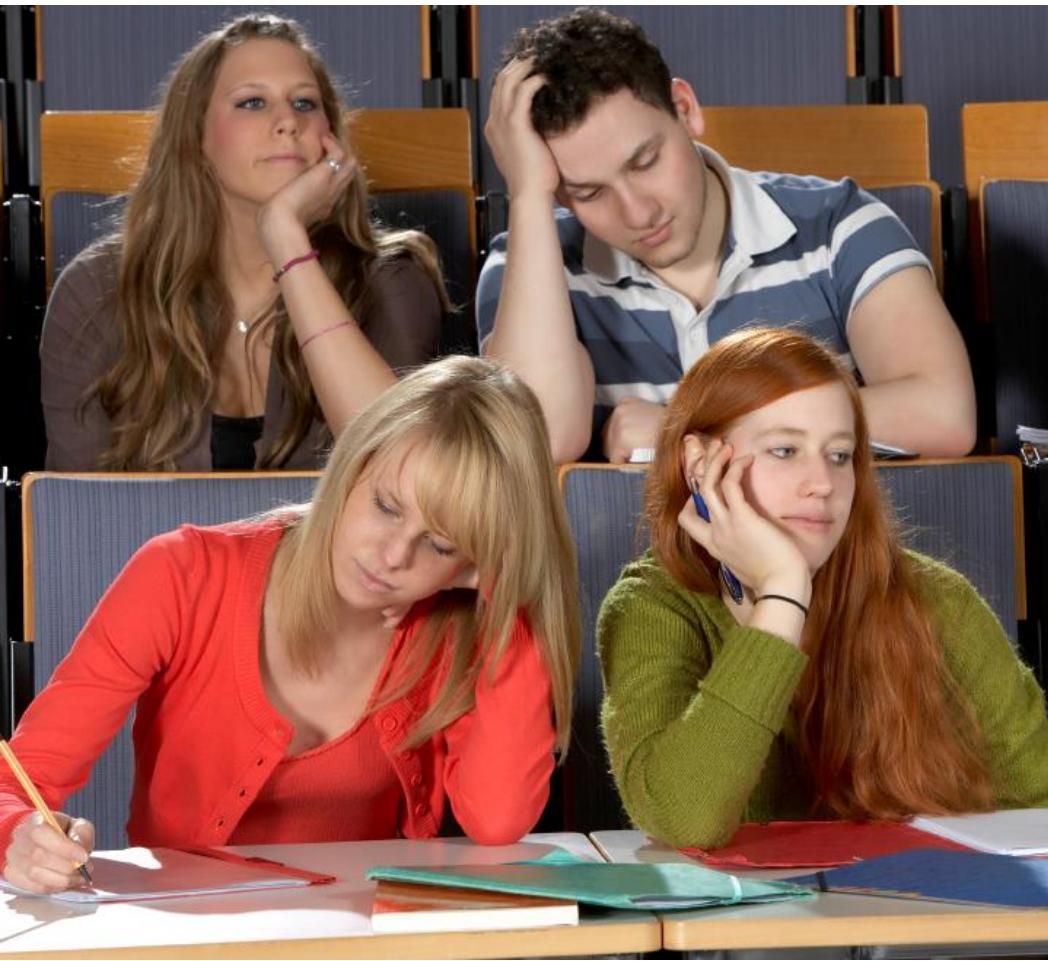
To review this chapter, use the above Venn diagram to compare and contrast the theories of Piaget and Vygotsky. See my ideas for the unique and shared attributes of Piaget and Vygotsky in CougarVIEW.

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# Chapter 7: Information Processing Theory



## If I was sitting in your Classroom, how would you teach me a new concept? Richard

Atkinson and Richard Shiffrin (1968) first introduced the cognitive theory of learning that describes the processing, storage, and retrieval of knowledge in the mind. This theory came known as information processing theory in later years. Basically, it is the systematic way that we learn. The learner is like a computer because he or she inputs information, saves it, and outputs the information upon request. Complete the information processing activating activity within CougarVIEW.

### Nature of the Learner

In today's classroom, many students have difficulty with short-memory. As a teacher, you should be

aware of the learner's attention span and memory limitations (e.g., distributed learning, suitable time and amount of information). It is essential to motivate the learner by grabbing and maintaining his or her attention. For example, I used various advanced organizers and mnemonics devices in the classroom. To remember the classification system in biology, I taught my students **King** (kingdom) **Prince** (phylum) **came** (class) **over** (order) **from** (family) **Greece** (genus) **singing** (species). To keep the students' interest, I would change King Prince to students' names that began with "K" so they had ownership. In addition, I used advanced organizers for multiple step problems, such as calculating overtime pay and balancing a checkbook. Students with mild intellectual disabilities traditionally have had difficulty with short-term

## LEARNING OBJECTIVES

1. Explain how the information processing model works & illustrate its processes in a diagram.



2. Identify factors that lead to forgetting and to retaining information.



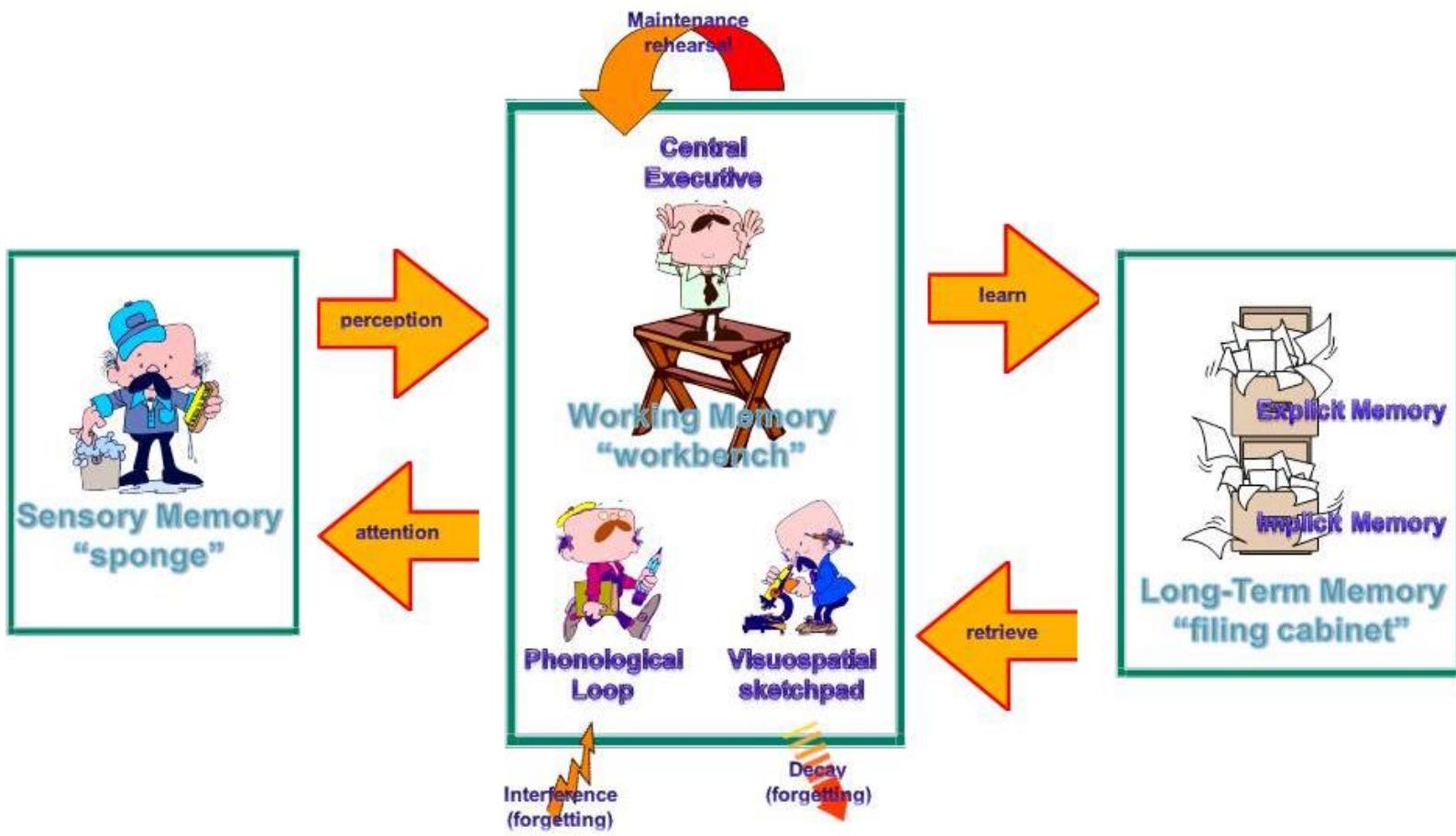
3. Describe several ways in which memory strategies can be directly taught.

memory. Students with learning disabilities can have similar difficulties. By learning and employing rehearsal strategies and other memory strategies, they can move information to long term memory.

### Nature of the Learning Process

#### Sensory Memory

In the information processing model, there are three phases (pictured on the next page): Sensory Memory, Working Memory, and Long-term Memory. First, the stimuli from the environment enters the Sensory Memory, or "sponge", where it transforms into information. The **Sensory Memory** has a very large capacity, but its duration is 1 to 4 seconds. This environmental stimuli is collected through the five senses, which includes sights, sounds, tastes, smells, and feelings. There are two



roadblocks that can impede information from moving into the next phase, perception and attention. **Perception** is the process of detecting stimuli and giving it meaning. Think of a cute little kitten who might look in the mirror and see himself as a furious lion. **Attention** enables the learner to select or ignore stimuli. Both of these roadblocks are major issues in today's classroom. The presentation of material that integrates kinesthetic and tactual cues, such as handwriting or the use of visual and auditory cues, can assist with attention. For the teacher, you have to gain the students' attention with color and/or interest (e.g., sports) and maintain it throughout the learning process.

### Working Memory

Next, if those obstacles do not hinder it, the information moves into Working Memory, or the

"workbench". **Working Memory** is a place where currently activated information is processed. Working memory is where the information is temporarily stored and where calculations and transformations occur. The capacity is seven plus or minus two new pieces of information based on the research of George A. Miller (hence, the seven-digit phone number). The duration of the information is 5 to 20 seconds. The contents on the "workbench" are words, images, ideas, and/or sentences. To oversee this process, the central executive supervises attention, makes plans, retrieves information, and integrates the information. There are two workers at the "workbench": Phonological Loop and Visuospatial Sketchpad. The **Phonological Loop** is a system for rehearsing words and sounds. It focuses on the verbal information. The **Visuospatial Sketchpad** is a place, where images are

manipulated after retrieval. It focuses on the visual information. When working with information on the "workbench", organization and rehearsal can improve the chances of information moving into the next phase because the learner gains more meaning from the information; therefore, it encodes the information into the long-term memory. Methods for improving organization are chunking, clustering, sequential (or serial), and paired association. Allowing the learner to acquire and master small chunks of information before moving onto the next small chunk or skill is a common procedure in the classroom. I would tell my students that "Rome was not built in a day", but I continued to remind them about "Where the train was going?". In pre-school, I learned the "ABC Song". When I need to alphabetize anything, I tend to sing that song to myself. That song is an excellent example of the sequential

**SOLITUDE**  
(SOL uh tud) *n.*  
being alone or isolated from others;  
a lonely or secluded place  
Sounds like: **SOLO DUDE**



"A SOLO DUDE in SOLITUDE."

Retrieved from [www.vocabularycartoons.com](http://www.vocabularycartoons.com).

method. Paired associations have been used for many years in special education. Using paired association instruction allows students to store and retrieve information effectively. For example, as you learned in preschool, "A is for apple". Methods for rehearsal include massed practice and distributed practice. With **massed practice**, the student practices the "skill" repetitively over long periods of time. This type of rehearsal works best with high motivated students and when there is limited instructional time. With **distributed practice**, the skill practice is spread out across time. This type of rehearsal works best with students who lack interest or motivation or when the skill is difficult (Skill Acquisition, n.d.). For

example, I utilized the first 5 minutes of class as the "bellringer" time. During this warm-up sessions, I would allow the students to practice math skills acquired in my class or during previous classes. The distributed practice allowed the students to rehearse the math skills as well as activate their prior knowledge before beginning the current lesson.

The primary issue at the "workbench" is forgetting. Two reasons why a learner might forget information are inference and decay. **Interference** is distractions, such as intercoms or students leaving class. **Decay** is the lack of rehearsal over time, such as the "use it or lose it" expression. For the teacher, you have to use advance (or graphic) organizers to increase organization of the information and be cautious of the amount of instructional time and the amount of information (e.g., Pre-K = 3.5 pieces and 4th grade = 5.5 pieces). As you move through the school year, you should use frequent distributed practice so the students can retrieve and utilize

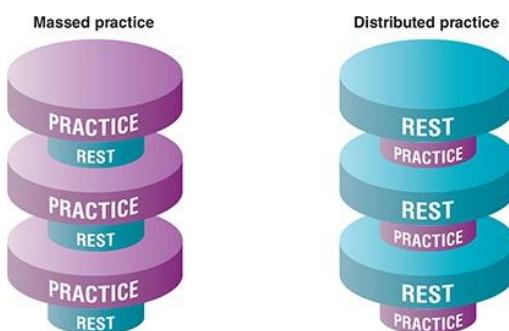
previously learned content. Classroom management (see Chapter 12), including policies and procedures, is key to reducing the amount of distractions within the classroom.

### Working Memory

Lastly, if the information processing is not impeded, the final phase is **Long-term Memory**, or "filing cabinet", where the information is stored permanently. The capacity and duration are practically unlimited. The contents include propositional networks, schemata, productions, episodes, and images. Within Long-term Memory, there are two types of memory, explicit and implicit.

**Explicit memory** is the conscious recall of general knowledge or episodes. **Implicit memory** is the unconscious recall, such as classical conditioning (e.g., the smell of your favorite food when you enter a restaurant) and procedural memory (e.g., how to ride a bicycle). Proper encoding of information results in it being accurately and quickly retrieved from the Long-term Memory for use at the "workbench". For example, rote memorization has little meaning to the learner. It is retrieved less easily and less frequently compared to information that has meaning and is understood.

**Elaboration** is a method of recalling stored information to the Working Memory. Examples of elaboration are imaging (keyword), loci method, pegword, rhyming, and initial letter. For the keyword method, first, select a word that is familiar to the learner, sounds like the new word, and easily pictured. Second, create a picture or imagine with the new word and keyword. See the above vocabulary cartoon for the word "solitude". Often, I used this book and technique in the



## What are the freedoms guaranteed by the First Amendment to the Constitution?

### RAPS (Religion, Assembly, Press, and Speech)

#### What are the notes on the treble line staff?

### Every Good Boy Deserves Fudge

classroom. Another idea is to use the first letter and make silly phrase, sentence, or rhyme (e.g., FOOTBALL at the beginning of this chapter or the two examples on the next page). For the teacher, mnemonic devices or silly songs during instructional periods can be useful and could assist with effective information processing methods (e.g., the Quadratic Formula Song or the Circle Angle Formula Song). It allows the students to incorporate prior knowledge with new content. While in the classroom, I tried to create memorable learning experiences for my students. I wanted my students to remember the words to the formula songs or the day when we rolled the ball up the hill and created the gravity parabola when they sat down to take the standardized test.

### Advantages and Disadvantages

Information in context has meaning for the learner, easily understood, easily retrieved, and successfully moves to long term memory. If information is not in

context, rote memorization occurs with the less meaningful information, and information is not easily retrieved or successfully stored in long-term memory. In special education, the instructional approach is often rote memorization of multiplication facts, sight words, and subject-specific jargon with the notion of “playing catch-up”. This drill and practice approach was thought to be the most effective (i.e., evidence based) for older students with mental retardation because they were incapable of high-order thinking skills (i.e., Piaget’s concrete operational versus formal operational stages). Recent research has proven otherwise.

Research suggests that high-achieving students tend to self-regulate more automatically than low-achieving students. Providing the instruction to low-achieving students to promote their self-regulation, such as requiring them to use specific rehearsal strategy (e.g., graphic organizers or cognitive strategies to follow various steps), can cause confusion for the high-achieving student. The explicit instruction of rehearsal strategies often conflicts with their higher order thinking.

### Conclusion

Information Processing Theory has implications for activating prior knowledge in the learner, acquiring automaticity, and engaging the students in meaningful learning opportunities.



Rehearsal strategies and organized input encourage the easy retrieval of information. For many students, they must be taught when and how to use those strategies and practice them frequently. At the end of this chapter, I included three role play activities for you to review. As you review them, determine which phases of the Information Processing Theory would apply to the various components of the presented activity. My thoughts follow the activities. For my future science teachers, I included “The Cell Play”. It is an excellent way to teach how organelles within a cell create protein. Lastly, there is a comparison chart for the three theories that have been discussed in this unit. It can assist you with comparing and contrasting the theories. In addition, there is a link within CougarVIEW for an interactive game to review the three learning theories. The software that I used to create this interactive game is available free of charge to educators from [www.contentgenerator.net](http://www.contentgenerator.net).

### References

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# INFORMATION PROCESSING ROLE PLAY #1

Miss Sally Sue takes her second-grade class to the library. The class has been studying the solar system, and Miss Sally Sue wants to use the library time to focus on the planets of the solar system. *Need 9 students (Sun and 8 planets) along with Miss Sally Sue, the teacher. I would make name tags with pictures to denote each student's role.*

- Group the inner and outer planets (chunking).
- Demonstrate the motion of the solar system using students.

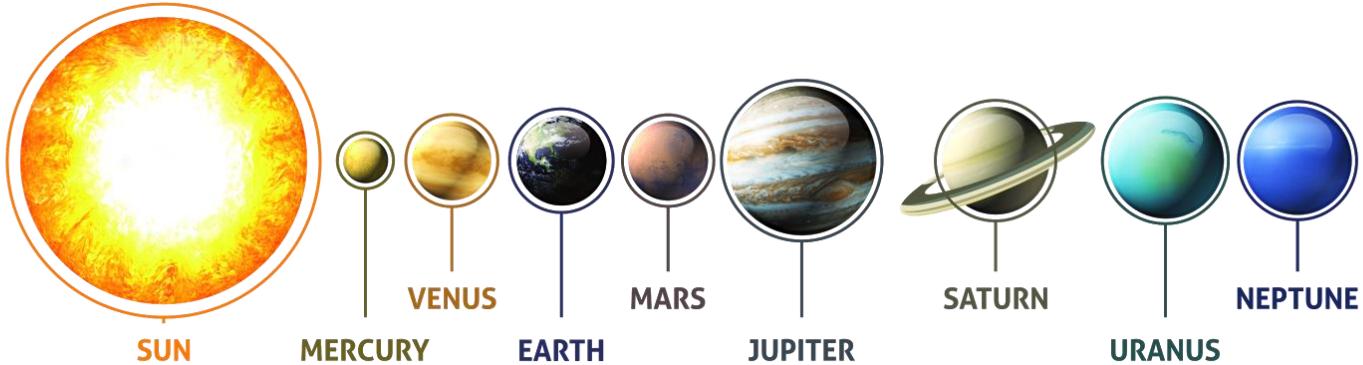
Movement in terms of Earth revolution:

Mercury – 4 complete revolutions (50 steps = 1 revolution); Venus – 80 steps; Earth – 50 steps;  
Mars – 25 steps; Jupiter – 9 steps; Saturn – 1.5 steps; Uranus – 0.5 steps; Neptune – 0.25 steps.

- Use cues to signal when you are ready to begin.
- Use sentence to remember the order of the planets:

“My Very Educated Mother Just Served Us Nachos”

## SOLAR SYSTEM



# INFORMATION PROCESSING ROLE PLAY #2

Miss Martha Sue's first-grade class is practicing how to round one-digit numbers to the nearest ten in the math learning center. She makes a graphic organizer poster that listed the two rules for rounding to the nearest ten.

1. Use a number line.
2. Give a worksheet with manipulatives (e.g., cups that will not hold more than 4 bean bags).
3. Use a rhyme.

**Five or more, Raise the score;  
Four or less, Give it a rest.**

- Move around the room to monitor students.
- Use real world situation.
- Review previous lesson about rounding (activate prior knowledge).

# INFORMATION PROCESSING ROLE PLAY #3

Mr. Billy Bob's third-grade class is studying the water cycle. He uses a Reader's Theatre to teach the parts of the water cycle. *Cast: 7 Water Drops, the Sun\*, and a Little Kid. I would make name tags with pictures to denote each student's role.*

\*Sun (teacher or student) needs to change the volume and pitch of its voice.

Water Drop 1: Here we are hanging around in this puddle.

Water Drop 2: Yeah, this is the life!

Water Drop 3: Hey! Look behind that cloud! Guess who??

Water Drops 1, 2, and 3 : It's the sun! Yay! Evaporation!!!

**Sun: Hey guys!! I told you I would see you again soon! What have you been doing?**

Water Drop 1: I've been in the ocean! I saw a lot of fish!

Water Drop 2: I've been hanging around on Dr. Pepper and tea glasses. Yummy!

Water Drop 3: I helped water some flowers! They sure smelled pretty!

**Sun: It sounds like you were busy! Well, you are up here now, I have done my job, I will see you later.**

Water Drop 1: I wonder who else will show up?

Water Drop 2: It is a little bit cold. I should have brought my jacket!

Water Drop 3: Here are the others! Hi Guys!!

Water Drops 4, 5, 6, and 7: Hi! How are you?

Water Drop 4: I haven't seen you guys in a long time!!

Water Drop 5: I just got off of a surf board!

Water Drop 6: Really? I just came from a dog's bath. He shook me into the air!

Water Drop 7: It is really getting cold up here! Gather around guys. We need to condense!

All the Water Drops: BRRRRRRRRRRR! I am Freezing! A-CHOOOOO!

Water Drops 4 and 5: It is getting crowded. OOPS!

Water Drop 6: Ah, my favorite part: Precipitation!

Water Drop 7: Yeah, and my favorite kind, snow!

Little Kid: Yay!! It snowed last night!! I'm going to build a snowman!

Water Drop 3: Tee Hee! That tickles!

Water Drop 5: I'm getting smushed here!

Little Kid: Wow! My snowman looks great! I'm going to go eat lunch.

**Sun: Well, that was a nice nap, but now I have to do my work. Guess I had better thaw out those little guys.**

All the Water Drops: We're Melting! We're Melting!

Water Drop 1: Hey guys, we all ended up in the puddle together!

Water Drop 2: And look who is up in the sky!

Water Drop 3: The SUN! Here we go again!!



# POSSIBLE ANSWERS FOR INFORMATION PROCESSING ROLE PLAY ACTIVITIES

Scenario	Sensory Memory	Working Memory	Long-Term Memory
<b>Information Processing Role Play #1 (solar system)</b>	Gained attention – movement & cued the students Senses – see colors & shapes INTEREST Prior knowledge	Chunking - Grouping the planets by color. Serial learning – grouping planets by size Enactment	Initial letter – acronym sentence Review previous information Episodic memory
<b>Information Processing Role Play #2 (math learning center)</b>	Attention – movement around the room (proximity control) Prior knowledge	Graphic organizer with steps Different presentation methods	Rounding rhyme Review previous information Real world context (elaboration)
<b>Information Processing Role Play #3 (water cycle)</b>	Gained attention – change in voice tone & movement & cued with “name tags” Senses – felt objects & see shiny & hear and say the words INTEREST	Serial learning – sequence of events Enactment	Real world context (elaboration) Episodic

Other possible additions to the lesson(s):

- Informal drill and practice (working memory)
- Discuss the similarities and differences between the planets (long-term memory: elaboration)
- Keyword method for large vocabulary words (e.g., evaporation) (long-term memory)
- Could we have used paired associations with these scenarios? (working memory)

(Bell, J. L., 2008)

# THE CELL PLAY

by Christina Hilton ([Chilton@gcsc.k12.in.us](mailto:Chilton@gcsc.k12.in.us)) Maxwell Middle School, Maxwell, IN

Concepts Taught: How the organelles work together to create a protein.

## Directions

1. Assign organelles to the students:

- nucleus
- nucleolus
- rough er
- smooth er
- (3) golgi apparatus
- lysosome
- (2) vacuole
- (2) mitochondria
- (2) cytoskeleton
- (2) ribosomes

2. Distribute trash bags (membranes):

- nucleus 2 (because nucleus has a double membrane)
- mitochondria 1 each
- nucleolus 1 each
- rough er 1 each
- smooth er 1 each
- golgi apparatus 1 each
- vacuole 1 each
- lysosome 1 each

3. Paperclip or tape organelle name tags to trash bags or student's clothing.

4. Read over the script with the class. Explain to the students that for the play the nucleus will speak, but it actually directs the cell functions by sending out chemical messages.



## Script

NUCLEUS: "MITOCHONDRION MAKE ENERGY" (*Mitochondrion make energy by either writing the word energy on a piece of paper. Have each mitochondria make three.*)

NUCLEUS: "CYTOSKELETON TAKE AN ENERGY UNIT TO EACH OF THE FOLLOWING: NUCLEUS, NUCLEOLUS, ROUGH ER, SMOOTH ER, GOLGI APPARATUS, AND LYSOSOME" (*Cytoskeleton picks up the energy units and delivers them to the intended organelles.*)

NUCLEUS: "NUCLEOLUS MAKE A RIBOSOME (ATTACHED)" (*Nucleolus puts a name tag that says ribosome on one of the students, then one cytoplasm student takes the ribosome and stands him/her right next to the rough er.*)

NUCLEUS: "MITOCHONDRION GIVE THE NUCLEOLUS ANOTHER ENERGY UNIT" (*Cytoskeleton picks up the energy units and delivers them to the nucleolus.*)

NUCLEUS: "NUCLEOLUS MAKE ANOTHER RIBOSOME (UNATTACHED)" (*Nucleolus puts a name tag that says ribosome on the other student that was assigned to be a ribosome, then one cytoplasm student takes the ribosome to another part of the cell.*)

NUCLEUS: "MITOCHONDRION GIVE EACH RIBOSOME AN ENERGY UNIT" (*Cytoskeleton picks up the energy units and delivers them to the ribosome.*)

NUCLEUS: "RIBOSOMES MAKE A PROTEIN" (*Ribosomes make a protein by writing the word protein on a piece of paper.*)

NUCLEUS: "CYTOSKELETON SEND PROTEIN FROM ATTACHED RIBOSOME TO SMOOTH ER AND SEND PROTEIN FORM UNATTACHED TO AN ORGANELLE" (*One cytoskeleton student takes the protein from the attached ribosome to the smooth er, and the second cytoskeleton takes the protein to any organelle.*)

NUCLEUS: "SMOOTH ER PACKAGE THE PROTEIN AND SHIP IT TO THE GOLGI APPARATUS" (*Smooth er tears off part of trash bag [membrane] and wraps it around the protein. Then, the cytoplasm delivers the packaged protein to the first student in the golgi apparatus line.*)

NUCLEUS: "GOLGI APPARATUS ALTER THE PROTEIN TO ITS NEEDED FINAL FORM, REPACKAGE IT AND SEND IT OUT OF THE CELL" (*First person unwraps the protein then hands it to the second person. The second person then alters it by folding the protein paper. Next, the second person hands it to the third person who tears off part of his/her trash bag and wraps the plastic around the protein. Finally, the wrapped protein is handed to the cytoplasm who takes the packaged protein and sets it outside the cell [through the classroom door].*)

NUCLEUS: "LYSOSOME COLLECT AND RECYCLE OLD AND DYING PARTS" (*Lysosome collects and recycles old and dying parts. [Before the activity begins, mark the name tags in some manner so that the lysosome knows who to recycle.] The lysosome finds the organelle that has been marked, tears off his/her trash bag, and shoves the removed trash bag inside his/her own trash bag.*)

\*\*Repeat script if time permits with different students.

Retrieved from <http://teachers.net/lessons/posts/2118.html>

# Review of Unit II Learning Theories

Perspective	Behavioral	Cognitive	Information Processing
Background	<p>Early 20<sup>th</sup> century</p> <p>B.F. Skinner – his ideas on Operant Conditioning largely contributed this perspective.</p> <p>Developed as a reaction to the study of mental phenomena.</p>	<p>Later 20<sup>th</sup> century (although ideas of constructivism have existed prior to the 20<sup>th</sup> century - Dewey, Piaget, Bruner, and Vygotsky)</p> <p>Represents a collection of theories including - generative learning, discovery learning, and situated learning.. Ideas of constructivism come from cognitive psychology, developmental psychology, and anthropology.</p>	<p>Mid 20<sup>th</sup> century</p> <p>George Miller – provided two ideas that are fundamental to this perspective:</p> <p>Short-term memory can only hold 5-9 chunks of meaningful information.</p> <p>The human mind functions like a computer – taking in information, processes it, stores and locates it and generates responses to it.</p> <p>Developed as a reaction to behaviorism.</p>
Definition	Learning occurs when new behaviors or changes in behaviors are acquired as the result of an individual's response to stimuli.	Learning is the process where individuals construct new ideas or concepts based on prior knowledge and/or experience.	Learning is a change in knowledge stored in memory.
Principles	<p>The influence of the external environment contributes to the shaping of the individual's behavior.</p> <p>The environment presents an antecedent that prompts a behavior.</p> <p>Whether the behavior occurs again is dependent on the consequence that follows it.</p>	<p>Individuals construct knowledge by working to solve realistic problems, usually in collaboration with others.</p> <p>Learning as a change in meaning constructed from experience.</p> <p>Individual interpretation of experience vs. objective representation (information processing perspective)</p>	<p>Governed by internal process rather than by external circumstance (behaviorism).</p> <p>Process of selecting information (Attention), translating information (Encoding), and recalling that information when appropriate (Retrieval).</p>
Applications for Instruction	<ol style="list-style-type: none"> <li>1. State objectives and break them down into steps</li> <li>2. Provide hints or cues that guide students to desired behavior.</li> <li>3. Use consequences to reinforce the desired behavior.</li> </ol>	<ol style="list-style-type: none"> <li>1. Pose "good" problems - realistically complex and personally meaningful.</li> <li>2. Create group learning activities.</li> <li>3. Model and guide the knowledge construction process.</li> </ol>	<ol style="list-style-type: none"> <li>1. Organize new information.</li> <li>2. Link new information to existing knowledge.</li> <li>3. Use techniques to guide and support students' Attention, Encoding, and Retrieval process.</li> </ol>

Retrieved from <http://www.my-ecoach.com/idtimeline/learningtheory.html>

# Unit III

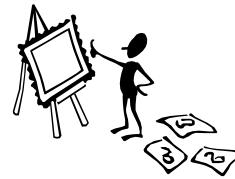


## Effective Teaching Tools

# Chapter 8: Instructional Design



## LEARNING OBJECTIVES



1. Use backward design to develop a unit of study.



2. Write an instructional objective using Bloom's Taxonomy.

**Why do we need to plan?** There are various answers to this question: (1) to link instruction and assessment; (2) to guide the instructional pace; (3) to ensure that the students have mastered the established curriculum (Slavin, 2006). As a classroom teacher, I wanted to know where the train was heading. In this chapter, we will discuss how to write a unit plan using backward planning, how to write specific instructional objectives, and how to utilize Bloom's Taxonomy.

### Unit Planning

A **unit plan** is a long range plan for outlining a particular concept or skill. There are many ways to plan a unit. You may find that your school system uses a designated template. Here is a concept plan for a circles and volume unit that I created for Analytic Geometry (10th grade) course. While the curriculum has changed since its implementation, the structure remains the same. Among all of the methods, I have found that backward design is the best way to develop a unit plan.

**Backward design** involves setting

long-range goals first, setting objectives second, and planning daily lessons and activities last (Slavin, 2006).

There are three basic stages for backward design:

1. Identify desired results.
2. Determine acceptable evidence.
3. Plan learning experiences and instruction.

**1. Identify desired results.** In Georgia and other states, this desired result derives from the Common Core Standards. Once you select the standard, then you should ask yourself, "What concepts do these students need to understand regarding this standard?" (McTighe, 2004). For example, in the concept map for the

circles and volume unit on the next page, the "big idea" is stated at the top left corner. *The students will understand and apply theorems about circles, find arc length and area of sectors of circles, and explain volume formulas and use them to solve problems.* The majority of this unit corresponds with the Common Core Georgia Performance Standards (CCGPS) for circles. See the following standards for circles.

- **MCC9-12.G.C.1** Prove that all circles are similar.
- **MCC9-12.G.C.2** Identify and describe relationships among inscribed angles, radii, and chords. Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.
- **MCC9-12.G.C.3** Construct the inscribed and circumscribed circles

# CCGPS Analytic Geometry Content Map

Name: J. Brown Unit: 3 (Circles and Volume) Date Range of Unit: \_\_\_\_\_

<b>Big Idea or Unit:</b> The students will understand and apply theorems about circles, find arc length and area of sectors of circles, and explain volume formulas and use them to solve problems.	<b>Unit Essential Question:</b> How do you apply the relationships among circles, lines, segments, and the angles that they form?
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<b>Concept:</b> Properties of Circles <b>MCC9-12.G.C.1, MCC9-12.G.C.2</b>	<b>Concept:</b> Arcs and Sector <b>MCC9-12.G.C.5</b>	<b>Concept:</b> Angle Relationships <b>MCC9-12.G.C.2, MCC9-12.G.C.3, MCC9-12.G.C.4</b>	<b>Concept:</b> Volume <b>MCC9-12.G.GMD.1, MCC9-12.G.GMD.2, MCC9-12.G.GMD.3</b>		
<b>Lesson Essential Question(s):</b> <ul style="list-style-type: none"> <li>• What are the segments and lines related to a circle?</li> <li>• How are all circles similar?</li> </ul>	<b>Lesson Essential Question(s):</b> <ul style="list-style-type: none"> <li>• What is the difference between arc measure and arc length?</li> <li>• How is the length of a circular arc calculated?</li> <li>• How is the area of a sector calculated?</li> <li>• How are these properties related to triangle similarity?</li> <li>• What is a radian measure?</li> <li>• How do you use radian measures?</li> </ul>	<b>Lesson Essential Question(s):</b> <ul style="list-style-type: none"> <li>• What are the properties of inscribed angles?</li> <li>• How are these properties used to solve problems?</li> <li>• How are the angles formed by tangents, secants, and chords to solve problems?</li> <li>• How do you construct inscribed and circumscribed circles of a triangle?</li> <li>• How are the properties of a tangent to a circle used?</li> <li>• How do you construct a tangent line from a point outside a given circle to the circle?</li> </ul>	<b>Lesson Essential Question(s):</b> <ul style="list-style-type: none"> <li>• How is the volume of a sphere calculated and applied?</li> <li>• How is the volume of a cylinder calculated and applied?</li> <li>• How is the volume of a pyramid calculated and applied?</li> <li>• How is the volume of a cone calculated and applied?</li> <li>• What is the relationship between circumference of a circle, area of a circle, and volume of a cylinder, pyramid, and cone?</li> </ul>		
<b>Vocabulary:</b>	<b>Vocabulary:</b>	<b>Vocabulary:</b>	<b>Vocabulary:</b>		
center circle chord Diameter	point of tangency radius secant line secant segment tangent line	arc arc length area central angle	circumference intercepted arc pi ( $\pi$ ) sector	circumscribed circle inscribed angle inscribed circle inscribed polygon intercepted arc	cone cylinder pyramid sphere volume

of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle.

- **MCC9-12.G.C.4** Construct a tangent line from a point outside a given circle to the circle.
- **MCC9-12.G.C.5** Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector (Georgia Department of Education, 2011).

As you can see, the big idea was taken directly from the performance standards. After writing the big unit, the unit's essential question was written. Essential questions, which began with Max Thompson and the Learning Focused movement in early 2000 (Reeves, 2000; Thompson & Thompson, 2009), have become common place in educational jargon. The purpose of **essential questions** is to guide the focus of the instruction. In the concept map for the circles and volume unit, the unit's essential question is listed at

the top right corner. *How do you apply the relationships among circles, lines, segments, and the angles that they form?* Again, this essential question derives from the performance standards. Essential questions should provoke inquiry and transfer of learning.

## 2. Determine acceptable

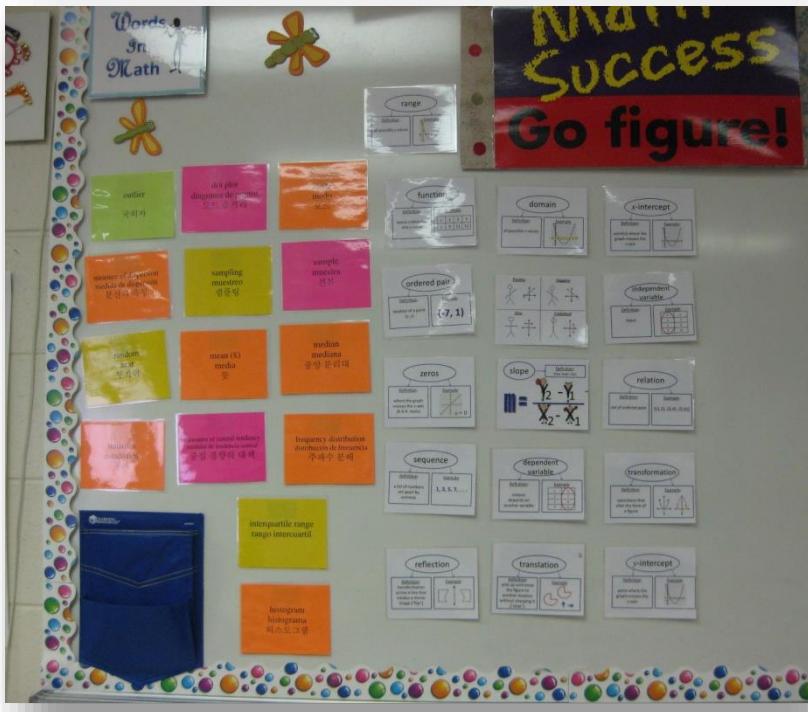
**evidence.** After developing the big idea and unit essential question, I ask myself, "How will we know if students have achieved the desired results and met the content standards?" (McTighe, 2004). In these days of standardized testing, the ultimate outcome of most coursework is to pass the standardized test (e.g., Criterion-Referenced Competency Test [CRCT] or End of Course Test [EOCT]). In the classroom, I would write the unit test, create a performance task, or develop some type of **culminating activity** to measure the amount of student knowledge gained during the unit. In addition, the teacher, department, and/or school must decide on the acceptable level of performance, which usually means 70% accuracy. This level may vary depending on the grade level and district.

**3. Plan learning experiences and instruction.** After writing the unit test, I could outline the concepts of the unit with lesson essential questions by asking myself, "What concepts need to be taught?" and "What sequence of activity best suits the desired results?" (McTighe, 2004). You must always plan with the end (i.e., desired results) in mind. In the circles and volume unit's concept map, I listed the concepts as *Properties of Circles, Arcs and Sectors, Angle Relationships, and Volume*. Under each concept, the specific standard, lesson essential questions, and key vocabulary terms are listed. For example, under Properties of Circles, I listed *What are the segments and lines related to a circle?* and *How are all circles similar?* as the lesson essential questions that correspond with that concept. Under Angle Relationships, I listed the following vocabulary words:

*circumscribed circle  
inscribed angle  
inscribed circle  
inscribed polygon  
intercepted arc*

For a student to be successful with the concept of Angle Relationships, then they need to be familiar with these key vocabulary words. Vocabulary is essential in all disciplines – not just English class. See my "Words In Math".

On the following two pages, there is an example unit plan that I have written to illustrate another concept using different format because the unit plan format will vary by district. The unit plan template will be posted in CougarView. In the unit overview, I provided synopsis of what the students will learn in this unit. Next, I listed the unit's essential question: *What are the similarities and differences among the varying points of view about the Indian Removal Act?* Both of these items correspond with the national standards listed. Then, I listed the unit



The "Words In Math" wall from my high school classroom that displayed my unit vocabulary.

<b>Unit Title:</b> Indian Removal Act	<b>Name:</b> Dr. Jennifer L. Brown
<b>Standards:</b>  National Standards: 1b, 2e, 5a, 6a, 6c, 6f, 6j, 9a, 10c;  National Educational Technology Standards: 2, 4, 7, 8	<b>School:</b> Anywhere High School  <b>Grade Level:</b> Middle School (6 – 8) or High School (9-12)
<b>Original Lesson Submitted by:</b>  University of Houston (Texas)  ( <a href="http://www.digitalhistory.uh.edu/historyonline/lesson_pl.cfm">http://www.digitalhistory.uh.edu/historyonline/lesson_pl.cfm</a> )	<b>Content Area:</b> Social Studies (includes English, Graphic Arts, and Journalism)  <b>Timeline/Length:</b> 5 to 6 days depending on instruction time available

## Unit Overview:

Beginning at the turn of the 19<sup>th</sup> century, a growing nation wanted to expand, which was a belief summarized in the phrase - Manifest Destiny. As the nation expanded into the lower southern states, the land-hungry white settlers encountered the Cherokee, Creek, Choctaw, Chickasaw, and Seminole Indian nations, who were referred to as the “Five Civilized Tribes”.

The Indian Removal Act was signed into law by President Andrew Jackson, who was a notable Indian fighter, in 1830. The legislation exchanged all of the unsettled land east of the Mississippi River for the unsettled land west of the Mississippi River. Some Indian tribes moved; others resisted the move - most notably, the Cherokee Indians of Georgia.

Typically, students learn about the Indian Removal Act from the white man’s point of view. This lesson allows them to investigate the event from the various stakeholders’ points of views. In addition to the various viewpoints, the lesson differentiates by ability (different levels of Bloom’s taxonomy), interest (choice board and dinner menu), and socioeconomic status (researching content and creating the newspaper).

## Essential Question:

What are the similarities and differences among the varying points of view about the Indian Removal Act?

This example was created for educational purposes only by Dr. Jennifer L. Brown, Columbus State University, Columbus, Georgia.

<b>Unit Objectives:</b>  At the end of this unit, the students will be able to: <ul style="list-style-type: none"><li>• Describe the Five Civilized Tribes.</li><li>• List the components of the Indian Removal Act.</li><li>• Describe the role of Andrew Jackson in the removal of Indians from the southeast.</li><li>• Compare and contrast the Cherokee Nation with other Native Americans.</li><li>• Explain the US Supreme Court rulings in Cherokee Nation v Georgia (1831) and Worcester v. Georgia (1832).</li><li>• State the impact of the Tragic Trial of Tears on the Cherokee Nation.</li></ul>	<b>Key Concepts:</b> <ul style="list-style-type: none"><li>• Indian Removal Act of 1830</li><li>• Andrew Jackson's point of view</li><li>• Five Civilized Tribes' point of view</li><li>• Other points of view</li><li>• Cherokee Nation</li><li>• Tragic Trail of Tears</li><li>• Impact of the Indian Removal</li></ul>	<b>Vocabulary:</b> <ul style="list-style-type: none"><li>• Manifest Destiny</li><li>• Cherokee</li><li>• Creek</li><li>• Choctaw</li><li>• Chickasaw</li><li>• Seminole</li><li>• Indian Removal Act</li></ul>
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### Culminating Activity:

Each group of students will create and publish a newspaper from the historical period based on their research about the Indian Removal Act and/or the Tragic Trail of Tears. Assignment will be evaluated using the “Creating and Publishing a Newspaper Rubric”.

Adapted from [www.jfkislanders.net](http://www.jfkislanders.net)

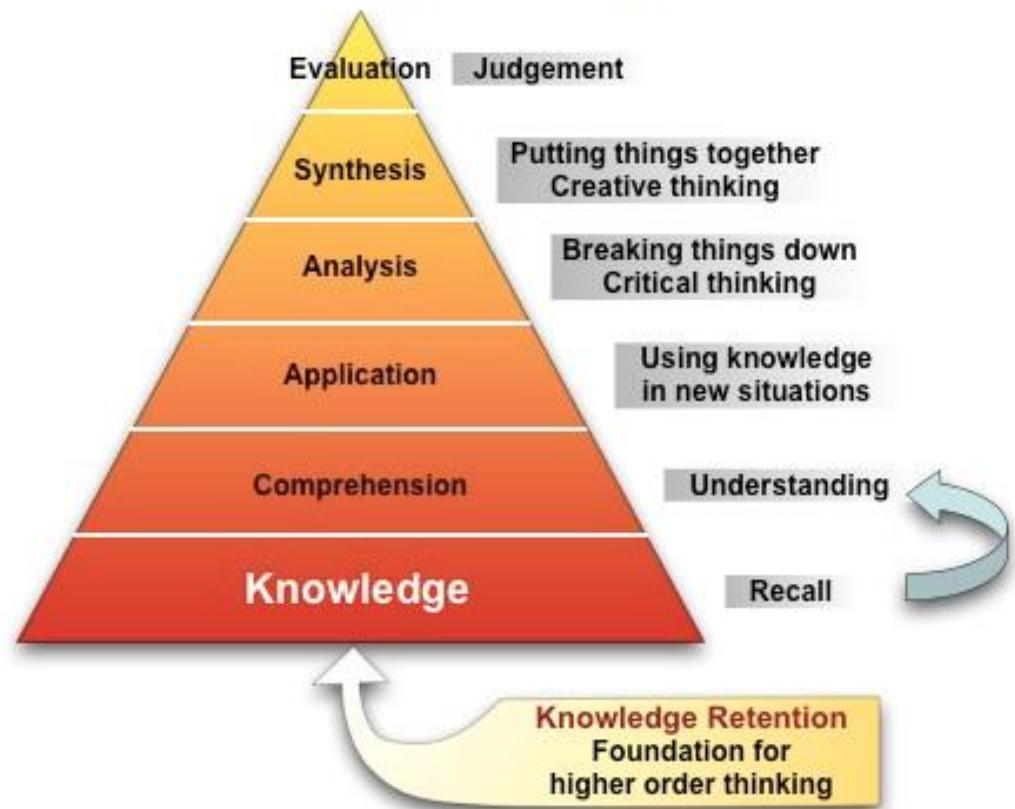
objectives, which will be the daily lesson practice objectives, key concepts, and vocabulary. This order is presented differently compared to the circles and volume unit format with the daily lesson essential questions. Lastly, I listed the culminating activity that the students will use to answer the unit's essential question and the teacher would use to assess the knowledge gained by the students during the unit's instruction. Notice, this activity required the students to use the cumulative knowledge gained from the unit instead of the knowledge gained from one or two daily lessons.

## Lesson Planning

**Lesson planning** involves the short-term planning with instructional objectives. You might ask yourself, "What is the difference between unit objectives and instructional objectives?" **Unit objectives** are expected outcomes from long-term unit instruction; however, instructional objectives are specific learning outcomes that use clear (i.e., observed) and measurable (i.e., evaluated) verbs (Slavin, 2006). An **instructional objective** is a statement of skills or concepts that students should master after a given period of instruction. There are three parts of an instructional objective: **performance** (or behavior) (i.e., What should the student be able to do?), **conditions** (i.e., Under what conditions do you want the student to perform the behavior?), and **criterion** (or degree) (i.e., How well must the behavior be performed?).

For instance, you want the student to calculate five multiplication problems. This task is the designated behavior that you want the student to perform. Examples of the possible conditions include giving the student flashcards, timed test, or practice worksheet. For the criterion, you want to decide the percent of accuracy

## Bloom's Taxonomy for Thinking



Retrieved from activelearning.uta.edu.

desired. You could choose 60% (3 out of 5), 80% (4 out of 5), or 100% (5 out of 5). Instructional objectives should be closely linked to the assessment or criterion to ensure effective lesson planning (Slavin, 2006). To put the parts together:

**Given five flashcards, the student will calculate five multiplication problems with 80% accuracy.**

Another important component of instructional objectives is the wording. The objective must use specific and clear wording containing measurable verbs. For example, words, such as know, understand, appreciate, and grasp, are not observable or measurable. Words, such as identify, list, write, sort, and solve, are observable and open to fewer interpretations (Slavin, 2006).

When writing instructional objectives, it is important to adjust the cognitive level. Bloom's Taxonomy, created by Benjamin Bloom in 1956, organizes verbs into levels from the simplest to more complex. As a teacher, you need to develop higher order thinking skills by using the more complex levels within the taxonomy. **Bloom's Taxonomy** consists of knowledge, comprehension, application, analysis, synthesis, and evaluation (Bloom, 1956; Slavin, 2006). See the handout from the Office of Professional Development at Indiana University-Purdue University Indianapolis in CougarVIEW to familiarize yourself with Bloom's Revised Taxonomy.



## Conclusion

The table on the next page offers some examples of Bloom's Taxonomy objectives for the area of a circle, the main idea of a story, and the colonization of Africa. It will take practice before you master the art of unit and lesson planning, but, once acquired, the skill becomes like riding a bicycle. For a practical application review, here is a link to practice writing instructional objectives (i.e., behavior, conditions, and degree). You can select the link or copy and paste it into your internet browser.

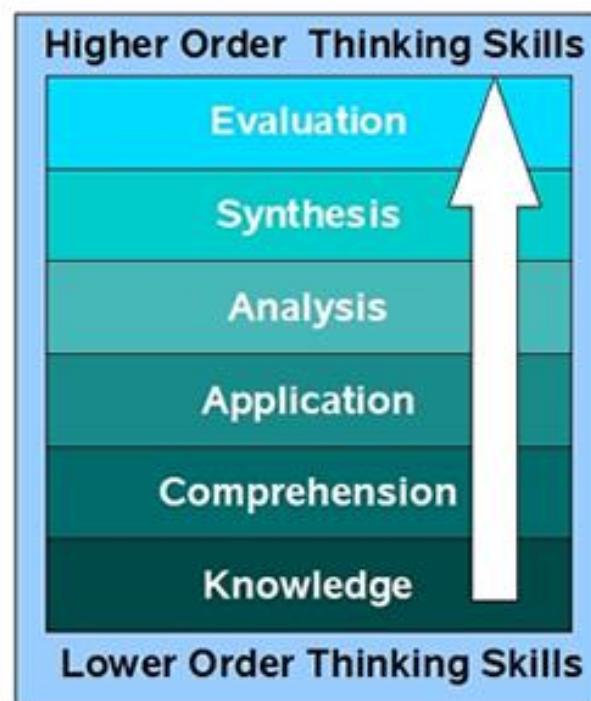
<http://itc.utk.edu/~bobannon/practice.html>

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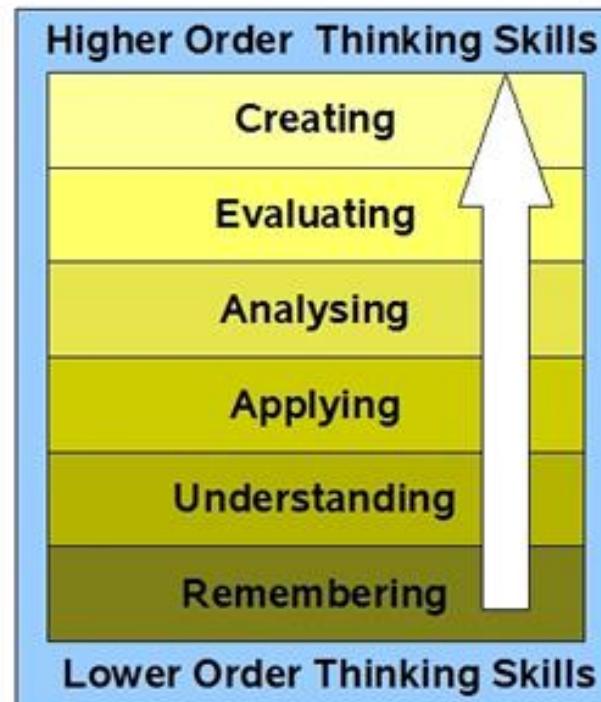
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## Bloom's Taxonomy



## Bloom's Revised Taxonomy



Retrieved from edtechvision.org.

## Examples of Objectives Using Bloom's Taxonomy

Level	Area of a Circle	Main Idea of a Story	The Colonization of Africa
Knowledge	List the formula for area of a circle.	Define main idea.	Make a timeline showing how Europeans divided Africa into colonies
Comprehension	Describe how to find the area of a circle if given the diameter of a circle.	Give examples of ways to find the main idea of a story.	Interpret a map of Africa showing its colonization by European nations.
Application	Apply the formula for area of a circle to real-life problems.	Predict the ending of a story if given the main idea.	Apply the colonization events to a given case study.
Analysis	Explain the function of finding the area of a circle.	Identify the main idea of a story.	Contrast the goals and methods used in colonizing Africa from the perspective of a Bantu chief.
Evaluation	Compare the area of a circle to surface area of a sphere.	Evaluate the story based on the main character's point of view.	Compare the colonization of Africa and the colonization of the United States.
Synthesis	Use your knowledge about the area of a circle and volume of a cube to derive a formula for the volume of a cylinder.	Write a new story based on the main idea of the story read.	Create a new colony based on the colonization of Africa.

Adapted from Slavin (2006).

# Chapter 9: Academic Language

## LEARNING OBJECTIVES



1. Identify the components of academic language.
2. Apply the components of academic language to a lesson plan.

**Think of the language used in your Content area.** Is it the same or different compared to other content areas, such as math, science, or music (Ranney, 2013)? What symbols are utilized within your content area? Would someone from another content area know what those symbols represented?

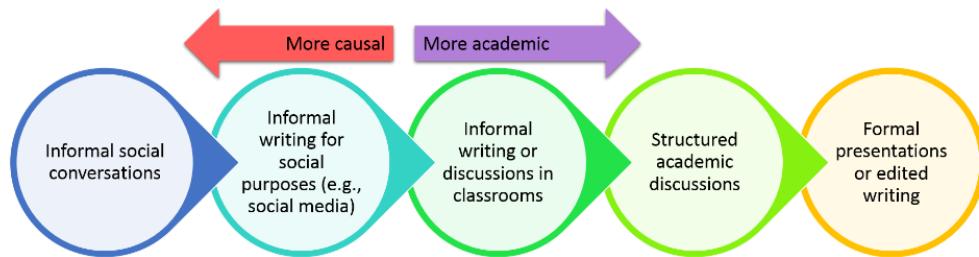
### What is academic language?

**Academic language** is oral and written language used for academic purposes. Academic language is needed for students to understand and communicate with a given discipline content area within the school setting. A good analogy is the ingredients for a cake. What would your cake look like and taste like without the flour and eggs? You might ask yourself “what is the difference between everyday language and academic language?”. See the following continuum and table, which illustrates the characteristics (Ranney, 2013).

Academic language is composed of instructional language and discipline or content-specific language. **Instructional language**

consists of following and giving directions, establishing classroom routines or procedures, discussing ideas and asking questions among students and teacher, explanations and summarizations from students and teacher, listening to

presentations, presenting, writing journal entries or formal essays, and communicating behavioral expectations, such as hand signals (Hundley, 2013). These activities can occur within a whole group setting, small group, or between partners.



Adapted from Childress (2013) and Ranney (2013)

EVERYDAY LANGUAGE	ACADEMIC LANGUAGE
<ul style="list-style-type: none"><li>• Shorter and incomplete sentences (e.g., “Going to the store.”)</li><li>• Actions through verbs (e.g., “cut down trees”)</li><li>• More active voice (e.g., “How many cookies did they eat?”)</li><li>• Shorter noun phrases (e.g., “healthy food”)</li></ul>	<ul style="list-style-type: none"><li>• Longer and more complex sentences with conjunctions and connective words (e.g., After band practice, my sister and I are going to buy groceries at Publix; however, we will be home by 6 PM.”)</li><li>• Make actions into nouns to build concepts (e.g., “deforestation”)</li><li>• More passive voice (e.g., How many cookies were eaten?)</li><li>• Longer noun phrase (e.g., “Improving the nutritional quality of foods offered from other sources...”)</li></ul>

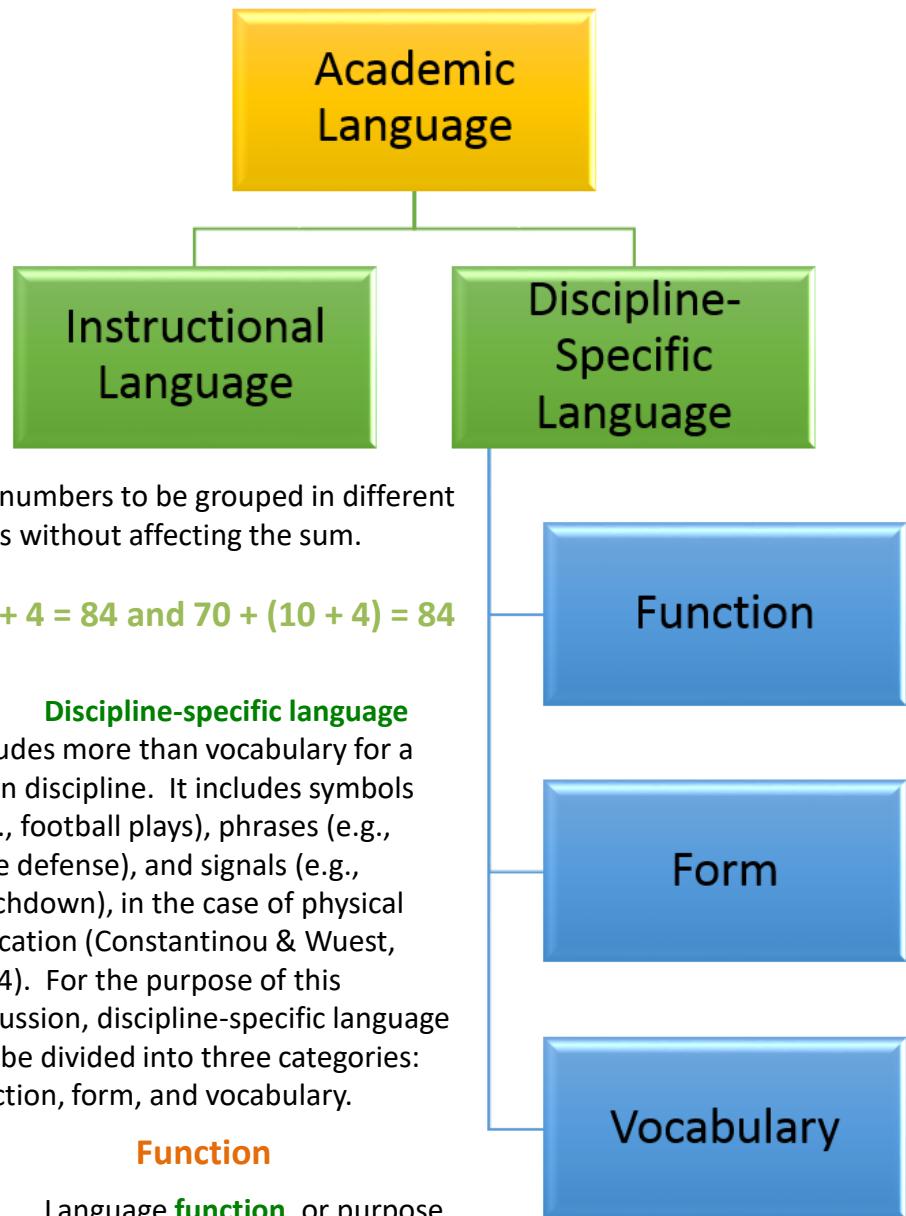
Adapted from Ranney (2013)

For example, in an elementary math class, the description would include the steps for subtracting two-digit numbers with regrouping or “borrowing”.

1. Make sure there is proper alignment with the ones' column of 64 with the ones' column of 27.
2. Subtract the ones' column, 4 subtract 5. You cannot subtract 5 from 4 since 5 is bigger than 4.
3. Borrow from the tens' column by crossing out the 8. Above the 8, subtract 1, and rewrite the number as 7.
4. Place a “1” in front the 4 in the ones' column, which represents 14.
5. Start the subtraction process again with the ones' column, 14 subtract 5 equals 9.
6. Subtract the tens' column, 7 subtract 2 equals 5.
7. 84 subtract 25 equals 59. Your final answer is 59.

$$\begin{array}{r} \cancel{8}^7 4 \\ - 2 5 \\ \hline 5 9 \end{array}$$

Beyond the step-by-step procedure, the teacher and students should know the explanation and mathematical justification for subtracting with regrouping. The instructional explanation includes the following: The “crossing-out” procedure is really a way of re-writing 84 as 7 tens and 14 ones. In addition, the justification for why this procedure works includes the following: With this example, the Associative Property of Addition allows



Language **function**, or purpose, is the action verb within the instructional objectives or learning outcomes (Constantinou & Wuest, 2014; Hundley, 2013; Ranney, 2013). With function, think of Bloom's Taxonomy from Chapter 8. Refer to next three pages for defined functions and examples.



What are the academic language functions from this lesson plan from the visual arts? (Ranney, 2013).

- Define allegory.
- Explain what attributes make an image allegorical.

If you said “define and explain”, then you are correct!

What are the academic language functions or purposes for these prompts about genetics? See the parentheses to check your answers (Mathison, n.d.).

- What effect might selective breeding of plants and animals have on the size of the Earth’s human population? Why? (*Infer*)
- Should it be legal to clone human beings? Why or why not? (*Justify and Persuade*)

# Types of Language Function

Language Function	Student Uses Language to:	Examples	Tasks Associated with Academic Language Function	Questions Commonly Asked
Seek Information	Observe and explore; acquire information; inquire	Use who, what, when, where, and how to gather information	Define, count, draw, identify, indicate, label, list, match, name, point, recall, recite, reproduce, repeat, trace, write, state, select, record, attributes, characteristics, main idea	Who __?, What happened?, Where did it happen?, When did it happen?, Where did you find that?, How do you do that?
Inform	Identify, report, or describe information	Recount information presented by teacher or text, retell a story or personal information	Retell, recount, reorder, represent, depict, paraphrase, summarize, give examples, draw, explain, conclude, convert, describe, prepare, transform, translate, restate, rewrite, prepare, give in your own words, generalize, extrapolate	Retell the story in your own words. Summarize the chapter on __. What happened?, Report your findings., Describe the main character. Tell about __. What happened? Show how__.
Compare	Describe similarities and differences in objects or ideas	Make/explain a graphic organizer to show difference and similarity	Distinguish, compare, contrast, group, identify, illustrate, point out, recognize, separate, describe, attributes, commonalities, differences, differentiate,	How are __ and __ the same? Different? Compare __ and __. Describe __. Now, describe ___. Do either of these __? What makes __ the same? What makes __ different? How do we know the difference between __ and __?
Order	Sequence objects, ideas, or events	Describe/make a timeline continuum, cycle, or narrative sequence	Organize, develop, discover, complete, process, outline, order	Put these in chronological order. What happened first? (e.g., second, later, or last) When was __? What would happen if __?
Classify	Group objects or ideas according to their characteristics	Describe organizing principles, explain why A is an example but B is not	Classify, break down, arrange, organize, categorize, construct, create, generate, summarize, criteria, preclude, include, arrange, group, genres	What color is __? What size is __? What is the texture like? What types of __ are represented here? What traits do these __ have in common? What characteristics do these have in common? What makes these different? Sort these by __ (e.g., size, color, texture, or shape)

Language Function	Student Uses Language to:	Examples	Tasks Associated with Academic Language Function	Questions Commonly Asked
Analyze	Separate whole into parts; identify relationships and patterns	Describe parts, feature or main idea of information presented	Analyze, calculate, choose, classify, criteria, diagram, break down, categorize, classify, compare, contrast, deduce, detect, differentiate, discriminate, distinguish, group, identify, illustrate, infer, order, outline, recognize, relate, select, separate, subdivide, transform	What is the difference? How is/are they related? Why is __ important? Are they common traits? What caused __ to happen? What results/consequences might __ create? What is the main idea? What details support this idea?
Infer	Make inferences; predict implications, hypothesize	Describe reasoning process (inductive or deductive) or generate hypothesis to generate causes or outcomes	Predict, extrapolate, restate, represent, rewrite, summarize, give examples, evidence, supporting details, reconstruct, synthesize, derive, deduce, explain, create, construct	Why? Why did that happen? How did that happen? Why do you think __? What makes you think __? What tells you __? How do you know that?
Justify and Persuade	Give reasons for an action, decision, point of view; be convincing	Tell why A is important and give evidence in support of a position	Justify, argue, persuade, make a case for or against, compare, contrast, distinguish, discriminate, illustrate, recognize, relate, deduce, categorize, combine, document, support, test, validate, verify, refer, relationship, irrelevant, preclude, give/support your point of view, tone, thesis, evidence, debate, crucial, critical	Why do you think this is important? What evidence do you have to support your point of view? How can you convince someone of your ideas? What reasons will you give to justify your point of view? How did you arrive at your decision?
Solve Problems	Define and represent a problem; determine solution	Describe problem solving procedure; apply to real life problems	Solve, deduce, hypothesize, causes, effects, support, test, validate, verify, summarize, rate, rank, measure, relate, recommend, justify, judge, interpret, determine, discriminate, decide, criteria, table, refer, relationship, diagram, consequence	What is the process to solve this problem? What is required to solve this problem? Why? What is the criteria? What is your hypothesis? What evidence do you have to support your hypothesis? What is the relationship between __ and __? What are the causes? What are the effects? What is your interpretation of this conclusion?

Language Function	Student Uses Language to:	Examples	Tasks Associated with Academic Language Function	Questions Commonly Asked
Synthesize	Combine or integrate ideas to form a new whole	Summarize information cohesively; incorporate new information into prior knowledge	Arrange, categorize, combine, compile, compose, construct, create, deduce, derive, design, devise, develop, document, explain, formulate, generalize, generate, integrate, modify, organize, prepare, plan, produce, propose, rearrange, reconstruct, relate, reorganize, revise, rewrite specify, summarize, tell, transmit, write, criteria	What would your plan be for ___? How might this be different if ___? How would you rewrite this? How would you arrange this into ___? How do they relate to each other?
Evaluate	Assess and verify the worth of an object, idea, or decision	Identify criteria, explain priorities, indicate reasons for judgment, confirm truth	Appraise, argue, assess, compare, conclude, consider, contrast, criticize, critique, decide, describe, determine, discriminate, distinguish, evaluate, grade, judge, justify, write, recommend, validate, verify, test, support, rate, rank, measure, criteria, interpret, relate	What is your favorite ___? Why? How does this impact ___? How or why is this significant? How or why is this valuable? How or why is this useful? What did you do to develop ___? Why?

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## Form

**Form** are the structures or tools for organizing the oral or written language within a content area. Form, in addition to function, is part of the instructional objective or learning outcome. For example, in math class, forms include mathematical symbols, figures, tables, graphs, and written narrative. For an art class, the students could read a short essay aloud “on the air” in a mock television or radio presentation, write an art reviews or critiques for the classroom newsletter, or conduct a self-assessment about their artwork using content-specific vocabulary (Childress, 2013). To see how form and function come together, the tables on the next page present examples of functions and forms. See the following website for content-specific examples of function and form within academic language:

<http://www.pacttpa.org/main/hub.php?pageName=Teaching Event Handbooks>

The “**mortar**” words are the words that teachers often assume that students know – mistakenly, such as interpret, complex, and examine. (Ranney, 2013).



Here is an excerpt from Houghton Mifflin California Science: Grade 4 (p. 10):

Each **ecosystem** has its own set of **nonliving** parts, which include light, water, **temperature**, and soil. These **conditions** determine the kinds of **living** things that are able to **survive** in that **ecosystem**. A living thing can **survive** only where its needs are **met**.

The “brick” words are **red**, and the “mortar” words are **blue**. (Note: The “mortar” words depend on the students’ strengths and weaknesses within your classroom.)

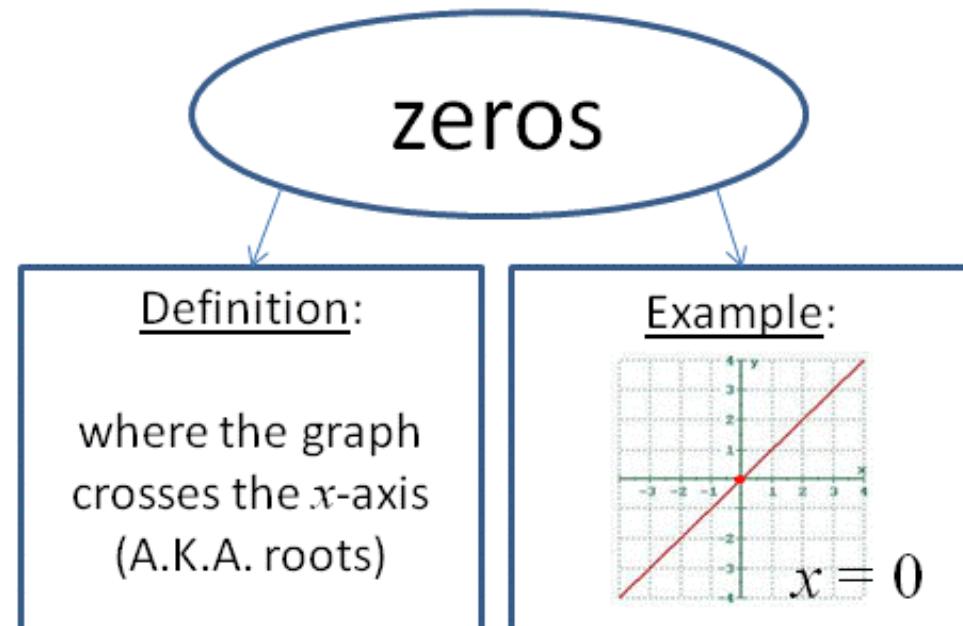
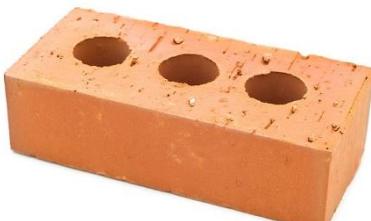
When lesson planning, you should ask yourself:

“What are the key words my students will need to read, understand, and utilize to be successful with this lesson?”

After the list of vocabulary is created, determine the new content vocabulary words, which words may confuse the students (e.g., evaluate and analyze), and which words may have different meanings in other contexts (e.g., composition, table, and balance). The words with different meanings seems to confuse students the most. For example, in PE, a student **pitches** the ball. In business education, one might learn to deliver a sales **pitch**. In music, **pitch** is the term for the sound vibrations that are heard when a student plays an instrument or sings a note. Now, think about kid-friendly methods to explain them to the students (Hundley, 2013). For example, I created a vocabulary book or journal for my math students.. (Actually, the idea for “Brown’s Useful Guide” began with a vocabulary book.) As a class, we defined the term in words and pictures. The same definition was posted on my word wall, which I referred to during the instructional time. These vocabulary books could be personalized or individualized by student, too.

## Vocabulary

Within vocabulary, there are two types of words - the content-specific (or “brick” words) and the general academic (or “mortar” words). These **“brick” words** are words that are defined in a textbook and often are the words that a teacher asks the students to know, such as coefficient, photosynthesis, and genre.



An example from Dr. Brown’s students’ math vocabulary book.

English	Math	Science	Social Studies
Written narrative	Numbers	Chemical equations	Written narrative
Poetry	Equations	Tables	Newspapers
Theatre	Two-column Proofs	Graphs	Graphic printed material
Newspapers	Tables	Lists (e.g., materials)	Maps
Film	Graphs	Written narrative	Charts
Graphic printed material	Written narrative		Graphs
Presentations (video and live)			Presentations (video and live)

Examples of form for the four core content areas.

ELEMENTARY LITERACY	SECONDARY ART	SECONDARY ENGLISH	SECONDARY MATH	SECONDARY MUSIC	SECONDARY SCIENCE
• <i>interpreting and explaining how an author indirectly conveys character's feelings.</i>	• <i>interpreting a artist's intentions and justifying the interpretation through specific references to elements of a work of art.</i>	• <i>interpreting and explaining an author's use of figurative language.</i>	• <i>interpreting and explaining proofs.</i>	• <i>interpreting a musical score through performance.</i>	• <i>interpreting and explaining hypotheses.</i>

Examples of function and form for various content areas.

Watch this video of a biology teacher using several strategies to introduce the vocabulary. As you watch it, list the strategies he utilized.

<http://mpweb2.ncete.org/Pathways/BFFootage/LIL/Bonine1.html>

When I watched the video clip, here is the list of strategies that I saw. I included the point of reference from the video in parentheses.

- pair and share (protein synthesis)
- graphic organizer (protein synthesis)
- connections with prior knowledge (cheek cell)
- word wall (RNA)
- asked the students to repeat the word after him (endoplasmic reticulum)
- broke down the parts of the word (endo-)
- visual representation (protein synthesis)
- students discussed in pairs (what they saw in the visual)

## How could you move students to use more academic language?

I have gathered a few ideas for you to utilize within the classroom.

**Tiered word wall** (Larson, Dixon, & Townsend, 2013) is similar to the traditional word wall, but the words are differentiated.

- Tier 1 words are basic, everyday words (e.g., dirt, agreement, and drop.)
- Tier 2 words are similar to “mortar” words (e.g., civil, crucial, and converge.)

- Tier 3 words are content-specific vocabulary words, such as reservation, segregation, and sediment.

**Sentence Frames** (Hundley, 2013) are tools that provide structure for students to organize their thoughts. This tool can be used for a variety of functions or purposes.

- Since the square root of \_\_ is \_\_, then \_\_ squared must be \_\_\_. (Math)
- The \_\_ is an important symbol for \_\_ because \_\_\_. (ELA)
- In the experiment, the \_\_ acted on the \_\_ and caused a \_\_\_. (Science)
- The war was caused by \_\_, \_\_, and \_\_ because \_\_\_. (Social Studies)

**Entry Slips** or Tickets In the Door (Larson, Dixon, & Townsend, 2013, p. 18) allow the students to activate prior knowledge and prepare for the day's lesson.

- Write down the words, \_\_\_, \_\_\_, and \_\_\_ from our word wall and, with a partner, write down everything you think you know about them.

**Exit Slips** or Tickets Out the Door (Larson, Dixon, & Townsend, 2013, p. 18) allow the students to use academic language to summarize the day's lesson.

- Write down one new thing you learned today and use at least two of our word wall words in your response.

### "Seconds" Thinking Questions

(Mathison, n.d.) can serve as great formative assessments within the instruction in addition to the opportunity to utilize academic language. According to Mathison (n.d.), her "think time" questions increase the length of the student responses, the number of unsolicited,

yet appropriate, responses, and student confidence in responding.

- 1 second – anyone may answer without raising his or her hand.
- 5 second – hand must be raised, but the teacher will not call on anyone for at least 5 seconds.
- 10 second – teacher will call on anyone after 10 seconds have lapsed whether their hand is raised or not.
- 20 second – teacher will call on anyone after 20 seconds have lapsed whether their hand is raised or not.

Here is the procedure for implementing the "seconds" thinking questions.

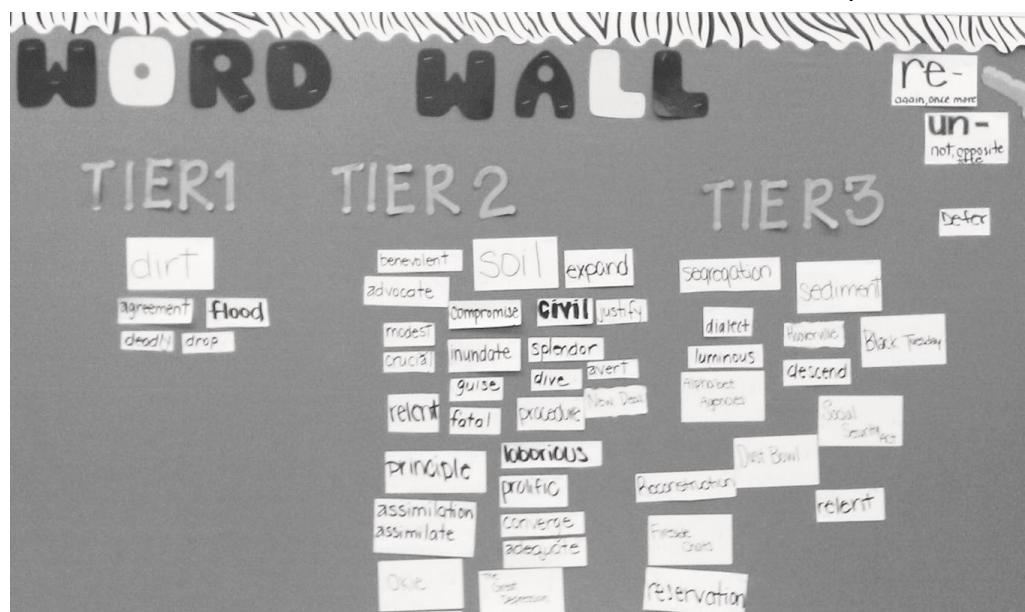
1. "All eyes on me. I am going to ask you a (5, 10, or 20 second) question."
2. "Remember, after I ask the question, I will be quiet so you can think for (5, 10, or 20) seconds."
3. "When I say 'OK', you may raise your hand or not. I may call on you whether you raise your hand or not."

### Conclusion

Academic language spans across all content areas. Within the concept, the components are not mutually exclusive because there is overlap among the components of academic language. Back to our cake analogy, each component is needed by the students to understand the academic content or discipline and, in turn, to communicate their academic knowledge through oral, written, or symbolic methods. I included a graphic organizer to help you determine language function, form, and vocabulary on the next page. As an additional resource about the importance of vocabulary instruction, see the Bromley (2007) article in CougarVIEW.

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An example of a tiered word wall in a seventh grade social studies classroom (Larson, Dixon, & Townsend, 2013).

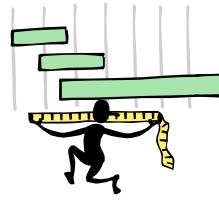
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<b>Language Function</b>		
List words that describe the academic language function(s) students will perform in this lesson plan.	Look at the focus standards of the lesson plan. List words from the standards that describe the language function(s) students will perform in this lesson.	Look at the lesson's objectives. List words that describe the language function(s) students will perform in this lesson.
Describe 1 to 2 specific activities within the lesson in which students will practice “doing” or performing the language function described in the objectives/standards above.		
<b>Language Form</b>		
Describe what form (or genre) your students will create to demonstrate their understanding of the key concepts in your lesson plan.	Based on the “form” you have chosen, list below some challenges students may face when completing their “form.”	Describe at least one “support” you might provide students to help them successfully complete their language “form.”
<b>Vocabulary Words</b>		
List <i>content</i> or “brick” vocabulary words from your lesson.	List <i>general academic</i> or “mortar” vocabulary words from your lesson.	Describe one strategy you might use to help students develop their vocabulary fluency. (Note: This strategy needs to go above-and-beyond rote memorization.)

# Chapter 10: Teacher-Centered Instructional Model



## LEARNING OBJECTIVES

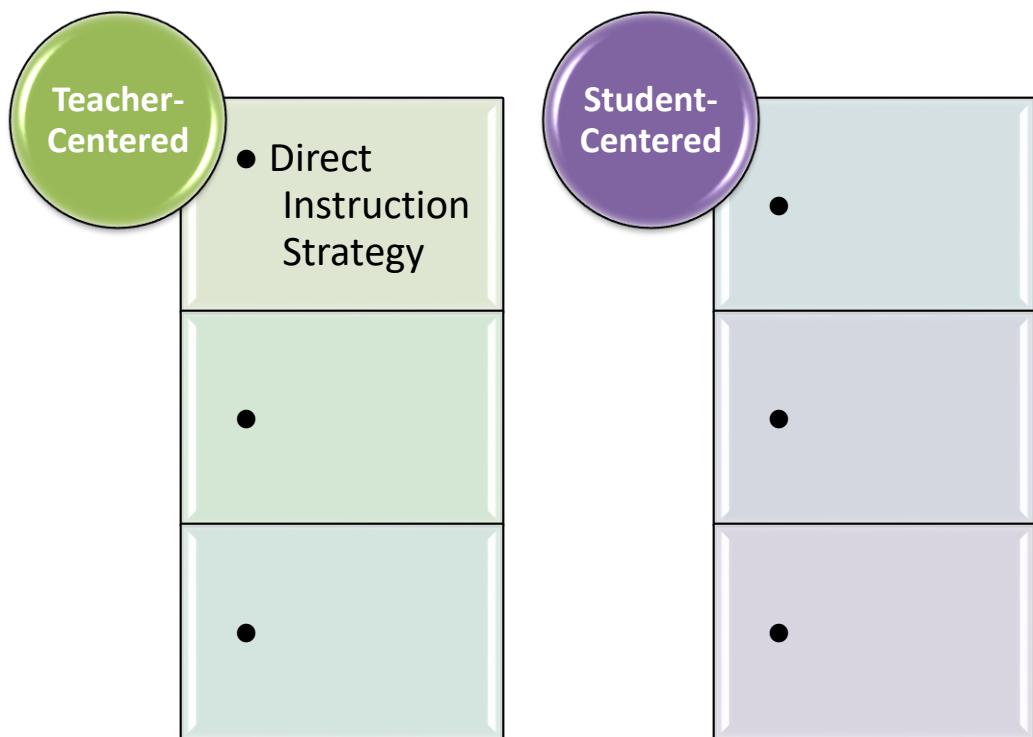


1. Write a direct instruction lesson plan for use in your classroom.



2. Describe the lecture strategy to instruction.

There are two basic types of instructional models: teacher-centered and student-centered. In this chapter, we will discuss the teacher-centered instructional model, which aligns with the behavioral learning theory that we discussed in Chapter 5. This instructional model includes three instructional strategies: direct instruction, lecture, and lecture with discussion. For each of these strategies, we will focus on the lesson planning process along with the advantages and disadvantages.



Teacher-centered strategies tend to have a negative reputation, but there are content and skills that are best conveyed via teacher-centered instruction. In addition, activating and summarizing activities will be defined, and examples will be provided to enhance teacher-centered instruction.

Remember, by adding variety into your lessons, you and the students will remain engaged. As we move through this chapter and the next chapter, we will complete the above graphic organizer for the teacher-centered and student-centered instructional models.

## Direct Instruction

Direct Instruction, which is a widely accepted instructional strategy, is beneficial for teaching specific facts and basic skills. As a high school math teacher, direct instruction was my primary instructional strategy for new content. Research indicates that **direct instruction**, which is systematic instructional strategy, benefits students with intellectual disabilities and those students who tend to be "slow learners" (Sabornie & deBettencourt, 1997; Smith, Patton, & Ittenbach, 1994). Following the basic direct instruction strategy, the lessons are structured sequentially with demonstration, guided practice, and independent practice. At the beginning of the lesson, the teacher provides a daily review. I usually used the bellringer and homework time for this review. Then, the new material is presented (**demonstration**). In a math class, the teacher could demonstrate how to solve a particular type of math problem. During the lesson, the teacher provides frequent reviews and reteaching opportunities. For example, if the lesson topic was the characteristics of mammals, the teacher would need to review, possibly reteach, the definition of a mammal. The teacher conducts **guided practice** after the new material is presented, and he or she walks around the classroom to provide feedback and correctives. Guided practice can be conducted as a whole group, but the teacher needs to ensure that all students are actively engaged. When the teacher deems the students' performance with the guided practice acceptable, then the students can practice independently. It is recommended that you provide some **independent practice** within the classroom setting. Homework can provide additional independent practice. After the lesson, it is necessary for the teacher to review



weekly and monthly to embed those skills in long-term memory (Saskatchewan Education, 1994). We discussed that process earlier in Chapter 7 (Information Processing Theory).

Robert Gagne (1916 – 2002), an educational psychologist, suggested that learning tasks should be organized in a hierarchy, which identified prerequisite skills. He felt that these learning hierarchies provided a basis for sequencing instruction that was

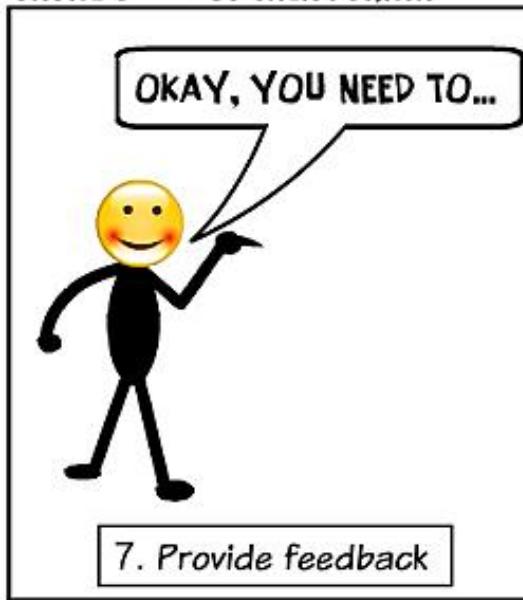
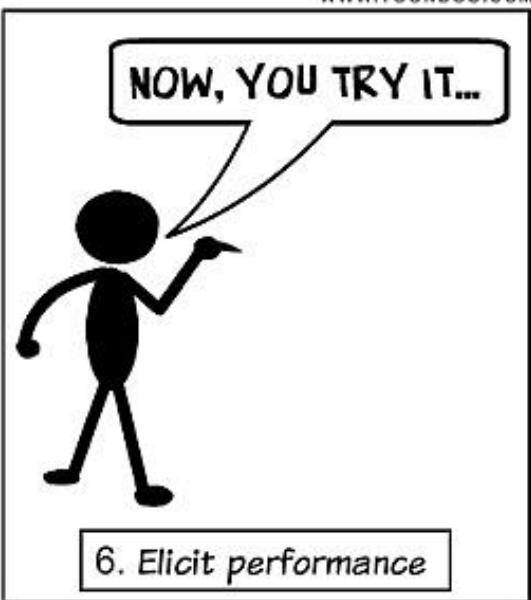
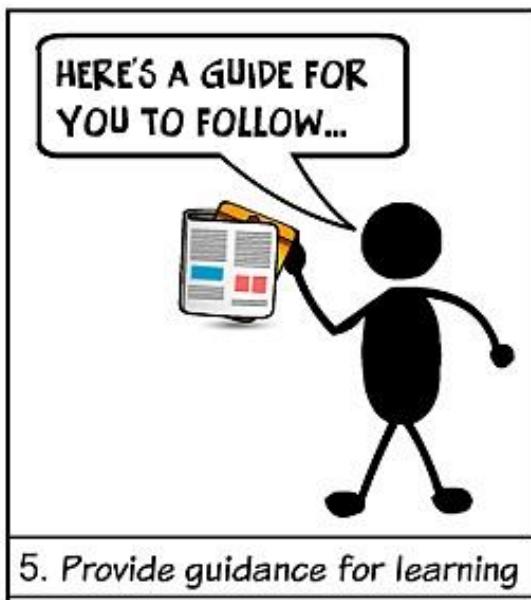
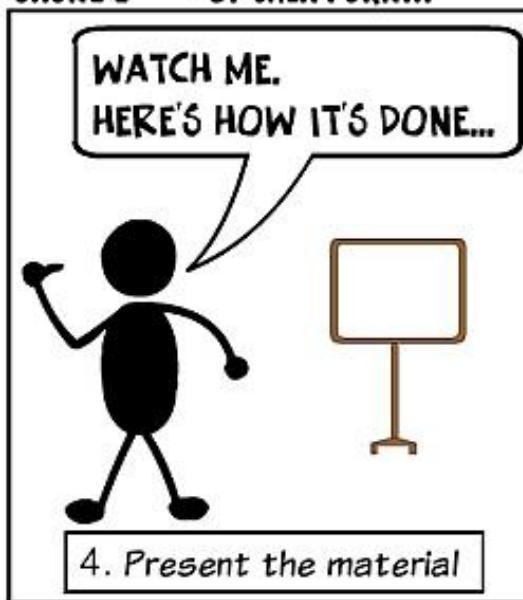
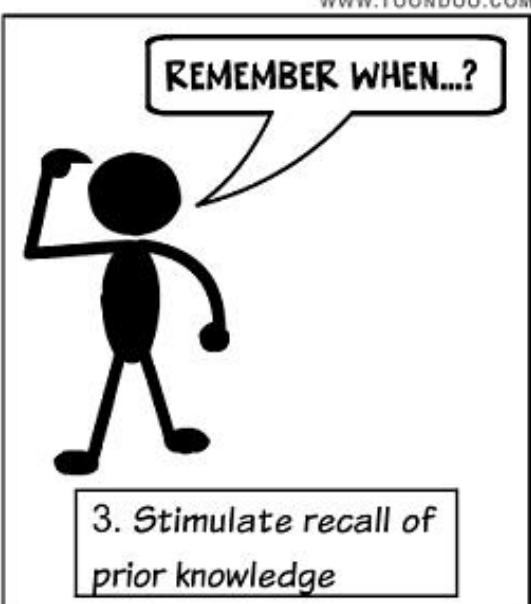
beneficial for the students' acquisition of knowledge. In addition, Gagne identified nine instructional events to assist the students with acquisition of new knowledge (see the cartoon and transactional model overview on the following pages) (Kearsley, 2011; Penn State York, 2009).

These events are subcomponents of the basic direct instruction strategy. The chart at the bottom of this page is a brief example of the nine instructional events for a lesson about recognizing an equilateral triangle, which was adapted from Gagne (1985).

## Advantages and Disadvantages

The advantages of direct instruction include very specific learning targets, clarified instructional objective for the students, and relatively easy to measure students' gain of knowledge. On the other hand, there are disadvantages for this instructional approach. Direct

Step	Instructional Event	Example
1.	Gain attention	Show a variety of computer generated triangles.
2.	Identify learning objective	Pose a question: "What is an equilateral triangle?
3.	Recall prior learning	Review definition of triangles.
4.	Present new material	Give definition of equilateral triangle
5.	Demonstration	Show an example of how to create an equilateral triangle.
6.	Guided Practice	Ask the students to create 5 different examples
7.	Provide feedback	Check all examples as correct or incorrect.
8.	Assess performance	Provide scores for independent practice and offer remediation
9.	Enhance retention/transfer	Show pictures of objects and ask students to identify the equilateral triangle.



EVENT	TEACHER BEHAVIOR	STUDENT BEHAVIOR
OPENING ACTIVITY		
<b>Gain Attention</b>	<ul style="list-style-type: none"> <li>• Arousing them with novelty, uncertainty, surprise</li> <li>• Posing questions to the learner</li> <li>• Having the learner pose questions to be answered by the lesson</li> </ul>	<ul style="list-style-type: none"> <li>• Shock/surprise gains their attention</li> <li>• guide their search for skills and knowledge</li> <li>• generate their own questions helps them decide what is important in the lesson</li> </ul>
DEMONSTRATION		
<b>Overview: Review</b>	<ul style="list-style-type: none"> <li>• provides an opportunity for students to recall and/or examine what they have already learned in preparation for the current lesson</li> </ul>	<ul style="list-style-type: none"> <li>• focus on prerequisite skills and concepts</li> <li>• check homework and discuss difficult questions</li> <li>• link the lesson to previous ones</li> <li>• work a problem similar to those done already</li> <li>• review the previous lesson -- explaining what they did and why</li> </ul>
<b>Overview: What?</b>	<ul style="list-style-type: none"> <li>• presents the specific concept(s) and skill(s) to be learned</li> </ul>	<ul style="list-style-type: none"> <li>• read a stated objective for the lesson</li> <li>• hear what the topic of the lesson is</li> <li>• see what they will be able to do at the end of a lesson</li> </ul>
<b>Overview: Why?</b>	<ul style="list-style-type: none"> <li>• states a reason or a need for learning the skill(s) or concept(s)</li> </ul>	<ul style="list-style-type: none"> <li>• see how the lesson is related to the real world relate the lesson to their own interests</li> <li>• discuss how the skill or concept can be applied to other subject areas</li> <li>• see how the lesson relates to their deficiencies</li> </ul>
<b>Overview: How?</b>	<ul style="list-style-type: none"> <li>• present overviews and organizers to help prepare learners for what's to come</li> <li>• adapt content to 'fit' the learners' preferences and past experiences</li> <li>• Activate learner processing to help learners internalize new skills and knowledge.</li> </ul>	<ul style="list-style-type: none"> <li>• Verbal overview</li> <li>• Oral overview</li> <li>• Graphic organizer/overview</li> <li>• Combination overview</li> <li>• Adapt to learner preferences Elicit recall strategies and elaborations</li> <li>• Integrate new knowledge</li> <li>• hear an explanation</li> <li>• use manipulative materials to develop concepts and/or skills</li> <li>• have class discussions</li> <li>• see concrete examples</li> <li>• watch films or filmstrips</li> <li>• read explanations in textbooks</li> <li>• interact with Computer Assisted Instruction program</li> </ul>
<b>Explanation</b>	<ul style="list-style-type: none"> <li>• develops or explains the concepts and skills to be learned</li> </ul>	<ul style="list-style-type: none"> <li>• answer teacher questions</li> <li>• verbalize understandings</li> <li>• model demonstrated processes</li> <li>• generate examples and nonexamples of a concept</li> </ul>
<b>Probe &amp; Respond</b>	<ul style="list-style-type: none"> <li>• probes students as to their initial understanding of concepts and skills</li> </ul>	

## GUIDED PRACTICE

### Guided Practice

- closely supervises the students as they begin to develop increased proficiency by completing one or two short tasks at a time
- read a paragraph aloud in a reading group complete one or two math problems in an assignment, while the teacher monitors their work
- complete an activity on the board, while others do the same activity at their seats, and the teacher monitors the work
- use structural analysis skills to orally decode new vocabulary words

### Periodic Review

- provides students opportunity to have distributed practice on previously covered content and skills
- demonstrate retention of previously learned concepts and skills

## INDEPENDENT PRACTICE

### Independent Practice

- allows students to work independently, with little or no teacher interaction, to reinforce individual proficiency with concepts and skills
- complete seatwork assignments
- drill on basic arithmetic facts
- begin or complete homework assignments
- play games related to specific skills or concepts

## ASSESSMENT

### Formative (Daily Success)

- checks students work each day and offers corrective instruction as necessary

- complete independent work at or above a given level of proficiency

### Summative (Mastery)

- checks students work at the end of each unit of instruction

- demonstrate knowledge and application of concepts and skills at or above a given level of proficiency

## MONITORING AND FEEDBACK

### (Provided throughout the lesson as needed)

### Cues and Prompts

- provides students with signals and reminders designed to sustain the learning activity and to hold students accountable

- attend to signals and/or reminders continue working on assigned activity

### Corrective Feedback

- tells students whether their answers are correct, see or hear the correct answers, and are told why those answers are correct

- read correct answers aloud
- write correct solutions to math problems on board
- check spelling by comparing their answers to those answers on a transparency
- support their answers to reading comprehension questions by reading aloud from the text

The following material has been adapted from:

<http://teach.valdosta.edu/whuitt/col/instruct/instevnt.html> & <http://ide.ed.psu.edu/idde/9events.htm>

instruction can stifle teacher creativity. It requires the teacher to have well-organized content preparation, good oral communication skills, and information about students' prerequisite skills. It may not be effective for developing higher-order thinking skills (ADPRIMA Instruction System, 2010).

Teachers can incorporate different activities to overcome these disadvantages. For example, mini-lectures tend to be effective when using the direct instruction approach. A good time frame for these mini-lectures is 10 to 15 minutes, but they should not extend 20 minutes. Another helpful activity is to combine discussions and demonstrations with

the direct instruction. No matter which instruction method you are utilizing, the direct instruction should be accompanied with visual aids, such as overheads, graphic organizers, and flipcharts (Saskatchewan Education, 1994). To increase student engagement, the teacher should appeal to the students' curiosity and personal experience. When demonstrating the concept, the teacher should order examples from easy to more difficult and select examples that differ from one another. (See the demonstration examples presented on the next page.) In addition, comparing and contrasting examples and non-examples can be effective (Slavin, 2006), particularly

with the use of a Frayer Model. (See the Frayer Model for a polynomial at the bottom of this page.) The **Frayer Model** allows the students to write the definition of the term in the top left corner and list characteristics of that term in the top right corner. In the bottom corners, the students to list examples and non-examples. This process allows the students to distinguish between polynomials and other mathematical expressions, such as radical and rational expressions.

In the classroom, I tended to interweave demonstration, lecture, and discussion throughout the lesson. I followed the basic direct instruction approach, but I broke the lesson into components. For example, I began the

## Definition

An algebraic expression with one or more terms.

## Characteristics

### 1 Term - Monomial

- 10
- $3x^2$
- $2ab$

### 2 Terms – Binomial

- $2x + 5$
- $x - 2$

### 3 Terms – Trinomial

- $3x^2 + x - 5$
- $x^3 - 3x^2 + 2$

## Examples

## Polynomial

## Non-Examples

Polynomial Function	Degree	Example
Constant	0	$f(x) = 4$
Linear	1	$f(x) = 3x + 1$
Quadratic	2	$f(x) = 4x^2 - x + 9$
Cubic	3	$f(x) = x^3 + 2x^2$

$$f(x) = x^{-3}$$

$$f(x) = x^{1/2}$$

$$f(x) = |x|$$

instructional lesson by reviewing how to simplify polynomial expressions. Then, I demonstrated how to simplify complex numbers, which was the new content, and offered some directive lecture. Next, I guided the students through some practice problems while monitoring their progress. Afterwards, I reviewed how to add and subtract polynomials followed by demonstrating how to add and subtract the complex numbers, which was the new content. After this guided practice session, I gave the students an opportunity for independent practice. By breaking up the lesson, the students were not overwhelmed by the content. In this case, simplifying, adding, and subtracting complex numbers was a basic concept, but the mastery depends on prerequisite skills (i.e., polynomials). It is highly recommended to break the content into smaller, more manageable, skills if possible. It is "okay" to present material, guide the students, and then present more material before offering an independent practice assignment. The goal is for the students to master the material.

I have created an example lesson plan for the Indian Removal Act using direct instruction, which is presented on the next two pages. The template will be posted in CougarView. First, notice the learning objective at the top of the page is clear, concise, and measurable. *Students will explain the impact of the Indian Removal Act of 1830 on American Indians in the United States.* Also, this learning objective aligns with the previously discussed unit plan from Chapter 8. Next, you see the introductory and demonstration activities, which use pictures by Robert Lindneux to illustrate the Trail of Tears. Then, the guided practice incorporates the skills needed to complete the independent practice using different materials. Lastly, the evaluation procedures are outlined with clear expectations and point values.



## Examples of Demonstrations within a Direct Instruction Lesson

### ▪ SCIENCE VOCABULARY WORD DEMONSTRATION

First, review the vocabulary words (i.e., solvent, solute, and mixture) and their meanings. Then, distribute the materials (i.e., three chocolate kisses and a timer per student). For the first experiment, instruct the students to place one chocolate kiss in their mouth and measure how long it takes before it disappears. For the second experiment, repeat the same procedure but instruct the students to use their tongue to make the chocolate kiss disappear. For the third experiment, repeat the same procedure but instruct the students to use their tongue and teeth to make the chocolate disappear. Lastly, use a follow up activity to compare times and review what the solute and solvent were in the experiments (Sarah Hawk).

### ▪ OIL AND WATER DEMONSTRATION

Place a M&M in a bowl of warm water with the M facing upward. Since the M is oil-based, it will lift off the candy and float in the bowl of water (Mary Jo Boutwell).

### ▪ AUDIENCE ETIQUETTE DURING A PERFORMANCE

To begin, create different types of events around the perimeter of the classroom. At each of the events, ask the students to demonstrate how they would respond, talk, cheer, stand, and/or clap. The events can include a sporting event, movie, rock concert, and live theatre performance (Mary Gagliardi).

# Direct Instruction Lesson Plan

By Dr. Jennifer L. Brown

(created for educational purposes only)

<b>Date:</b> 5/20/2011	<b>Learning Objectives:</b> <i>What should students be able to do at the end of this lesson? Is there alignment with course objectives?</i>	<b>Standard(s)</b> <ul style="list-style-type: none"><li>National Standards: 1b, 2e, 5a, 6a, 6c, 6f, 6j, 9a, 10c;</li><li>National Educational Technology Standards: 2, 4, 7, 8.</li></ul>
<b>Time:</b> 55-minute class period	Students will explain the impact of the Indian Removal Act of 1830 on American Indians in the United States.	
<b>Modifications</b> <ul style="list-style-type: none"><li>Read primary document to student.</li><li>Provide the primary document on tape.</li><li>Availability of word processing computer for typing.</li><li>Extended time if necessary.</li><li>Use of preferred seating.</li></ul>	<p><u>Instructional Procedures</u></p> <p><b>...gain students' attention (Introduction/Motivation)?</b></p> <ol style="list-style-type: none"><li>Show the picture, The Trail of Tears, which was painted by Robert Lindneux in 1942.</li><li>Ask the students, "What do you see in this picture?" "How do you think the people in the picture feel?"</li></ol> <p><b>...recall prior relevant information (Activate Prior Knowledge)?</b></p> <ul style="list-style-type: none"><li>Which US President fought against the Indians in the early 19<sup>th</sup> century?</li><li>What was the purpose of the Indian Removal Act?</li></ul>	<b>Checklist:</b> <p>Did students...?</p> <p>...know my objectives?</p> <p>...actively engage with new material?</p> <p>...work together on a task?</p> <p>...get feedback on their performance?</p>
<b>Materials Needed</b> <ul style="list-style-type: none"><li><i>The Trail of Tears</i> by Robert Lindneux</li><li>Primary document: "Indian Populations, 1830"</li><li>1830s map of the United States</li><li>Primary document: "Louis Cass Explains the Destiny of the Indians"</li><li>Primary document: "Sen. Frelinghuysen's Speech to the Senate"</li><li>Primary document: "Memorial of the Cherokee Nation, Dec. 1829"</li></ul>	<p><b>...present new material (Demonstration)?</b></p> <p>In 1838 and 1839, as part of Andrew Jackson's Indian removal policy, the Cherokee nation was forced to give up its lands east of the Mississippi River and to migrate to an area in present-day Oklahoma. The Cherokee people called this journey the "Trail of Tears," because of its devastating effects. The migrants faced hunger, disease, and exhaustion on the forced march. Over 4,000 out of 15,000 of the Cherokees died (<a href="http://www.pbs.org/wgbh/aia/part4/4h1567.html">http://www.pbs.org/wgbh/aia/part4/4h1567.html</a>).</p> <p><b>...elicit performance (Guided Practice)?</b></p> <ol style="list-style-type: none"><li>Provide students with the Primary Source document, "Indian Populations, 1830," and the 1830s map of the United States.</li><li>Ask the students to analyze the information provided in the document and answer the following questions.<ul style="list-style-type: none"><li>Where are the majority of American Indians at this time?</li><li>Which area of the U.S. would be most impacted by the Indian Removal Act?</li><li>Do you think this had any influence on the three authors of the documents you read? How and why? (<a href="http://www.osv.org/school/lesson_plans&gt;ShowLessons.php?PageID=A&amp;LessonID=40&amp;ActivityID=126&amp;UnitID=6">http://www.osv.org/school/lesson_plans&gt;ShowLessons.php?PageID=A&amp;LessonID=40&amp;ActivityID=126&amp;UnitID=6</a>)</li></ul></li></ol>	<b>Evaluation</b> <p>The presentation will be graded using a rubric.</p> <ul style="list-style-type: none"><li>identification of the major conflict (5 points)</li><li>the author's main arguments (5 points)</li><li>opinions expressed about American Indians (5 points)</li></ul>

	<p><b>...assess performance (Independent Practice)?</b></p> <ol style="list-style-type: none"> <li>1. Assign each student a number (i.e., 1, 2, 3).</li> <li>2. Read and analyze your assigned primary source document for the points of views and attitudes expressed toward Indians and Indian removal just prior to the passage of the Indian Removal Act: <ul style="list-style-type: none"> <li>• 1 - “Louis Cass Explains the Destiny of the Indians”</li> <li>• 2 - “Sen. Frelinghuysen’s Speech to the Senate”</li> <li>• 3 - “Memorial of the Cherokee Nation, Dec. 1829”</li> </ul> </li> <li>3. Prepare a short presentation, written document, or visual of the views expressed in the document, which includes the identification of the major conflict, the author’s main arguments, opinions expressed about American Indians, and evidence from the text to support their understanding.</li> </ol> <p>(<a href="http://www.osv.org/school/lesson_plans&gt;ShowLessons.php?PageID=A&amp;LessonID=40&amp;ActivityID=125&amp;UnitID=6">http://www.osv.org/school/lesson_plans&gt;ShowLessons.php?PageID=A&amp;LessonID=40&amp;ActivityID=125&amp;UnitID=6</a>)</p>	<ul style="list-style-type: none"> <li>• evidence from the text to support their understanding (5 points)</li> <li>• overall (i.e., grammar, mechanics, clarity, neatness) (5 points)</li> </ul>
	<p><b>...enhance retention (Homework Assignment)?</b></p> <p>Select one of these laws: Equal Employment Opportunity, Americans with Disability Act, Civil Rights Acts, and Patriot Act.</p> <ul style="list-style-type: none"> <li>• What were the attitudes of the general population when these laws were passed?</li> <li>• Do these laws effect the general population or just a specific group?</li> </ul> <p>(<a href="http://www.osv.org/school/lesson_plans&gt;ShowLessons.php?PageID=A&amp;LessonID=40&amp;ActivityID=125&amp;UnitID=6">http://www.osv.org/school/lesson_plans&gt;ShowLessons.php?PageID=A&amp;LessonID=40&amp;ActivityID=125&amp;UnitID=6</a>)</p>	<p><b>Lesson Closure</b></p> <p>Respond to the following question based on our discussion today before you leave class. Were there any common views about the American Indians in these documents?</p> <p>(<a href="http://www.osv.org/school/lesson_plans&gt;ShowLessons.php?PageID=A&amp;LessonID=40&amp;ActivityID=125&amp;UnitID=6">http://www.osv.org/school/lesson_plans&gt;ShowLessons.php?PageID=A&amp;LessonID=40&amp;ActivityID=125&amp;UnitID=6</a>)</p>

Created by: Erin Hagar, Center for Teaching and Learning, Montgomery College  
Adapted by: Dr. Jennifer L. Brown, Columbus State University, Columbus, Georgia

## Lecture

Lecture is the most criticized of all teaching methods AND the most commonly used because 1) planning time is limited, 2) lectures are flexible and can be applied to any content, and 3) lectures are simple. The most critical fact about lecture is that it puts students in a passive role (O'Bannon, 2002).

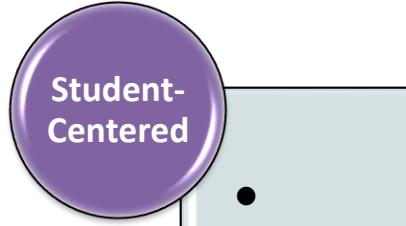
The advantages of **lecture** are that the factual material is presented in a direct and logical manner and tends to be useful for large groups. The disadvantages include the instructor must have proficient oral skills, the audience tends to be passive, learning is difficult to gauge, communication is one-way (teacher to student), and is not age-appropriate for children younger than fourth grade. To prepare for lecturing, the teacher should have a clear introduction and summary, effectively manage the time and scope of content, and include audience specific examples (ADPRIMA Instruction System, 2010).



- Direct Instruction Strategy
- Lecture Strategy
- Lecture with Discussion Strategy

## Lecture with Discussion

Sometimes, lecture will be mixed with discussion among the students and teacher, but the teacher acts as a moderator during the discussion (Slavin, 2006). The advantages of **lecture with discussion** are that the students are engaged after the lecture has finished, and students can question and/or clarify the content with the lecturer. One option is to intersperse the discussion within the lecture. I tended to use this option in the classroom to keep the students involved. The disadvantages include time constraints limit the discussion opportunities, effectiveness of the discussion is connected to the students' appropriate questions and feedback, and often requires the teacher to "shift gears" quickly. When preparing for a lecture with discussion, the teachers should allow for questions during the lecture and anticipate difficult questions and prepare appropriate responses in advance (ADPRIMA Instruction System, 2010).



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## Activating and Summarizing Activities

When beginning any type of lesson, especially direct instruction or lecture, it is good to begin with an activating activity or end with a summarizing activity. An **activating activity** is a tool used to activate prior knowledge that is essential for the mastery of the current instructional objectives. There are numerous types of activating activities. I used one type at the beginning of Chapter 7 (Information Processing Theory). During math class, I would present a group of problems that required previously learned material to complete. Sometimes, this material was learned in my class or in a previous class. There are many types of activating activities. Here are a few examples presented on the following pages:

- **Anticipation Guide**
- **KWL Chart**
- **Cloze Activity**
- **Story Impressions**

A **summarizing activity** is a tool used to bring closure to a lesson by writing critical concepts or other pieces of content that was presented with the daily lesson. These tools are presented at the end of the lesson, and it allows the teacher and students to bring closure and "summarize" the daily lesson. Again, there are numerous options. Here are a few examples for your review on the following pages:

- **Inside Outside Circle**
- **Summary Star**
- **Somebody Wanted But So (SWBS)**
- **Think Pair Share (& graphic organizer)**

## **Anticipation Guide**

# Miss Rumphius

by Barbara Cooney

**Directions:** Before we read this story, please put a check next to those statements that you agree with in the **BEFORE** column. Compare your opinions with a partner's opinions and discuss your reasons for checking or not checking each statement. After we have read this book, please go back and check those statements you now agree with under the **AFTER** column.

**BEFORE    AFTER**

     Older people can't do anything to help others because they need help themselves.

     The more things you have the happier you are.

     People can make the world more beautiful by doing simple things in nature.

     If you have a lot of money, you will be happy.

     We can learn many lessons from our elders.



Retrieved from <http://www.somers.k12.ny.us/intranet/reading/rumphius.pdf>

## KWL Chart

What I KNOW	What I WANT to Know	What I LEARNED

### Sample Cloze Activity

Read the following passage and fill in the blanks so that the passage makes sense.

As American colonists got word of the battles in Lexington, Concord, and Bunker Hill, they faced a major decision. Should they join the \_\_\_\_\_ or remain loyal to \_\_\_\_\_. Those who chose to \_\_\_\_\_ with Britain, the Loyalists, \_\_\_\_\_ not consider unfair taxes \_\_\_\_\_ regulations good reason for \_\_\_\_\_. Some remained faithful to \_\_\_\_\_ king because they were \_\_\_\_\_ who would lose their \_\_\_\_\_ as a result of \_\_\_\_\_ Revolution. Others were people \_\_\_\_\_ had not been part \_\_\_\_\_ the movement of discontent \_\_\_\_\_ turned so many Colonists \_\_\_\_\_ Britain. The Patriots were determined to battle the British to the end – until American Independence was won!

(Answers)

rebels  
Britain  
stay  
did and

rebellion  
the  
officeholders  
positions  
the

who  
of  
that  
against

Retrieved from West Virginia Department of Education  
<http://wvde.state.wv.us/strategybank/activating.html>

# Inside Outside Circle

## Description

Inside Outside Circle is a kinesthetic activity that involves all students in the class and that facilitates short exchanges between students. Inside Outside Circle engages all students simultaneously, pairs students briefly with classmates with whom they may rarely work, and allows the teacher to spontaneously increase or decrease the number of different student pairings that occur.

## Method

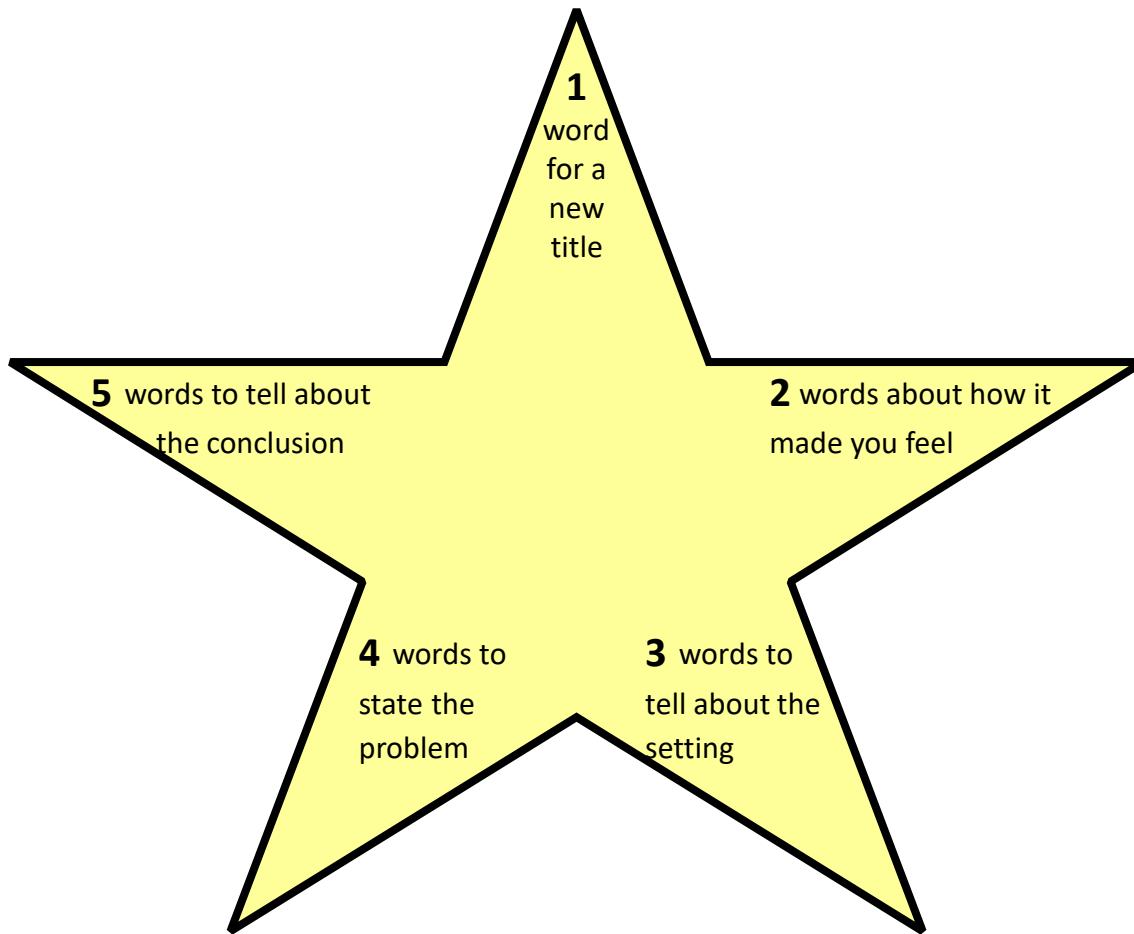
The teacher:

1. forms two concentric circles containing the same number of students. Students in the inside circle face a partner standing in the outside circle.
2. asks students from the inside circle to share something with their partner in timed activity.
3. has students reverse roles. The students on the outside circle share with their partner, controls the timing, e.g., “Outside circle, it’s your turn to share for one minute.”
4. has the inside circle rotate and the students turn to face their new partner. Repeat steps 2 and 3.

TIPS: Section 4 – TIPS for Teachers (page 14)

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## Summarizing Star



Retrieved from West Virginia Department of Education  
<http://wvde.state.wv.us/strategybank/summarization.html>

Title: \_\_\_\_\_

Author: \_\_\_\_\_ Illustrator: \_\_\_\_\_



## Somebody (Character)


## Wanted (Goal)




## But... (Problem)




## So... (Solution)


Student's Name: \_\_\_\_\_



# Think-Pair-Share

## Overview

Think-Pair-Share is a cooperative learning strategy that can promote and support higher-level thinking. The teacher asks students to think about a specific topic, then pair with another student to discuss their thinking and, after that, share their ideas with the group.

## Steps

- Decide on how to organize students into pairs (counting heads, ABAB, male/female, etc.).
- Pose a discussion topic or a question.
- Give students at least 10 seconds to think on their own ("think time").
- Ask students to pair with their partner and share their thinking. 5. Call on a few students to share their ideas with the rest of the class.

## Hints and Management Ideas

- *Pre-assign partners.* Rather than waiting until the discussion time, indicate in advance who students' partners will be. Otherwise, the focus might be on finding a partner rather than on thinking about the topic at hand.
- *Change partners.* Students should be given an opportunity to think with a variety of partners.
- *Monitor the discussions* for common misconceptions and unique ideas to address later with the whole group.

## Benefits of Think-Pair-Share

- When students have appropriate "think time", the quality of their responses improves.
- Students are actively engaged in thinking.
- Thinking becomes more focused when it is discussed with a partner.
- More critical thinking is retained after a lesson in which students have had an opportunity to discuss and reflect on the topic.
- Many students find it easier or safer to enter into a discussion with another classmate, rather than with a large group.
- No specific materials are needed for this strategy, so it can be easily incorporated into lessons.
- Building on the ideas of others is an important skill for students to learn.

For more detailed information, refer to Kagan, Spencer. *Cooperative Learning*. San Juan Capistrano: Kagan Cooperative Learning, 1994.

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## Graphic Organizer for Think-Pair-Share

Question or Prompt	What I thought	What my partner thought	What we will share

## References



This link to Western Kentucky University's *The Three Kinds of Writing Go Online*. You can select it or copy and paste it into your internet browser. It will provide you with a few examples of admittance (i.e., activating) and exit (i.e., summarizing) slips.

<http://www.wku.edu/3kinds/dmaesexamples.html>

## Conclusion

The teacher-centered instructional strategies that were discussed in this chapter are one of many tools available for classroom use. As a teacher, I tend to use all of the strategies in my toolbox. Some topics require direct instruction or lecture with discussion while other topics require more student-centered instruction, which we will discuss in the next chapter. In addition, there will be more information regarding the activating and summarizing activities when we discuss formative assessments in Chapter 13.

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# Chapter 11: Student-Centered Instructional Model



## LEARNING OBJECTIVES



1. Develop a cooperative learning lesson plan or activity.
2. Describe the characteristics of discovery learning
3. Outline a lesson plan idea that utilizes the role-playing instructional strategy.

### Research has shown that the retention rates from instructional methods vary.

According to William Glasser, nearly 90% of learning is retained when the students teach others the content. The figure to the right presents a pyramid of learning strategies. By examining these percentages of retention rates, the need for student-centered instructional strategies (e.g., teach other and immediate use) arises. The model of student-centered instruction derives from cognitive learning and information processing theories, which we discussed in Chapters 6 and 7. The **student-centered instructional model** is defined as instruction that revolves around the student instead of the teacher. The previously discussed strategies tended to have one-way communication that was delivered from the teacher and absorbed by the students. With student-centered strategies, the students are actively involved with each other while they communicate about the content.

Student-centered strategies include cooperative learning, discovery learning, and role playing (Lang & McBeath; Saskatchewan Education, 1994).



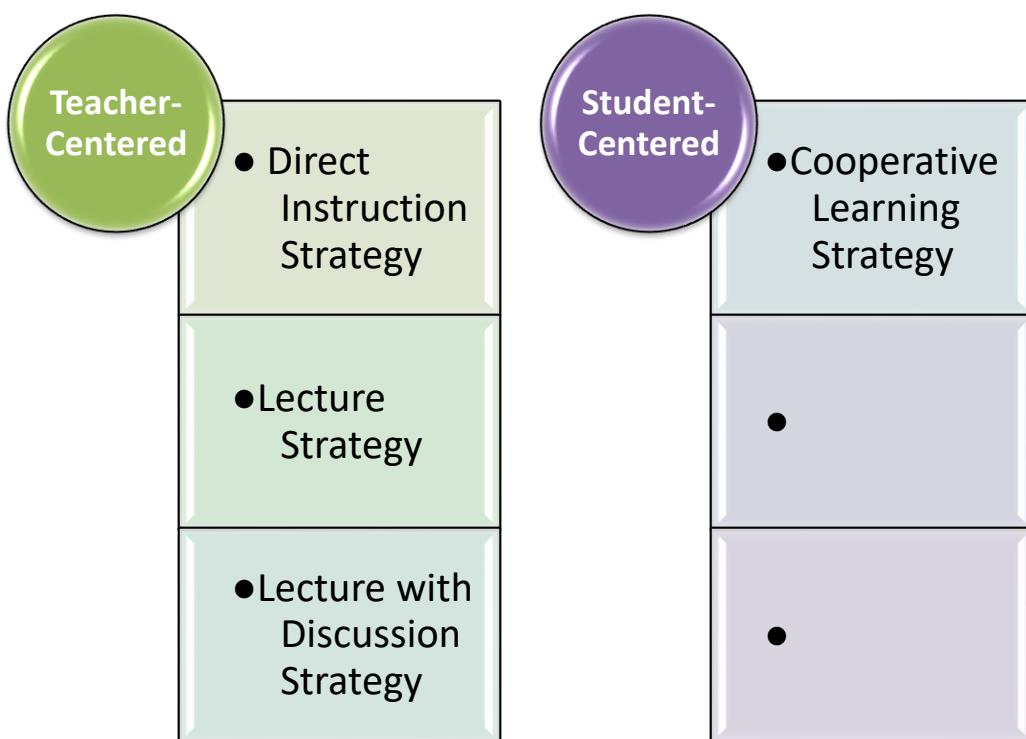
### Cooperative Learning

**Cooperative learning** is a set of instructional methods where students work with other students of mixed abilities in groups of three or four to achieve a common goal (Slavin, 1987). There are advantages and disadvantages with this strategy as with the other instructional strategies. The advantages include the strategy

helps to foster mutual responsibility and teaches social skills, such as patience with others and compassion for others. The disadvantages include students who like to work alone find it difficult to share answers and dominant students try to take over the situation (ADPRIMA Instruction System, 2010).

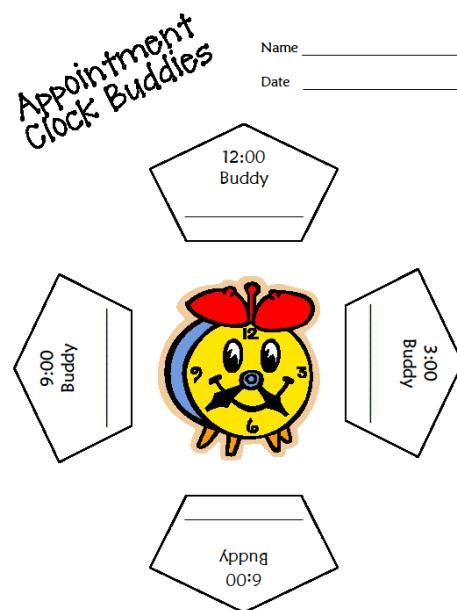
### Organizing Cooperative Learning Groups

When high, medium, and low achieving students are grouped together, high-achieving students can explain material to low-achieving students. Students who are gifted report frustration when working in mixed-ability groups because there are team members who are not willing to contribute to the group's goal. For one solution, consider placing students who are similar in achievement together, but group heterogeneously by ethnicity and gender (Robinson, 1991). Mixed-ability cooperative learning should be used sparingly for students who are gifted and talented. Offer the learning opportunities as social skill development because the students who are gifted will need to be able to work with all types of people in the real world (Rogers, 1991). It is important that the students are aware of the procedures and responsibilities of each role. When I taught high school math, I created Co-Op Groups. The posters that I placed in my classroom to outline my expectations are presented on the next page. These groups were long-term, usually for a nine-week period. Every four weeks, I would use the Co-Op Skill Evaluation sheet (at the bottom of the next page) to assess their cooperative learning skills. Also, I provided a Peer Contribution Assessment, on the following page, which I have used with other classes for students to assess themselves and other group members.



### Roles and Responsibilities of Group Members

To explain the roles and responsibilities of group members, read the following article by Julie Siciliano. (See CougarVIEW for the article.) When the activity did not require multiple roles, I tended to use buddies to increase the accountability. If the project has many components, I would assign three to four people to a group. I used various methods for grouping (e.g., elbow buddies, student choice, random selection,



homogenous, and heterogeneous). Each year, my different classes responded differently to cooperative groups. Some methods are more successful with certain classes.

Here is an excellent idea by Laura Candler ([www.lauracandler.com](http://www.lauracandler.com)) for grouping and for reinforcing how to tell time with analog clocks. To create the clock buddies, she distributes a sheet of paper with the appointment clock buddies (shown to the left). After standing up and moving quietly around the classroom, the teacher rings a bell. Then, they are instructed to find their 3 o'clock buddy and have him or her sign the sheet. She repeats the same process for 12:00, 6:00, and 9:00. The students keep the partner assignment sheet for a set amount of time. Each time the teacher needs the students to find a buddy, she will say, "Today, you will meet with your 9 o'clock appointment to complete your graphic organizer." This activity would be excellent for an elementary school classroom.

**ORGANIZER:**

- Identify group goals.
- Monitor progress.

**SUMMARIZER:**

- Records ideas.
- States final conclusions.

**RESEARCHER:**

- Gathers outside resources.
- Share resources with the group.

**INVESTIGATOR:**

- Records data.
- Collects & returns all equipment.

## Co-Op Skill Evaluation

- Fulfill individual co-op expectations.
- Share ideas and/or opinions.
- Listen to other co-op members.
- Persist with task despite difficulties.

**Co-Op Skill Evaluation #1**

Group name \_\_\_\_\_ Name \_\_\_\_\_

Directions: Rate yourself and each Co-Op group member on each of the four Co-Op skills on a scale of 1 to 5. Dr. Bell reserves the right to make the final decision.

**1 = poor      2 = fair      3 = good      4 = excellent      5 = superior**

Co-Op Skills	Self	_____	_____	_____
1. Fulfill individual Co-Op expectations.				
1. Share ideas and/or opinions.				
1. Listen to other Co-Op members.				
1. Persist with task despite difficulties.				

## Peer Contribution Assessment

**Directions:** Write the names of your peers in the space provided below. Rate yourself and each group member using a scale of 1 to 3 to best describe how you feel about your/his/her contribution to the group.

### Rating Scale

 <b>Needs Improvement</b>	 <b>Acceptable</b>	 <b>Excellent</b>
---	--	---

### Evaluation Form

Statement	Self	(name)	(name)
<b>Timeliness</b>			
Completed tasks thoroughly in a timely manner.			
<b>Participation</b>			
Actively collaborated with other members to achieve group objectives.			
Finished assigned task without any prodding from his/her group members.			
<b>Communication</b>			
Listened attentively to others.			
Shared many ideas related to the goals.			
Encouraged all members to share ideas.			
Accepted the ideas of others as they were presented.			
<b>TOTAL</b>			

I understand that for peer evaluation to be fair and helpful to all group members, I need to be honest in completing this evaluation and will not discuss scores with anyone in my class.

\_\_\_\_\_  
(your signature)

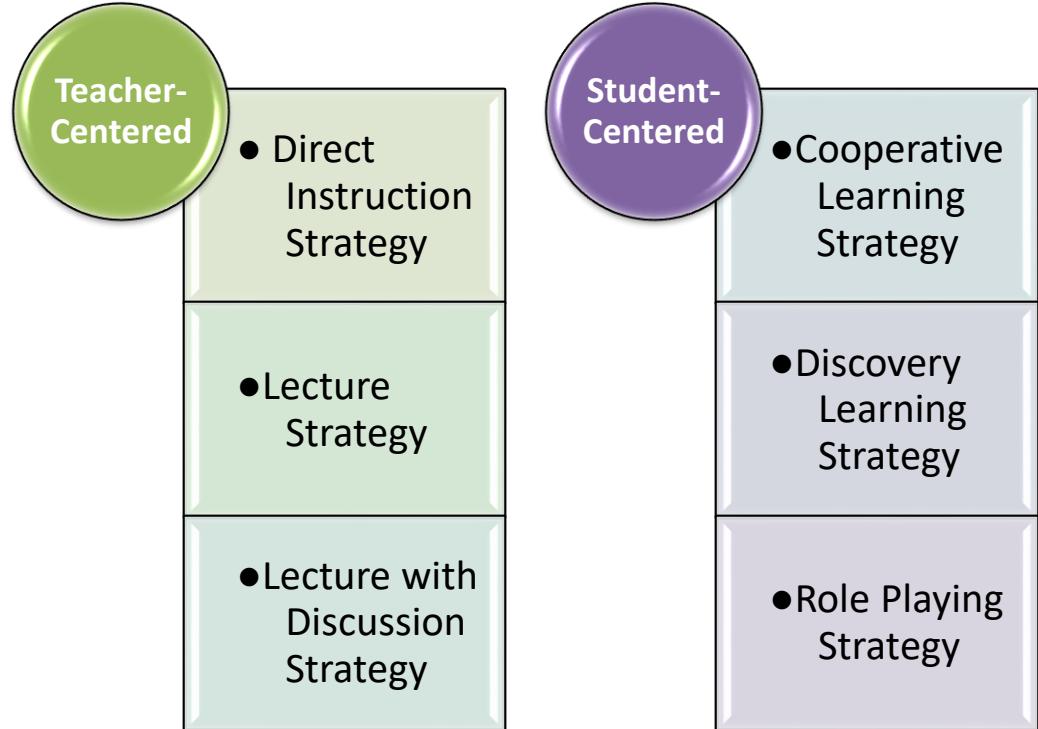
I have included a lesson plan for cooperative learning that I used for my geometry class. There are some information components to recognize in addition to the learning objectives and assessment procedures. First, I describe how the groups will be formed. *Students will be placed in their Co-Op groups (i.e., Alpha, Beta, Delta, Gamma, Sigma, and Theta) for this nine week period. Students are placed in these groups by drawing random numbers from a hat.* Also, I provided a task rotation chart. With this high school group, I did not want all of the students working on the same task for behavioral and honesty reasons. Second, I outlined the policies and procedures for the students within the lesson plan. If you were to give this lesson plan to another teacher, would he or she have enough detailed information to implement the lesson without your assistance? If you can answer Yes, then you have a sequentially detailed instructional procedures. The cooperative learning template will be posted in CougarVIEW.

## Discovery Learning

Read the Discovery Learning Overview on the following pages. At the end of the overview, there is a wonderful example of a magnet lesson using the discovery learning approach in CougarVIEW.

## Advantages and Disadvantages

A major advantage of discovery learning is student motivation. When the natural curiosity of the students is stimulated, it creates a more engaging learning environment. Other advantages include increased student achievement and higher retention rates. There are some disadvantages. The amount of time needed for discovery learning is a major concern for this approach. Another concern is class size. If the class is too large, it is difficult to have the important



one-to-one interactions. If the class is too small, then the shared experiences among the students are limited (Castranova, 2002).

## Role Playing

Role playing is a method for students to experience and participate with the lesson content in an active format instead of a passive format. Students tend to learn 80% of the material when they personally experience the content. Hence, role playing can improve student retention of material (Mohanna, 2008). While this student-centered strategy may be time consuming for the teacher, it is highly effective for actively engaging the students in learning. Role playing can foster an understanding of multiple perspectives, which is essential in social studies classes, for example (Lyons, Kysilka, & Pawlas, 1998). When creating this type of learning activity, the teacher must define the problem and clearly define the roles. It is imperative for the teacher to give clear directions to the students. Some examples of role play activities were presented in Chapter 7 (Information Processing Theory).

The advantages of this instructional strategy are student motivation increases dramatically when the problem situation is introduced, opportunities for the student to assume different roles and see other points of view, and the activity allows the student to practice previously learned skills and explore other solutions. The disadvantages include some students may be too self-conscious and the activity may not be appropriate for large groups (ADPRIMA Instruction System, 2010).

## Practical Example

View the video of Joyce Evans, who is a kindergarten teacher in West Virginia, within CougarVIEW. Ms. Evans is taking her class on to a pond. All of her activities are connected with the scenario of "Life at the Pond". At each learning center, the students assume different roles while they acquire and/or practice their curriculum content. Her lesson plan is on the following pages if you would like to try it. After watching her, I was excited about life at the pond. Notice how she lets the students know that it is okay to think for themselves and change their minds.

# COOPERATIVE LEARNING LESSON PLAN

**Lesson Title:** Holiday Hunt

**Lesson Author:** Dr. Jennifer L. Brown

**Grade Level:** 10th grade

**Subject Area:** Geometry

**Time Allotted for the Lesson:**

90 minutes (1 class block)

**Short Description of Lesson:**

In this lesson, the students will apply the geometric concepts that have been learned in class (i.e., surface area, Pythagorean Theorem, and volume) while completing a scavenger-type hunt to collect data.

**Classroom Layout and Grouping of Students:**

Students will be placed in their Co-op groups (i.e., Alpha, Beta, Delta, Gamma, Sigma, and Theta) for this nine week period. Students are placed in these groups by drawing random numbers from a hat.

Groups and Task Rotation

Group	Task A	Task B	Task C
Alpha	1	2	3
Beta	2	3	1
Delta	3	1	2
Gamma	1	2	3
Sigma	2	3	1
Theta	3	1	2

**State Curriculum Standards met in this lesson:**

**MCC9-12.A.CED.1** Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.

**MCC9-12.A.REI.1** Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.

**MCC9-12.G.SRT.8** Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.

**MCC9-12.G.GMD.3** Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.

**MCC9-12.G.MG.3** Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).

(Note: This lesson was created and implemented prior to the CCGPS.)

#### Instructional Objective(s):

1. Collect data using a tape measure.
2. Apply the formulas for surface area and volume to solve a mathematical problem.
3. Apply the Pythagorean Theorem to solve a mathematical problem.

#### Materials, Resources and Technology:

Materials needed for this lesson

1. three task sheets for each group
2. direction sheet for each group
3. tape measure for each group
4. scientific calculator for each student
5. clipboard or notebook

#### Student's Present level of Performance and Knowledge:

Students should be familiar with the formulas for surface area and volume and for the Pythagorean Theorem. In addition, the students should be familiar with collecting data with a measure tape and with the rules for rounding to the nearest inch and nearest foot. Lastly, the students should be familiar solving equations and utilizing the scientific calculator.

#### Instructional Procedures

##### Lesson Set:

The purpose of this activity is to apply the geometric concepts that have been learned in class. Do not be afraid to think outside the box! Successful completion of this activity requires problem-solving ability.

## **Techniques and Activities:**

1. Review policies and procedures listed on the Directions Sheet.
2. Allow one hour for the students to collect the required data.
3. Allow 30 minutes after lunch for the students to complete calculations.
4. Teacher will assess each task using the rubric.
5. Teacher will announce the winning group.

## *Procedures*

You and your group will complete three tasks within 1 hour. The entire group must complete the following check-ins (+/- 5 minutes) to receive full point value:

- Initial check-in with Dr. Bell (Room 502) 11:04 AM to collect first task.
- Checkpoint #1 with Mrs. Green (Room 208) at 11:30 AM to collect second task.
- Checkpoint #2 with Mrs. Skinner (Room 515) at 11:50 AM to collect third task.
- Final check-in with Dr. Bell (Room 502) at 12:11 PM.

You and your group may use the time after lunch to finish calculations. For the sake of time, you are encouraged to use the time to develop a plan and to gather necessary measurements/information. Final submission should include all work and the final answer in the appropriate box. Your final submission for all three tasks, along with assigned materials, is due to Dr. Bell in Room 502 by 1:06 PM on Tuesday, November 25, 2008. In the event of a point tie, the group that submitted their final submission first will be awarded the winning prize. Each member of the group with the highest score will receive an “Off-Campus Lunch” pass.

## *Policies*

1. The number of members in each group cannot exceed three.
2. Groups may not collaborate.
3. Remember... all school and classroom rules must be followed throughout this activity. Disrespectful and irresponsible behavior will result in disciplinary action!

### *Task A*

Ms. Sally Sue has decided to decorate her mobile unit for the holidays. Determine the surface area of the Mobile Unit #15 so she can purchase enough wrapping paper to cover the outside of the mobile unit. Assume there will not be any overlap with the wrapping paper. There will not be any paper on the white underpinning or underneath the mobile unit. Disregard the a/c unit and outside lights. HINT: You only need 4 measurements!

Your final sheet should contain measurements collected to the nearest inch, measurements calculated to the nearest foot, and your final answer.

### *Task B*

Mr. Jim Bob, the county building inspector, wants to determine if the wall and floor on the first floor of the Vocational Building at LaGrange High School are “plumb” or “square”. He wants to use measurements only.

Your final sheet should contain measurements collected to the nearest inch, measurements calculated to the nearest foot, and your final answer.

### *Task C*

Mr. Billy Bob wants to build a shipping box to send a LHS artifact to the soldiers in the Middle East. The box must be a polyhedron. What would be the dimensions of the shipping box to have the maximum efficiency? HINT: Remember the penny coke can activity! Think volume!

Your final sheet should contain a sketch of the LHS artifact, measurements collected to the nearest inch, measurements calculated to the nearest foot, and your final answer.

#### **Lesson Closure:**

Review the final answers for each group and compare them to the teacher’s measurements, calculations, and final answers. Announce the winning group.

#### **Modifications for Special Needs:**

- Teacher will walk around to the designated data collection sites to monitor student progress and answer any questions.
- Prompts will be given within each task to activate the students’ prior knowledge.
- Peers within the group will assist fellow students with reading task sheets.
- The teacher will read and explain the policies and procedures at the beginning of the class. □ Students can choose which Co-op roles they will fulfill.

#### **Supplemental Activities: Extension and Remediation:**

Teacher will demonstrate a similar problem using surface area, volume, and/or Pythagorean Theorem if students need remediation.

Teacher will allow the students to create their own mathematical problem that requires data collection and the use of surface area, volume, and/or Pythagorean Theorem as an extension activity.

Adapted from *Preparing to Use Technology: A Practical Guide to Curriculum Integration* (2007)

## **Assessment/Evaluation:**

For each of the three tasks, the student groups will be evaluated using the following rubric. The total score will determine the winning group, and the total score will serve as a Class 2 assignment grade.

*Task Evaluation* ○ Completed (10 pts) ○ Collected all necessary

measurements/data (5 pts)

- Used mathematical procedure(s) to determine a final answer (5 pts)
- Application of correct concept (15 pts) ○ Evidence of geometric concepts (5 pts)
  - Evidence of algebraic concepts (5 pts) ○ Evidence of measurement concepts (5 pts)
- Accuracy (5 pts) ○ Correct answer (5 pts)

*Check-in Evaluation* ○ For each minute after the 5-minute window, 0.5 points will be deducted.

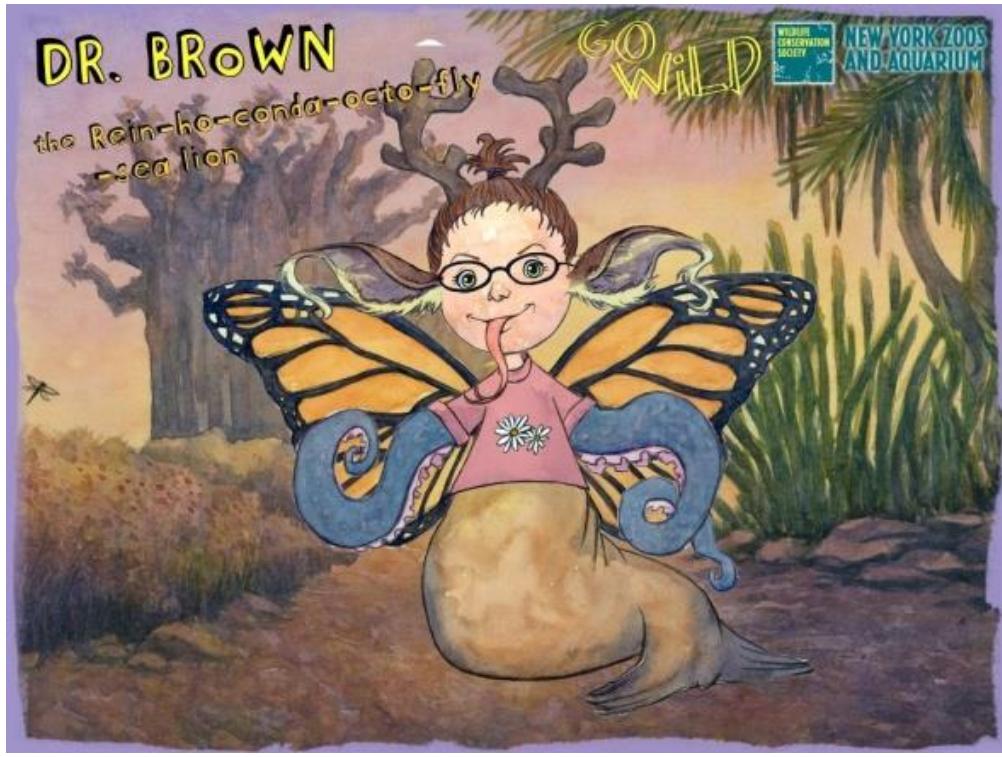
- No credit or task will be awarded until all group members check-in at the same time.

Point Tally Sheet for Holiday Hunt

	Initial Check-in	Checkpoint #1	Check-Point #2	Final Check-in	Task #1	Task #2	Task #3	Total
maximum	2.5	2.5	2.5	2.5	30	30	30	100

## **Student Products:**

Each group will submit a final report on the task sheet provided by the teacher and/or checkin supervisor for each of the three tasks. The final report should contain the measurements collected, measurements calculated, and the final answer.



Here is another activity that will excite the imagination of your students. Build your Wild Self, by the New York Zoo and Aquarium, allows the students to create a creature and learn about animals and their habitats ([www.buildyourwildself.com](http://www.buildyourwildself.com)). Take a look at my "wild" self!

### Conclusion

To review the student-centered strategies that were discussed in this chapter and to see practical applications of each strategy in a history classroom, read the Maloy and LaRoche article, which can be found in CougarVIEW. Slavin (2014) also provides five key practices for making cooperative learning powerful. Lastly, as a transition from student-centered instruction to classroom management, there is a grouping activity after the Pond lesson. Given the nature of student-centered instruction, classroom management is essential for an effective learning environment.

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**Title:** Life at the Pond

**Creator:** Joyce L. Evans

**Grade Levels:** Pre-K and K- Math and Science

**Big Idea:** Collecting, counting and analyzing data

**Essential Question:** Why do we count and how do we find out how many?

**21<sup>st</sup> Century Content Standards and Objectives:**

- |            |  |
|------------|--|
| M.O.K.1.2  | read, write, order, and compare numbers to 20 using multiple strategies (e.g. manipulatives, number line).                       |
| M.O.K.1.10 | create grade-appropriate picture and story problems, solve using a variety of strategies, present solutions and justify results. |
| M.O.K.2.2  | create, describe, and extend a repeating pattern using common objects, sound, and movement.                                      |
| M.O.K.5.1  | collect, organize, display, and interpret data using a pictograph and bar graph (with and without technology)                    |

**Materials:**

Books: The Hidden Life of the Pond, In the Small, Small Pond, Jump, Frog, Jump

“Question of Day Chart” and clothespins

Story board mats

Frog game made from paper, straws and tape

Writing Boards/markers

Manipulatives: frogs, bugs, fish

Venn circles or plastic plates on table or floor and small clear cups

Poster board strips for patterns and bucket of frogs

Clipboards and student names for formative assessment

Numberline and frog on magnet for counting, adding, counting on (*optional*)

Puppets - fish, frog, bug, snake used for brain stimulation and for telling stories at storyboard center (*optional*)

Rhyme- One Little Speckled Frog sitting on speckled log eating the most delicious bugs (*optional*)

Container for pond (e.g., small plastic pool) (*optional*)

Camera and Laptop for taking snapshots for assessment or sharing with parents (*optional*)

**Launch/Introduction (15-20 minutes)**

What is a pond?

Use The Hidden life of the Pond by David M. Schwartz and real photos by Dwight Kuhn to get the students excited.

What could you collect and count from a pond?

How could a mathematician count what is in the pond?

Finding out “How many” is something all of us need to be able to do.

When we go to the pond, what will we need to take with us?

Should we collect some animals from the pond?

What might we see by of the pond? In the pond?

Sing “Going on a Pond Hunt” by Joyce L. Evans.

Teacher: Going on a pond hunt.

Students: Going on a pond hunt.

Teacher: Wonder what we'll see?

Students: Wonder what we'll see?

Teacher: I think we'll see some pond water.

Students: I think we'll see some pond water.

Teacher: That is what we'll see!

Students: That is what we'll see!

Teacher: Going on a pond hunt.  
Students: Going on a pond hunt.  
Teacher: Wonder what we'll see?  
Students: Wonder what we'll see?  
Teacher: I think we'll see some fish.  
Students: I think we'll see some fish.  
Teacher: That is what we'll see!  
Students: That is what we'll see!

*Song continues and teacher lets students fill in the blanks for what they will see.*

(optional) Write student responses on chart.

### **Activity-Large Group**

Do you want to go? Use your clothespin to mark yes or no.

Use Question of the Day Chart and student clothespins to collect data.

Use clothespins with student names to collect information and analyze data.

### **Activating Prior Knowledge**

If you remember reading this book In the Small, Small Pond by Denise Fleming, clap your hands. Who can tell me something they remember?

We are going on a pretend trip to the pond.

On our pretend trip we will look for living things and for patterns.

(Teacher asks good questions.) Who can find a pattern in our room?

Can anyone count the number of students who are going on our pretend trip?

What do we do to find out how many frogs? turtles? fish?

Let's count. Let's touch and count. Let's find out how many.

### **Vocabulary—Can be on a word wall or writing board**

Pond

Turtles

Snakes

Fish

Pattern

Frog

Bugs

Sort

More

Less

How many more?

How many?

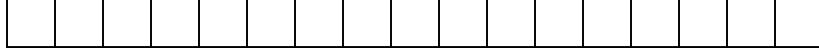
Same as

Equal to

### **Investigate/Explore (60 minutes)**

Create Centers for student discourse.

1. **Create Patterns** with frog manipulatives on pattern strips made from poster board



2. **Count Fish** using 1-1 correspondence and fish manipulatives (fish crackers)K students can group in sets of 5 and 10 using small clear cups or plastic plates.

3. **Sort Bugs** - Use Venn circles or sorting plates for students to sort variety of bugs (flies, butterflies, caterpillars, etc,) Teacher asks good questions such as: How did you sort? Can you tell me about your set or group of (flies)? How many in the blue circle? How many in the yellow circle?

4. **Counting Jar with Turtles** – record in pictures, numbers or words. This is a one or two student center where they count what is in the jar and then show how many on a writing board or paper, using pictures, numbers and/or words.

**5. Frog Game** – numeral recognition (You will need: a straw for each student, small paper frog taped on a thinner straw and lily pads with numerals placed on floor.)

Directions:

Lily pads with numerals 1-10 or 1-20 are placed in a line in front of the student .The lilypads go from smallest to largest numeral. Frogs on small straws will fit inside the students' individual bigger straw. Student will blow to make frog jump. Students take turns making their frog jump by blowing through their own straw and watching how far and on what lily pad their frog lands. Identify the numeral or count up to that numeral. Student must then find that numeral on the vertical number line and a tally mark is placed there with the help of an adult.

**6. Frogs and Story Boards** -Student places frogs on the story board and creates a picture story and story problems with his/her board. This is problem solving and the teacher encourages use of math vocabulary and one to one correspondence when counting.

**Summarize/Debrief the Lesson (15 minutes)**

\* Sing “Went on a pond hunt!”.

Teacher: Went on a pond hunt.

Students: Went on a pond hunt.

Teacher: Guess what we saw?

Students: Guess what we saw?

Teacher: We saw some \_\_\_\_\_.

*Let students fill in blank.( fish, frogs, bugs, water, cattails, snakes)*

Students: We saw some \_\_\_\_\_.

Teacher: That is what we saw!

Students: That is what we saw!

Teacher: Went on a pond hunt.

Students: Went on a pond hunt.

Teacher: Guess what we saw?

Students: Guess what we saw?

Teacher: We saw some \_\_\_\_\_.

*Let students fill in blank.( fish, frogs, bugs, water, cattails, snakes)*

Students: We saw some \_\_\_\_\_.

\* Return to the essential question, “Why do we count and how do we find out how many?”

\*Graph favorite animal from the pond – using a picture graph and analyze data. Did we find out how many in our class like the frog best?

\* Ask for a pattern created with the colored frogs in Center 1and clap it out. (A,B,A,B,A,B) or (A,B,C,A,B,C)

\*Analyze the 1-20 vertical numberline to tally how far each frog jumped in Center 5. Which jumped the least? Which jumped the farthest? How did you find out how many? Did you do it the same way as your friend?

**Teacher Notes:**

The teacher, teacher's aide, and parent volunteers facilitate centers, ask good questions, take pictures, and keep observations on clipboard using formative assessment. Room size and adult assistance determines the number of centers, but the first three centers are necessary to complete the objectives.

**Helpful Websites:**

<http://allaboutfrogs.org>

<http://jellyfishfun.com>

# Meet your students!



## What You Know about your Students

1. Ashley always helps Emily--she is good that way.
2. Carl cannot stand Dierdre; they always fight when together.
3. Carl needs extra help with reading.
4. Frank, Gillian, and Lynn are friends outside of school; sometimes that friendship becomes a problem in class but not always.
5. Lynn is doing better at learning to read than either Frank or Gillian.
6. Emily and Irma are identical twin sisters, and they are inseparable!
7. Deirdre is actually doing really well academically, but she sometimes hides her ability.
8. Brad gets along with everyone; it sure nice to see!
9. Hanna is rather shy, but she welcomes friendliness from others.
10. Justin and Kelly sometimes tease Emily, and they often tease Carl; usually, it is about their slow progress at reading.

You refuse to create a group that is either all girls or all boys.

## Grouping Activity

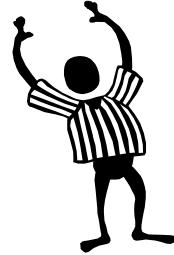
Using all of this above knowledge, what is the best way to form three groups of students to work together on a collaborative project within your classroom? *Note:* The groups may or may not be equal in size, and there is more than one “correct” answer. Make a list or diagram showing how you would group them.

# Chapter 12: Classroom Management

## LEARNING OBJECTIVES



1. Identify common mistakes in classroom management.



2. Identify examples of daily classroom procedures.

## The heart of effective teaching is Classroom management.

A teacher could create the greatest lessons, but, if the students are not engaged in learning, the students will not benefit from the lesson preparation and implementation.

### What is classroom management?

**Classroom management** is the practice and procedures used by a teacher to maintain a learning environment. Classroom management can be divided into three sections: daily classroom procedures, behavior management, and high expectations (Wong & Wong, 2005).



### Daily Classroom Procedures

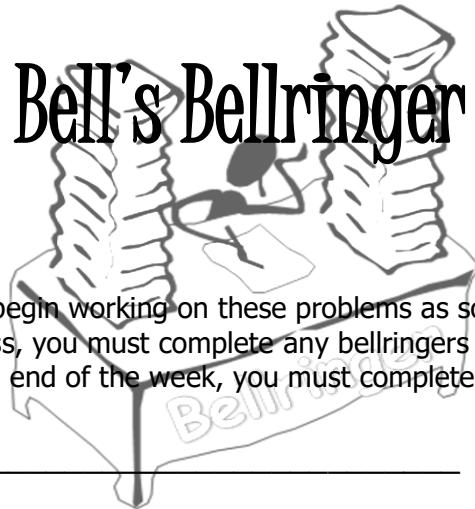
As a math teacher, in my classroom, I expected the students to enter the classroom and get their calculators along with any handouts off the tables. Once seated, they were to place their homework on their desks and begin the bellringer. An example of my bellringer sheet is presented on the next two pages, which I always printed on colored paper. I found that students tended to hold onto colored papers more than

plain white papers. After moving around the room to check homework completion, I reviewed the bellringer and homework. Afterwards, I began my lesson for the day. I used the same routine every day. In addition, I began the semester with procedural instruction. I usually spent three days of embedding the procedural instruction into the daily lesson. If the students are younger, you will need to give more instructional time. It is also important to provide review opportunities throughout the school



Today's Agenda Board from my high school classroom.

# Dr. Bell's Bellringer Sheet



- It is your responsibility to begin working on these problems as soon as the warning bell rings.
- If you are absent from class, you must complete any bellringers that you missed.
- To receive full credit at the end of the week, you must complete all components of the bellringer.

Name \_\_\_\_\_ Period/Block \_\_\_\_\_

M		Essential Question
Date: _____		
T		Essential Question
Date: _____		

W		Essential Question
R		Essential Question
F		Essential Question

year and immediately preceding the particular activity. Eventually, if used in a continuous manner, the procedures will become second nature for the students.

Another procedure that needs to be discussed with the students is daily agenda and missing assignments. I listed "Today's Agenda" on the markerboard so the students can see "What are we going to do today?". On this markerboard, I would list the bellringer, lesson topics and/or activities, and the homework assignment. (See picture on page 151.) Missed assignments is another major issue for students who are absent from your class. I used a "While you were out" memo to list the lesson topic and homework assignment. I also stapled any handouts to the memo. I placed the memo in a folder by class period for the students to retrieve upon returning to class. The students did not have to ask me, "What did I miss yesterday?"

With routines and procedures, the students must receive daily instruction about how the procedure works and who to contact if the procedure does not work. Some teachers tell their students to ask two people before asking the teacher. I told my high school students to ask me if their handouts or calculator was missing but see a fellow classmate for the class notes.

## Discipline Procedures

As a class, we could discuss discipline procedures for the entire semester. There are a variety of

behavior management plans, including, but not limited to, behaviorism, choice theory, cooperative discipline, and positive classroom discipline. In



Pictured Left: The Missing Assignments box where the memos were filed. Pictured Below: "While you were out" memo that was completed by me when a student missed class.

**"While you were out"**  
**MEMO**

To: \_\_\_\_\_  
From: Dr. Bell  
Date: \_\_\_\_\_

YES       NO  
Did I check HW?  
 YES       NO  
Did you miss a test or quiz?  
 YES       NO  
Did I hand back a test?

Today's Lesson: \_\_\_\_\_  
\_\_\_\_\_

Homework: \_\_\_\_\_  
\_\_\_\_\_

CougarVIEW, there is an article that gives you a user-friendly overview of 12 common classroom management mistakes and how to remedy them within the classroom.



## High Expectations

Lastly, the key to success with all students is high expectations. If you expect the worst, then you will see the worst behavior. No matter what the day before held, begin each day with a

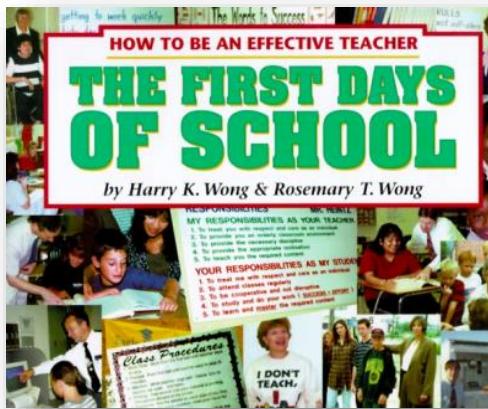
positive attitude and high expectations for your students. "My students will pass the test! My students will master multiplication tables! My students will write a paragraph!" There will be disappointments, but we are human. We are working with other humans who live in the real world. At every age, the students are perceptive of the teacher's feelings for them. The students will rise to your expectations.

Here is a great example of high expectations . You could use this procedure with an elementary school class or maybe middle school class. It is called "I'm Watching Someone!". It looks like it would keep the students guessing.

**Submitted by:**  
*I Love That Teaching Idea! Staff*  
From: SLC, Utah  
Date: August 23, 2001

Right before my class leaves for an assembly or a field trip, I tell my students that I am going to be watching two students in particular to see how their behavior is. I do not tell them who those two students I have chosen will be. I tell them that, if these two students are behaving well and doing what they are supposed to, the entire class will be given a special treat on our return back to the classroom (e.g., 10 minutes extra recess, free reading time, or a math game). This activity really helps ALL of my students behave because no one knows who I am going to have my eye on! If the result is a positive one, I let everyone know at the end who was responsible for the class privilege. High "fives" go up everywhere! If the result is negative, I do not mention the names but let my students know that we will try again the next time.

Retrieved from  
[http://www.ilovethatteachingidea.com/ideas/10823\\_i%27m\\_watching\\_someone.htm](http://www.ilovethatteachingidea.com/ideas/10823_i%27m_watching_someone.htm)



**Harry Wong was a high school science teacher from Menlo Park, California. He left the classroom to help teachers improve their classroom management skills.**

Decide if the following statements are True or False.

1. It is more efficient to have your students pass their papers across the rows than up the aisles.
2. Scatter questions throughout the lesson or chapter rather than place at the end.
3. An assignment must be posted and in a consistent location before the students enter the class.
4. To increase assignment completion, give structured, precise assignments.
5. The number of students in a group is determined by the size of your class.
6. Begin each day or period by taking roll as quickly and efficiently as possible.
7. Tests must be given when enough material has been covered.
8. An excellent way to get class attention is to flick the lights.
9. The assignment and the test should be written at the same time.
10. The number one problem in the classroom is discipline.
11. To increase student learning and achievement, tell the students what to do.
12. The main purpose of a seating arrangement is to keep students quiet..
13. The number of questions on a test is governed by the number of objectives on the assignment.
14. Learning is more effective when it takes place as a solitary activity.

Answers and scoring rubric are located at the end of the chapter .



The classroom rules poster from my high school classroom.

## Watch the Virtual Tour of my Classroom.

Think about what effective teaching strategies are illustrated within my classroom. This video can be found within CougarVIEW.

## Watch an Interview with Me.

Think about what strategies you could implement into your future classroom. This video can be found within CougarVIEW.

## Conclusion

This chapter has offered many suggestions for establishing an effective classroom management. Do not be afraid to change procedures and routines if they appear unsuccessful! As a high school teacher, I used the one-semester rule of thumb. I would try the procedure for one semester. If I felt that it was not successful, I would adjust it at the beginning of the next semester. For additional resources, I have included an McIntosh et al. (2004) article about teaching classroom transitions and *Ten Tips for Classroom Management* by Edutopia (2011) within CougarVIEW.

## References

- Barbetta, P. M., Norona, K. L., & Bicard, D. F. (2005). Classroom behavior management: A dozen common mistakes and what to do instead. *Preventing School Failure*, 49(3), 11-19.
- Edutopia. (2011). *Ten tips for classroom management*. Marian County, CA: The George Lucas Educational Foundation.
- McIntosh, K., Herman, K., Sanford, A., McGraw, K., & Florence, K. (2004). Teaching transitions. *Teaching Exceptional Children*, 37(1), 32-38.
- Wong, H. K., & Wong, R. T. (2005). *The first days of school: How to be an effective teacher*. Mountain View, CA: Harry K. Wong Publications, Inc.

Complete the  
“Fling the Teacher”  
Review Game.

[www.bugforteachers.com/FlingTheTeacher.html](http://www.bugforteachers.com/FlingTheTeacher.html)

Software available from  
[www.contentgenerator.net](http://www.contentgenerator.net).

## Check your True /False Answers.

1. True
2. True
3. True
4. True
5. False. The number of students is determined by the number of jobs.
6. False. Begin with an assignment.
7. False. Tests are given to assess student learning.
8. False. There are more effective procedures that keep you in control.
9. True
10. False. It is the lack of procedures and routines.
11. False. Tell the students how to do it.
12. False. The main purpose is communication.
13. True
14. False. It is more effective within a supportive community of learners.

COUNT THE NUMBER OF TRUE/FALSE ITEMS THAT YOU ANSWERED CORRECTLY. USE THE SCORING RUBRIC TO ASSESS YOUR FUTURE CLASSROOM MANAGEMENT ABILITIES.

**13 – 14**

*You should be fabulous!*

**10 – 12**

*You have potential to be a master!*

**8 – 9**

*You would just survive, but you can improve!*

**0 – 7**

*Do not fret because you are still learning!*

Adapted from <http://www.effectiveteaching.com/teacherquiz.php>



Plastic circles created for the PE classroom used in an elementary drama classroom for seating. As you can see, they allow the teacher endless possibilities for grouping according to colors and numbers.



# Practical Application Activity

As a practical application activity, select one of the following scenarios from The Teaching Channel. After viewing the video, respond to the “Questions to Consider”.

**#1:** <https://www.teachingchannel.org/videos/behavior-management-drama-class?fd=1>

Questions to Consider

- How is behavior management in a drama class similar to and different from other classes?
- How do the lesson structure and the material used prevent behavior problems?
- When and why does Mr. Druker choose not to redirect off-task behavior?

**#2:** <https://www.teachingchannel.org/videos/streamlining-classroom-procedures?fd=1>

Questions to Consider

- How do strategies such as "chips and salsa" contribute to efficiency and reducing transition time?
- How do specific proficiency statements help to focus and structure instructional decisions?
- What are some strategies you might use to improve the close of a lesson?

**#3:** <https://www.teachingchannel.org/videos/improve-transition-time-management?fd=1>

Questions to Consider

- What is the impact of having students' reflect on the time it takes them to complete tasks?
- How do the 1, 2, and 3 finger signs help limit class interruptions?
- Why does the use of a timer help both the teacher and students more so than just saying "time's up"?

**#4:** <https://www.teachingchannel.org/videos/classroom-management-during-centers?fd=1>

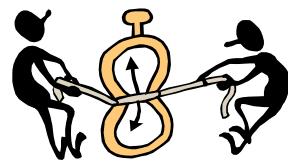
Questions to Consider

- How does kindergarten teacher Ryan Berger use lights and a song to transition between centers?
- Notice how Mr. Berger repeats instructions prior to the transition
- How is content addressed during transitions to make the most use of time?

# Chapter 13: Assessment in the Classroom



## LEARNING OBJECTIVES



1. Define a formative assessment.
2. Explain the purpose of a formative assessment.
3. Compare and contrast different kinds of classroom assessment and their appropriate use.
4. Identify the error and correct test items with a variety of selected response test items.

Since the beginning of this course, we have discussed many instructional strategies and classroom management techniques.

Formative and summative assessments are yet another instructional tool for your toolbox. This week, we will discuss how to assess the students using formative assessments. Then, we will discuss summative assessments and their purpose. Lastly, we will discuss guidelines for writing test items.

### Formative Assessments

**Formative assessments** are evaluations of student learning for the purpose of instructional planning (Parkway & Stanford, 2010). By assessing the students during the learning process, the teacher is able to correct misconceptions and/or inaccurate skills before they are stored in long-term memory.

Formative assessments can take various forms, ranging from informal questioning to teacher-administered quizzes. When I am teaching, I tend to ask many informal questions of students. As I am moving through the lesson, the feedback from the questioning allows me to monitor student learning. If the majority of the students are unable to answer the questions, then I need to reteach the material using a different method.

An important component of informal questioning is wait time. What is wait time? **Wait time** is the amount of time that has elapsed between the teacher's question and the student's response. The tendency

is for the teacher to ask a question, then expect an immediate response. Teachers should give approximately three seconds of wait time to their students. To increase student engagement, the teacher should ask the question, then call on a student for a response (Slavin, 2006). Depending on students' ability, some students need more wait time than others so they can process the question and formulate their response. If you have a student with slow processing skills, you may want to ask that student a question, move onto another question for another student, then return to that student for the answer. Using this process, the class is not "waiting" for a student to respond, and you are not embarrassing anyone.

In addition to informal questioning, I would walk around and observe the students' progress during guided practice. Also, when I was checking for homework completion, I would review their scratch work to look for common mistakes. Another strategy is error analysis on quizzes and tests. As you grade, look for



common mistakes. On the day after a quiz or test, I would return their graded papers and comment on common mistakes as well as show the students how to solve any of the problems. Then, the students completed a quiz or test correction sheet that included the correct answer, scratch work, and a rationale for why they missed that particular question.

### Examples

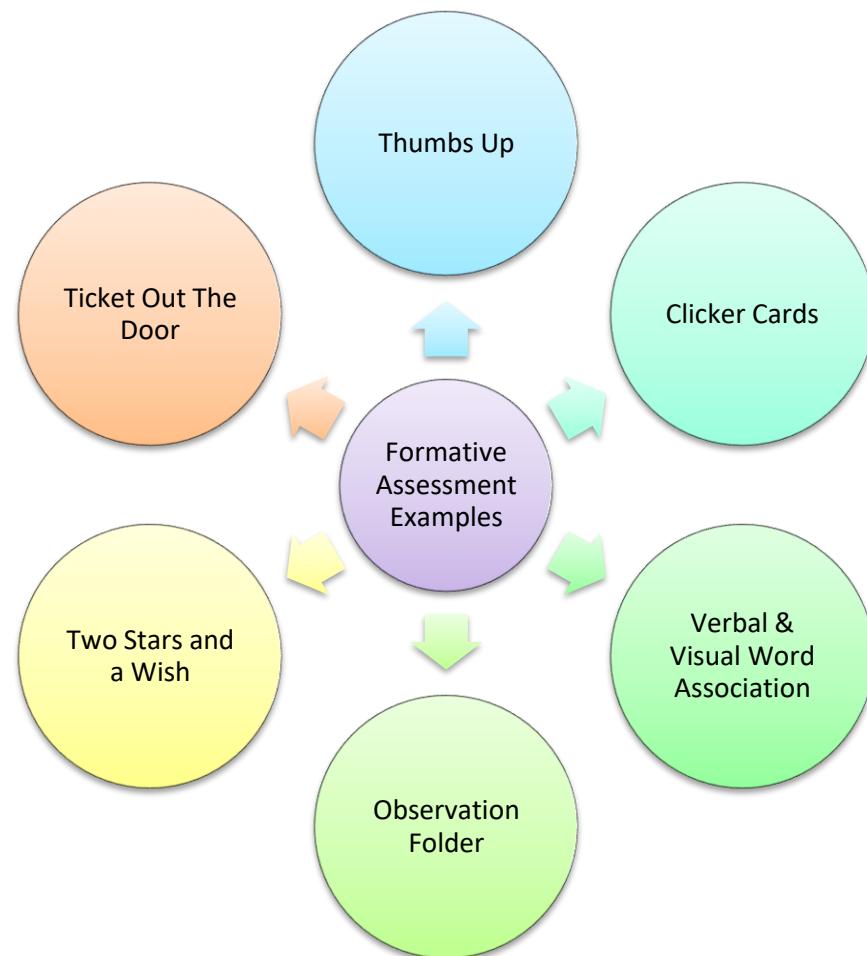
We briefly discussed formative assessments along with activating and summarizing activities in Chapter 10. Depending on how they are implemented, activating and summarizing activities can serve as formative assessments. Here are more ideas for you to review on the following pages. (See the graphic organizer to the right.)

### Summative Assessments

**Summative assessments** are evaluations that determine the student's mastery of the given material at the end of an instructional period. Summative assessment can be divided into two categories: Selected Response and Constructed Response. A **selected response item** provides a list of possible answer choices for the student to select, and a **constructed response item** requires the student to create the answer based on a given prompt.

### Selected Response

There are three main types of selected response assessment: multiple-choice, true/false, and matching. In general, when writing any test item, the items need to be clearly written and focused. Other helpful hints include writing the items at the lowest possible reading level, removing irrelevant clues, and double checking the scoring key. In addition, if possible, ask a fellow teacher to review the test items. Another set of eyes could never hurt. The guidelines to the right offer specific information for writing multiple choice, true/false, and matching items (Slavin, 2006).



### Guidelines for Multiple-Choice

- Item stem poses a direct question.
- Repetition eliminated from response options.
- One best or correct answer.
- Response options are brief and parallel.
- Number of response options offered fits item context.

### Guidelines for True/False

- Statement is entirely true or false as presented.
- Use only one central idea in each item.

### Guidelines for Matching

- Clear directions given.
- List of items to be matched is brief.
- List consists of homogenous entries.
- Response options are brief and parallel.
- Extra response options offered.

## Formative Assessments

### Thumbs Up – Side - Down

Thumbs up allows the teacher to gauge the understanding of the students quickly. During or after a lesson, the teacher asks students to use their hand to signal their depth of understanding.

- A thumb up means “I have a good understanding.”
- A thumb to the side means “I still have some questions.”
- A thumb down means “I do not understand.”



To hold students more accountable for their “truthfulness”, the teacher can call on someone who signaled a thumb up to explain the concept to the class, or partner students who understand with those students who did not understand so they can teach each other for a few minutes.

Another variation of this method is colored cups. Green means “thumbs up”. Yellow means “thumbs to the side”. Red means “thumbs down”. In addition, It can be used for classroom management. Whenever groups of students are talking quietly, they may have the green cup displayed. If they begin to get too loud, the teacher can walk over and place the green cup at the bottom and the yellow cup will signal that they have a warning for their noise level. If they correct their behavior, they get their green cup back on top. If, however, they do not correct their noise level, the red cup moves to the top. Red signals that they go to silence. Using this method, the teacher can simply walk by a group, silently move cups, and communicate exactly what students should be doing.



Retrieved from

<http://wvde.state.wv.us/teach21/ExamplesofFormativeAssessment.html>  
and The Mailbox’s Top Teaching Tips of the Week (Veronica Chase).

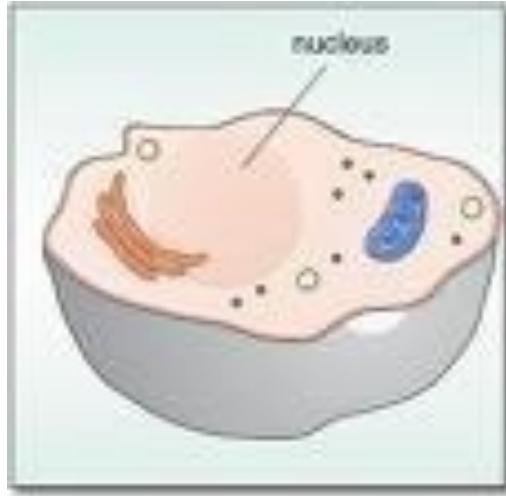
## Clicker Cards



These cards are a low technology method for assessing students' understanding. As you can see, I used different colors with different responses (i.e., true/false, A – E, and yes/maybe/no). You can have the students put their heads on their desks or place the clicker cards at their chest so other cannot see their response. You can see from the picture that some of the students do not understand the presented concept.



## Verbal and Visual Word Association (VVWA)

Word	Visual Representation
<b>cell</b>	 A diagram of a cell with a grey cell wall. Inside, there is a large pink nucleus labeled "nucleus". A blue organelle, possibly a chloroplast, is visible. Several small green circles represent other organelles or vesicles.
<b>Definition</b>  It is a very tiny structure that makes up all plants and animals.	<b>Personal Association or Characteristic</b>  It reminds me of the rooms in a house. They have different uses, but together they make a home.

Retrieved from West Virginia Department of Education  
<http://wvde.state.wv.us/teach21/ExamplesofFormativeAssessment.html>

Retrieved from West Virginia Department of Education  
<http://wvde.state.wv.us/teach21/ExamplesofFormativeAssessment.html>

## Observation Folder

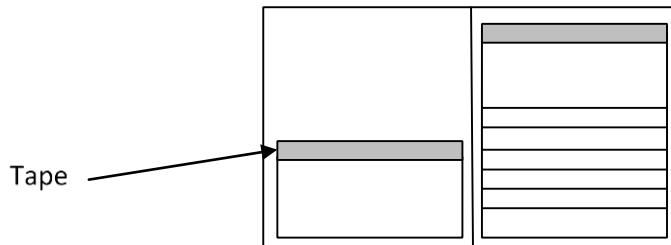
An ideal way to create an observation notebook is through the use of a folder and index cards which allows for organization for multiple classes. It can be used to document classroom behavior, too.

### Materials:

standard manila file folder, enough 5" x 7" index cards for students in your largest class plus a few extras for transfer students.

### Procedures:

1. Place the file folder on a flat surface and beginning at the bottom of the folder.
2. Tape (not glue) each index card above the next. Leave about  $\frac{1}{2}$  inch to write the student's name.



See finished folder example.

English 1
9/4 – uses correct subject-verb agreement 9/10 – some confusion about using commas correctly in a series – 9/11 -Mini lesson on commas in a series 9/14 – did not use the writing process to prepare the My Dream essay
Mary Baker
Sam Barker
Beth Glass
Bill Gwinn
Kate Hadson
Mike Jefferson
Lynn Justice
Jane Kemp
Roger Lett
Freddy Mollohan
9/3 – lacks knowledge of subject-verb agreement (uses "we was" in conversation) 9/10 – can use commas correctly in a series 9/12 – knows and uses the steps in the writing process as evidenced through the My Dream essay
Carol Neil
Laura Palmer
Bobby Quinn
Benjie Russell
Ryan Smith
Britney Spencer
Ty Taylor
Paige Turner
Kelcey Varner
Carla Williams

## Two Stars and A Wish

Subject: _____	
	_____
	_____
	_____
Staff Initials	<input type="text"/>
	Date _____

This formative assessment is a peer assessment tool. It is particularly useful for the writing process but can be used with any subject area. Students are paired and asked to read each other's written work or review their created material. The evaluator must identify two things the author did well (stars) and one specific suggestion for improvement (the wish).

Note: Before implementing this strategy, students must be trained on the process of providing appropriate feedback to their peers. While the students are evaluating, the teacher should circulate around the classroom and monitor the conversations among the partners.

Retrieved from <http://wvde.state.wv.us/teach21/ExamplesofFormativeAssessment.html>

## Ticket Out the Door

Tickets out the door are a wonderful way to assess student knowledge and to summarize the daily lesson at one time. They take many different forms (e.g., 3-2-1 exit slips, math question prompts, and stickie note answers placed on the door). Often, I placed the students in buddy groups to complete the Ticket Out the Door.

### 3 - 2 -1 Exit Slip Example:

3	Things I Learned Today ...
2	Things I Found Interesting ...
1	Question I Still Have ...

Retrieved from West Virginia Department of Education (<http://wvde.state.wv.us/strategybank/summarization.html>)

### Sample One-minute paper

1. What did you find useful about today's session?
2. What would you still like to know more about?
3. Other comments:

### TWO MINUTE PAPER

**Summarize the most important points of today's lecture.**

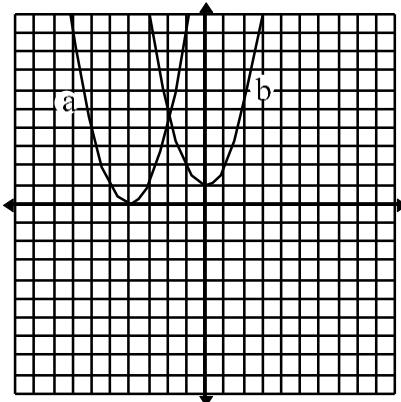
**Hand your paper in before you leave the room.**

## Math Ticket Out the Door Example:

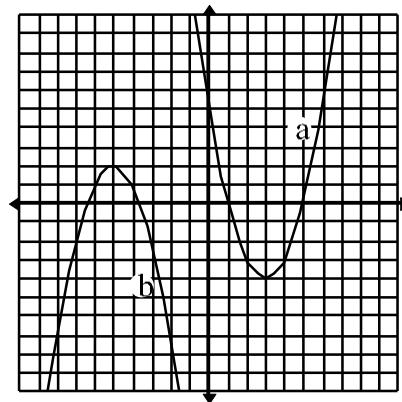


Describe ALL translations for each parabola.

1.



2.



a. \_\_\_\_\_

a. \_\_\_\_\_

b. \_\_\_\_\_

b. \_\_\_\_\_

## Other “Ticket Out the Door” Examples:

**Exit Ticket**

146017

- 1. What is a thermal conductor?**
- 2. What is a thermal insulator?**
- 3. Turn your card over, and illustrate an example of thermal conduction.**



## Constructed Response

Short answer, or fill-in the blank, and essay questions are considered constructed response items. You will find that some students prefer this type of test item because it gives them the opportunity to reveal their knowledge. Guidelines for writing short answer and essay items are listed at the bottom of this page (Slavin, 2006).

## Authentic Assessments

Instead of paper-pencil assessment, an authentic assessment is another way to complete a summative assessment.

**Authentic assessments** are a method for assessing students' learning by asking them to perform a task that demonstrates their knowledge through application. For more information about authentic assessment and to view some examples, use the following link for the Authentic Assessment Toolbox (<http://jfmueler.faculty.noctrl.edu/toolbox/>). You can select it or copy and paste it into your internet browser. While in the high school classroom and in the college classroom, I tend to utilize various authentic and performance-type assessments. I would always tell my students that the real world will not give you a "Ms. Bell worksheet" to solve the problem. Our job as educators is to create a critical thinker. To nurture these critical thinking skills, we must incorporate higher levels in Bloom's Taxonomy, which we discussed in Chapter 8. This type of assessment gives us a perfect opportunity to develop those necessary critical thinking skills.



Dr. Brown teaching quadratic transformations to a high school mathematics class.

## Conclusion

There are advantages and disadvantages to the various methods of summative assessments. The handout on the next page will compare the assessment methods. Within CougarVIEW, you will be given a sample of selected response items, indicate whether the items are written according to the guidelines that were presented in this chapter. If not, correct the item to reflect the guidelines. As additional resources, refer to the Popham (2008) article in CougarVIEW for more information about formative assessment and the Skulhind (2008) article about student-led conferences.

### Guidelines for Short Answer

- A direct question is posed.
- One blank is needed to respond.
- Length of blank is not a clue.

### Guidelines for Essays

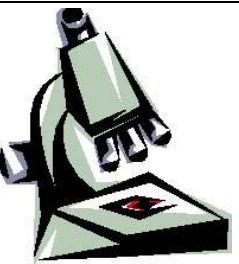
- Provide reasonable time limits for thinking and writing.
- Give definitive task to student (e.g., compare, analyze, or evaluate).

## References

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# Comparison of Various Assessment Methods

	<b>Objective Test</b>	<b>Essay Test</b>	<b>Oral Questioning</b>	<b>Performance Assessment</b>
<b>Icon</b>				
<b>Purpose</b>	Sample knowledge with maximum efficiency & reliability	Assess thinking skills & /or mastery of a structure of knowledge	Assess knowledge during instruction	Assess ability to translate knowledge & understanding into action
<b>Typical Exercise</b>	Test items: Multiple choice; True-false; Fill-in & Matching	Writing task	Open-ended question	Written prompt or natural event stating the kind of performance required
<b>Student Response</b>	Read, evaluate, select	Organize, compose	Oral answer	Plan, construct and deliver original response
<b>Scoring</b>	Count correct answers	Judge quality or level of understanding via rubric	Determine if response is correct	Check attributes present, rate proficiency demonstrated or describe performance via anecdote
<b>Major Advantage</b>	Efficiency-can give many items per unit of testing time	Can measure complex cognitive outcomes	Joins instruction with assessment	Provides rich evidence of performance skills
<b>Potential Sources of Inaccuracies</b>	Poorly written items; overemphasis on recall of facts; poor test-taking skills; failure to sample content representatively	Poorly written exercises; writing skill confounded with knowledge of content; poor scoring procedures	Poor questions; students' lack of willingness to respond; too few questions	Poor exercises, too few samples of performance; vague criteria; poor rating procedures; poor test conditions
<b>Influence On Learning</b>	Overemphasis on recall encourages memorization; can encourage thinking skills if properly constructed	Encourages thinking & development of writing skills	Stimulates involvement in instruction; gives teacher immediate feedback on teaching effectiveness	Emphasizes use of available skill & knowledge in relevant problem contexts
<b>Keys to Success</b>	Clear test blueprints or specification that match instruction, skill in the writing of items, sufficient time to write items	Carefully prepared writing tasks; preparation of model answers, time to read, ponder & score	Clear questions, representative sample of questions to each pupil; ample time given for students to respond	Carefully prepared performance exercises; clear performance expectations; careful thoughtful rating, time to rate performance

Assessment Unit: Strom's Adaptation of -ITEMS\* Instructional Topics in Educational Measurement: Fall 1987, page 61, Table 1

# Chapter 14: Differentiation

## LEARNING OBJECTIVES



1. Create a differentiated lesson plan for use in your classroom.
2. Develop a task analysis.
3. Describe your learning style preference.
4. Create a foldable for use in your classroom.
5. Compare and contrast preferred learning styles and multiple intelligence theories.

**Differentiation is defined as the teacher adjusting to the individualized, yet unique, needs of the student.**

A common analogy used to describe the need for differentiation is that everyone does not wear the same size clothing. In reality, it would be impossible for everyone to wear the same size clothing. Unfortunately, in education, students are expected to learn the same material in the same manner

and to produce the same product. Within a differentiated classroom, a teacher can adjust content, process, and product to meet the students' needs. The lesson material presented in the classroom is considered the **content**. How the students interpret the content is considered the **process**. What the

student creates and the knowledge demonstrated by the student is considered the **product**. In this chapter, methods for adapting the classroom content will be presented, including the six-step planning model and task analyses. In addition, learning styles will be presented and methods for using learning style preferences to adapt the process of learning and using Howard Gardner's Multiple Intelligence Theory. Choiceboards, dinner menus, tiered activities, and learning contracts for differentiating the final product will be presented with classroom examples.

### What is Differentiation?

To answer that question, read the Kapusnick and Hauslein (2001) article within CougarVIEW.

### The Six-Step Planning Model

Teachers adapt the content with the complexity and depth of the standards based on the strengths, weaknesses, and needs of the students. In addition, the teacher can

differentiate tasks by simplifying the skill components and differentiate the thinking skills by using Bloom's Taxonomy, which we discussed in Chapter 8. According to Gregory and Chapman (2007), when planning for differentiated learning, the teacher should use the six-step planning model to guide the planning.

1. **Standards:** What will the students know or be able to do at the end of this lesson?
2. **Content:** What concepts, facts, or vocabulary will the students acquire?
3. **Activate:** What activity will be used to engage the learners and activate prior knowledge?
4. **Acquire:** What activity will be used to deliver the instruction?
5. **Grouping Decisions:** How will you group the students to practice the material?
6. **Assess:** How will you assess whether the students gained the knowledge or skill?





The example on the following page is a differentiation planning sheet for a burnished clay bowl lesson using the six-step planning model from page 128 . In the first entry, the standards according to the Georgia Performance Standards for Visual Arts are listed. From the listed standards, an essential question was written to guide the instruction. Underneath content section, the concepts of the lessons are listed. In this lesson, the students will *describe, discuss, and compare burnished ceramic bowls that are made for decorative and functional purposes*. Also, there is a list of vocabulary associated with this lesson. Lastly, the skills for this lesson are listed. Specifically, the students will create a small clay bowl and use a burnishing treatment for the surface. In section #3, the activating activities are listed. Activating activities are strategies that engage the students, activate prior knowledge related to the lesson topic, and focus the students on the topic of the lesson. (We discussed them in Chapter 10.) Sometimes, it is referred to as the "hook and link" because it hooks the students' attention and links the lesson to prior learning. Other possible activating activities include carousel brainstorming, anticipation guides, mind maps, journal entries, and K-W-L charts. With this lesson,

an activating activity will be used as a pre-assessment to determine the extent of prior knowledge about pottery. "Give Me, Get One, Move On" is a pre-assessment sheet for the students to list ideas about a particular topic then share their ideas with other students in exchange for another idea. After the pre-assessment, the students will view images of functional and decorative burnished pottery, including the work of Kerry Moosman. In addition, they will watch a short video clip about Maria Martinez and her traditional Native American pottery. Afterwards, the students will brainstorm the major differences between decorative and functional pottery.

In the acquire section, the procedures of the instruction are listed. Possible instructional strategies include direct instruction, lecture, and cooperative learning. For this lesson, I choose the direct instruction with demonstration strategy. The acquisition begins with an historical overview and classroom discussion of the differences between burnishing and glazing. After the discussion, the teacher will demonstrate the burnishing technique on pottery at three stages of the drying process: as it begins to harden, when it is leather-hard, and when it is air-dry. At this point in the lesson, every student has been given the same content. When the students break into groups, the content will be adapted depending on the students' experience with ceramics. In section #5, the grouping decisions are made based on the students' experience and/or interests. For the first guided practice activity, the students will be grouped based on their experience with ceramics. The beginning students will create a pinch bowl. The immediate

students will create a coil pot. For the second guided practice activity, the students will be grouped randomly to practice the different burnishing techniques. Students could be grouped by interest, which would allow the students to choose a burnishing technique to practice. In the sixth section, the students' final product will be assessed using the rubric. The students could have been assessed with a quiz, test, writing prompt, portfolio, or performance task (Gregory & Chapman, 2007). I choose a performance task for this lesson. This differentiated instruction planning sheet template will be posted in CougarView.

## Content

### Task Analysis

When students with varying abilities are included into a general education classroom, the teacher could have different objectives for the students. One method for differentiating the content is the use of a task analysis. A *task analysis* is the sequential steps necessary to perform a specific task. By breaking out the task into sequential steps, the teacher can provide instruction for the student at his or her instructional level. For example, if the student with special needs exhibits delayed fine motor skills, then that student could work on cutting paper in a straight line with scissors while the other students are cutting out individual shapes.

In general, it is a good idea to complete the task yourself to determine all of the sequential steps. After performing the task, list the skill components. It may be necessary to perform the task again to determine the correct order of the steps. Avoid using extraneous skill components. Instead, only use the necessary ones to master the

# Planning for Differentiated Learning

<b>Lesson:</b> Burnished Clay Bowl	<b>Grade:</b> 6
<b>1. STANDARDS:</b>	
VA6PR.1 Understands and applies media, techniques, and processes. <ul style="list-style-type: none"><li>c. Produces three-dimensional artworks (e.g. ceramics, assemblage, carving, mask, installation, and other forms) using selected materials (e.g., clay, papier-mâché, cardboard, paper, plaster, wood, wire, found objects, fiber, textile and/or combinations of these media) and techniques.</li><li>d. Develops awareness of the properties of art materials in preparation for art making.</li><li>g. Uses tools and materials with craftsmanship (e.g., with care in a safe and appropriate manner).</li></ul> VA6C.1 Applies information from other disciplines to enhance the understanding and production of artworks.	
Essential Question: How is pottery used for decorative and functional purposes?	
<b>2. CONTENT:</b> <ul style="list-style-type: none"><li>• Concepts: Describe, discuss, and compare burnished ceramic bowls that are made for decorative and functional purposes.</li><li>• Vocabulary: clay, burnished, symmetry, sagger-fired</li></ul>	<b>SKILLS:</b> <ul style="list-style-type: none"><li>• Create a small, three-dimensional clay bowl using water-based clay and burnishing techniques for the surface treatment.</li></ul>
<b>3. ACTIVATE:</b> <ul style="list-style-type: none"><li>• Pre-assessment strategy – Give Me, Get One, Move On for pottery</li><li>• Focus Activity<ol style="list-style-type: none"><li>1. Show pictures of Idaho artist Kerry Mossman's burnished terra cotta coil built pots and pictures of burnished terra cotta vessels created by West Mexicans, Ancient Egyptians, and Native Americans.</li><li>2. Show the MPEG-4 video about Maria Martinez or other images about Native American artists.</li><li>3. Brainstorm "What are the major differences between decorative and functional pottery?".</li></ol></li></ul>	
<b>4. ACQUIRE:</b> <ol style="list-style-type: none"><li>1. Present a historical overview of basic clay pottery (including the uses by ancient Greece, ancient China, Japan, England, and the Americas. (Source: <a href="http://www.depauw.edu/acad/art/faculty/dherroldweb/pages/histp1.html">www.depauw.edu/acad/art/faculty/dherroldweb/pages/histp1.html</a>)</li><li>2. Discuss the differences between burnished and glazed pottery. (Source: Low Firing and Burnishing by Sumi von Dassow available at the <a href="http://ceramicartsdaily.org">ceramicartsdaily.org</a> bookstore)</li><li>3. Discuss the following topics with the students:<ul style="list-style-type: none"><li>-Why burnish?</li><li>-How is burnishing different from other methods?</li><li>-When is glazing a better option?</li><li>-When is glazing not necessary?</li></ul></li><li>4. Using pre-made clay bowls, demonstrate burnishing with a polished stone in three stages: Stage 1: Just as the bowl begins to harden. Stage 2: When the bowl is leather-hard. Stage 3: When the bowl is air-dry.</li></ol>	
<b>5. GROUPING DECISIONS:</b> <p><b>Activity #1:</b> Create a small, three-dimensional clay bowl using water-based clay.</p>	

# Give One, Get One, Move On

Objective: Fill all boxes with different concepts/terms.

1. Think about 3 concepts/terms for pottery.
2. Write one concept/term in each of the first 3 boxes.
3. Move around the room.
4. **Give** one idea from your sheet to someone.
5. **Get** another different from his/her sheet.
6. Write it in a box with his/her name.
7. **Move** on to another person.
8. Repeat until all boxes are filled.

Concept/term #1	Concept/term #2	Concept/term #3
#4 from _____	#5 from _____	#6 from _____
#7 from _____	#8 from _____	#9 from _____
#10 from _____	#11 from _____	#12 from _____

## Rubric for Burnished Clay Bowl Project

<b><u>Functional Art</u></b>	<b>I have three checks.</b> <b>(10)</b>	<b>I have two checks.</b> <b>(7)</b>	<b>I have one check.</b> <b>(4)</b>	<b>I have NO checks.</b> <b>(0)</b>
___ My clay bowl has a smooth lip.				
___ My clay bowl has a stable base.				
___ I do not have any holes or BIG cracks in my clay bowl.				
<b><u>Construction</u></b>	<b>I have three checks.</b> <b>(10)</b>	<b>I have two checks.</b> <b>(7)</b>	<b>I have one check.</b> <b>(4)</b>	<b>I have NO checks.</b> <b>(0)</b>
___ I created a pinch pot that is smooth and even on the top and bottom.				
___ I rolled even coils and added them to my clay bowl.				
___ I used the slip and score technique to stick <b>all</b> of my pieces together.				
___ I used my finger, a paint brush, or a wet rag to smooth and even out my clay bowl.				
<b><u>Burnishing</u></b>	<b>I have three checks.</b> <b>(10)</b>	<b>I have two checks.</b> <b>(7)</b>	<b>I have one check.</b> <b>(4)</b>	<b>I have NO checks.</b> <b>(0)</b>
___ I used my designated materials to burnish my clay bowl.				
___ I completed the entire process of burnishing.				

**TOTAL POINTS \_\_\_\_\_ out of 33**

task. The following task analysis provides an example of sequential steps for using scissors to cut paper (Siegel & Siegel, 1975).

**Objective: Given a pair of scissors and a 10 cm x 10 cm sheet of paper, the student will cut the paper in half on three out of three attempts.**

- 1. Picks up scissors with non-dominant hand.**
- 2. Puts dominant hand thumb in small hole.**
- 3. Puts dominant hand middle finger in large hole.**
- 4. Positions dominant hand thumb up.**
- 5. Picks up paper.**
- 6. Orientates paper so line is parallel to scissors.**
- 7. Snips on line.**
- 8. Stops before scissors fully closed.**
- 9. Opens scissors and moves forward.**
- 10. Repeats steps 7, 8, and 9 until paper is cut in half.**

After creating the task analysis, the teacher needs to assess which step the student can function independently. For example, if the student can pick up the scissors, position them correctly, and pick up the paper independently, then the student needs to have instruction for aligning the paper and scissors for cutting. Another consideration before beginning instruction is the prerequisites for this skill. For example, the prerequisites for this skill are the ability to bring hands to

the middle of the body, to hold objects, to reach and grasp objects, and to bring thumb and finger together in order to pick up and release an object (i.e., pincher grasp) (Carter & Kemp, 1996). This process can be generalized to all content areas. Ask yourself, "What must the student be able to do in order to complete this task?"

### Process

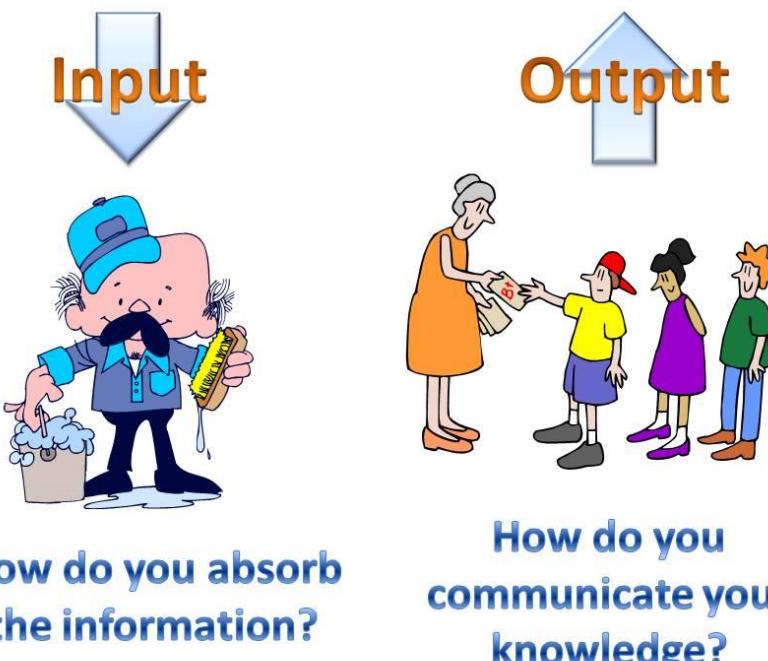
### Learning Styles

You walk into a classroom, and the teacher offers you a choice of assignments. Would you choose working by yourself or working with a small group? Would you choose to write an essay, draw a diagram, or create a skit? Would you prefer the teacher to tell you the information? Would you prefer the teacher to demonstrate the information? Each of these decisions should be made by a classroom teacher while he or she is developing the daily lesson plans. Within a classroom, the students' learning preferences vary immensely.

**Learning styles** are preferred methods of learning information and preferred methods of producing. It does not mean that

the preferred method is the only method for learning or producing. There are various learning style theories and inventories available. A common learning style inventory is the Visual, Aural, Read/Write, and Kinesthetic Questionnaire (VARK). The VARK, which was developed by Neil Fleming and Colleen Mills of Lincoln University in New Zealand, assesses the preferred sensory modalities for learning information. Fleming has developed a variety of questionnaires for young children, athletes, and students who speak languages other than English. The survey was made available via the internet in 2001. The VARK questionnaire results indicate the preferred learning style(s), whether Visual, Aural, Read/Write, Kinesthetic, or Multimodal.

**Visual.** This learning style preference includes the depiction of information visually. Figure 1 depicts some of the visual inputs of information, such as pictures, videos, posters, slides, graphs, flowcharts, and textbooks with diagrams and pictures. A visual student prefers teachers who use gestures and picturesque language. These students like symbols and often write in the white space.



**How do you absorb the information?**

## Visual

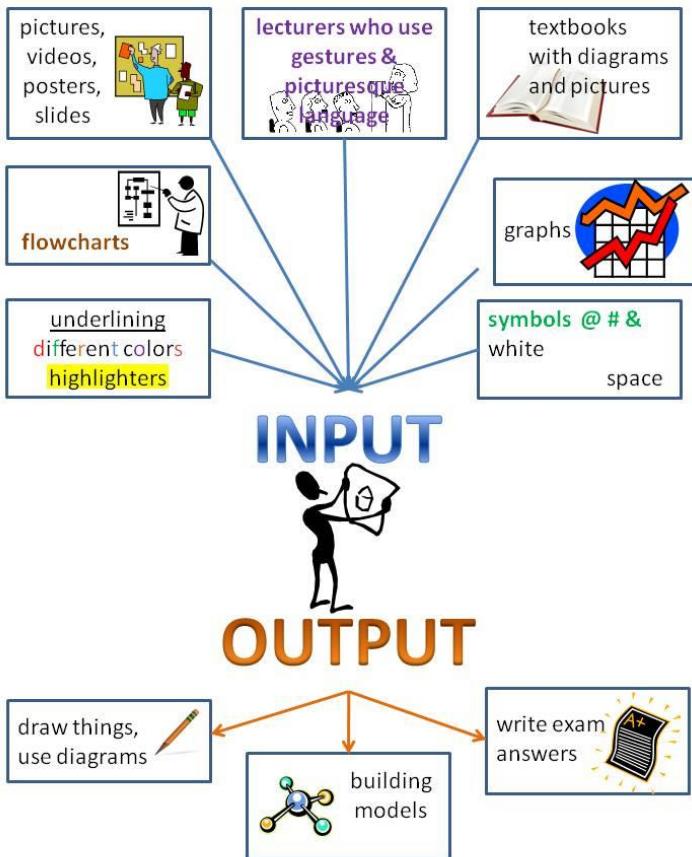


Figure 1

## Aural

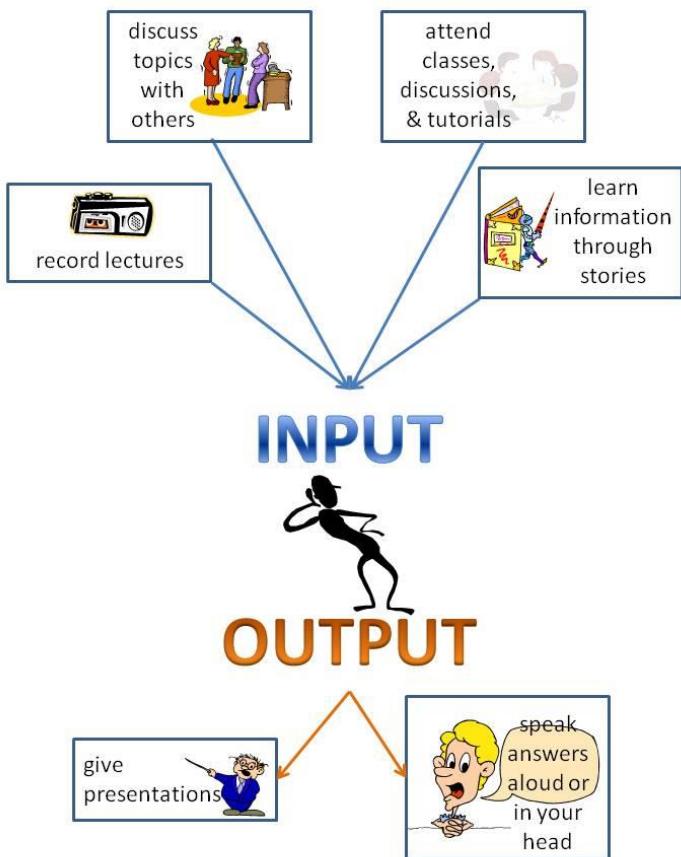


Figure 2

They tend to underline information, to use different colors, and to highlight important information. Figure 1 presents some of the visual outputs of information, such as drawing things, using diagrams, writing exam answers, and building models.

**Aural or Auditory.** This perceptual mode describes a preference for information that is heard or spoken. Students with this preferred modality report that they learn best from lectures, tutorials, group discussion, and recorded lectures. In addition, they learn information when presented in a story format. As a method of output, these students prefer to talk out loud as well as talking to themselves and give presentations. Figure 2 provides a diagram of the inputs and outputs for auditory students.

**Read/Write.** This preferred modality involves reading and

writing words. Figure 3 on the next page shows some examples of inputting information using the read/write modality. Students who prefer this modality like to learn information by reading textbooks and handouts, writing notes, and reading "how to" manuals. These students prefer teachers who use words well. Figure 3 displays preferences for outputting information, such as writing essays, writing lists, using creative writing, and participating in debates.

**Kinesthetic.** By definition, this modality refers to the preference of movement, activity, and practice, real or simulated. Although such a kinesthetic experience may invoke other modalities, the key is that people who prefer this mode are connected with the real world through concrete experiences.

Figure 4 on the next page illustrates kinesthetic input methods, such as

Complete the Learning Styles Activating Activity.

The answers will be presented at the end of the chapter.

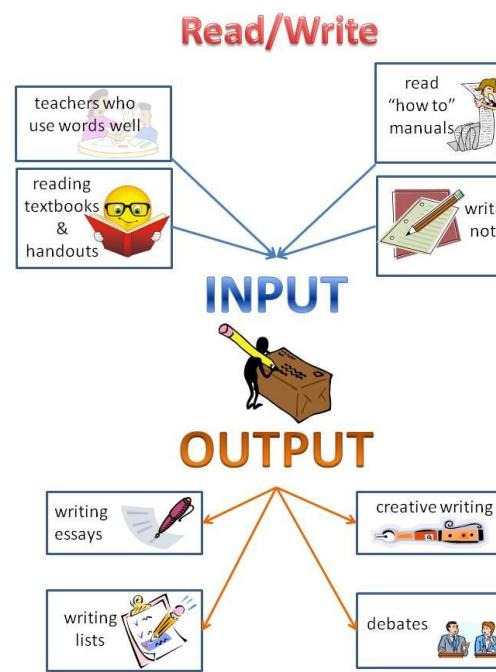
1. **True or False.** Students must have one preferred modality
2. **True or False.** Multimodal learners match their preferences with the presented instructional method.
3. **True or False.** Boys tend to prefer the kinesthetic modality.

lab activities, field trips, simulations, hands on approaches, and manipulatives. These students prefer teachers who give real world examples. They use all five senses (i.e., see, hear, smell, touch, and taste). Figure 4 shows methods for outputting information using a kinesthetic modality. These methods include practicing computation, participating in activities with movement, and demonstrating knowledge.

**Multimodal.** According to Fleming, life is multimodal because there are seldom instances where one mode is used. Approximately 60% of any population is multimodality or has multiple learning style preferences. Some students who are context specific prefer a single modality to suit the occasion or situation. This type of student chooses to match or align his or her modality to the significant others around them. For example, if a teacher preferred a Read/Write mode for presenting information, the student would switch to that modality for his or her learning and producing. Other students are not satisfied until they have had input or output in all of their preferred modes, whether it is two, three, or four modalities. If a student is multimodality, it may be necessary for him or her to use more than one modality for learning and communicating the information. According to Fleming, these students feel insecure when they use only one modality.

## VARK Scores for Dr. Brown:

I am a mild visual learner, meaning I prefer to input and output information visually. I am also a visual teacher as you can see from my classroom and this

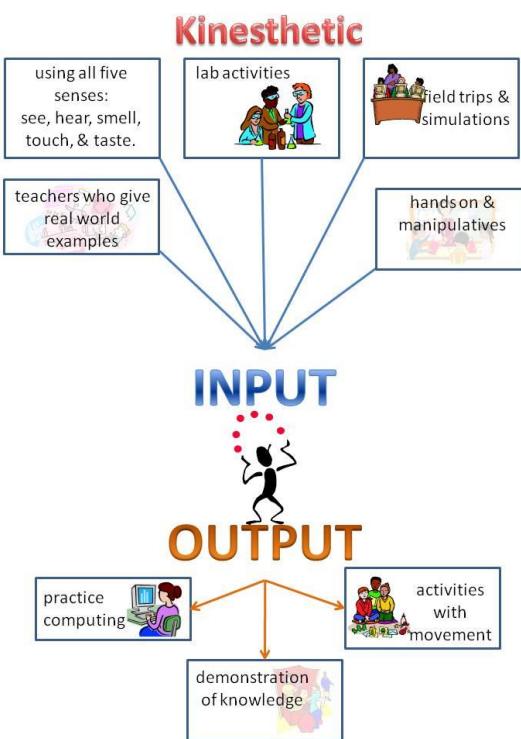


*Figure 3*

textbook. It is said that you teach using your preferred modality. Complete the online VARK ([www.vark-learn.com](http://www.vark-learn.com)) to determine your preferred mode of inputting and outputting information. You can print the various versions from this website, too.

## Foldable:

While in the classroom, I used foldables for a variety of lessons to adapt the process of learning new material. What are foldables? **Foldables** are three-dimensional graphic organizers, which were popularized by Dinah Zike. There are many benefits for using these graphic organizers. They included student-centered instruction, and visual-kinesthetic learning. Also, the foldables assist the students with organization and engage the students in active learning. Watch the Animoto "Examples of Foldables" video to see examples of foldables from my classroom. You can select the link or copy and paste it into your internet browser.



*Figure 4*

[www.bugforteachers.com/technology.html](http://www.bugforteachers.com/technology.html)

Created at animoto.com



I used a Christmas card holder in my classroom to post all of the foldables so I could reference previous lessons.



### Howard Gardner's Multiple Intelligences Theory

Howard Gardner believes that all humans possess cognitive competence described as a set of abilities, talents, or mental skills. This intelligence is manifested by differing degrees of skill for each individual. Gardner stresses that the general faculty of intelligence does not change much with age, training, or experience. To help the teacher understand the intellectual functioning of any student, one may find it beneficial to review and understand Gardner's multiple intelligences because it assists in seeing that each individual student may have a different intellectual functioning. See the figure to the right. For example, many students in special education are identified as having a specific learning disability. However, no two students identified with a specific learning disability are the same. One student may have a processing deficit in phonological awareness that may affect his or her ability to recognize and apply letter sounds to the deciphering of words necessary for success in reading. Another student may be able to understand and comprehend any material read orally and discussed in class and not be able to read the written word.

successfully enough to comprehend what is being read due to a slow, meticulous rate of reading.

When an individual intelligence test is given to a student, it should be remembered that the intelligence score does not change, except for a few points up or down, because, as a student grows, he or she achieves more knowledge. If the intelligence scores on two different intelligence tests change a great deal, then it is very likely that one of the tests is inaccurate and not a good indicator of the student's intellectual



**Musical Intelligence** consists of intelligence in the area of music (referred to as "music smart").

**Bodily kinesthetic** Intelligence is displayed by many of the superb athletes in the world today (referred to as "body smart").

**Spatial** Intelligence involves dealing with space and meeting the constraints of working within that space to complete the project (referred to as "picture smart").

**Logical-mathematical** Intelligence can be noted in many Nobel Prize winners, especially those dealing with economics, science, and/or mathematics (referred to as "logic smart").

**Linguistic** Intelligence is best displayed by people who write books or poems or can easily translate numerous languages (referred to as "word smart").

**Intrapersonal** Intelligence is best noted in psychologists who understand the inner person (referred to as "self smart").

**Interpersonal** Intelligence is often displayed by teachers who can get children to learn by group work successfully or by people who can get a group of others to talk and solve their problems (referred to as "people smart").

**Naturalist** Intelligence involves the enjoyment of the outdoors, including recreation, plants, and animals (referred to as "nature smart").

# How SMART are YOU?

Name \_\_\_\_\_

## Part 1

Complete each section by placing a "1" next to each statement you feel accurately describes you. If you do not identify or agree with a statement, leave the space blank. Go with your first instinct. Do not analyze each statement. At the end of each section total the column.

### Section 1

- I enjoy putting things that have common traits into categories
- Issues about the health or ecology of our planet are important to me
- Hiking and camping are enjoyable activities
- I enjoy working in a garden
- I believe preserving our National Parks is important
- Putting things in hierarchies (order of importance) makes sense to me
- Animals are important in my life
- My home has a recycling system in place
- I enjoy studying biology (animals) and botany (plants)
- I spend a great deal of time outdoors

\_\_\_\_\_ TOTAL for Section 1

### Section 2

- I easily pick up on patterns of sound or rhythms
- I focus in on noise and sounds
- Moving to a beat or rhythm is easy for me
- I've always been interested in playing an instrument
- The rhythm or cadence of poetry really interests me
- I remember things by putting them in a rhyme
- Concentration is difficult if I am listening to a radio or TV
- I enjoy many kinds of music
- Musical plays are more interesting to me than dramatic or serious plays
- Remembering song lyrics is easy for me

\_\_\_\_\_ TOTAL for Section 2

### Section 3

- I keep my things neat and orderly
- Step-by-step directions are a big help
- Solving problems comes easily to me
- I am easily frustrated with disorganized people
- I can complete math calculations quickly in my head
- Puzzles requiring reasoning are fun
- I can't begin an assignment until all of my questions are answered
- Structure and clear direction helps me be more successful
- I find working on a computer spreadsheet or database rewarding
- Things have to make sense to me or I am dissatisfied

\_\_\_\_\_ TOTAL for Section 3

#### **Section 4**

- It is important to see my role in the "big picture" of things
- I enjoy discussing questions about life
- Religion is important to me
- If I have the opportunity, I enjoy viewing art masterpieces
- Relaxation and meditation exercises are rewarding
- I like visiting breathtaking sites in nature
- I enjoy reading about the ideas of ancient and modern philosophers
- Learning new things is easier when I understand their importance
- I wonder if there are other forms of intelligent life in the universe
- Studying history/ancient culture helps give me perspective or understanding about our world

**TOTAL for Section 4**

#### **Section 5**

- I learn best interacting or working with others
- The more people involved in a project or work, the better I like it
- Study groups are very good and productive for me
- I enjoy on-line chat rooms
- Participating in politics is important to me
- TV and radio talk shows are enjoyable
- I am a "team player"
- I dislike working alone
- Clubs and co-curricular activities are fun
- I pay attention to social issues and causes

**TOTAL for Section 5**

#### **Section 6**

- I enjoy making things with my hands
- Sitting still for long periods of time is difficult for me
- I enjoy outdoor games and sports
- I value non-verbal communication such as sign language or body language
- A fit body is important for a fit mind
- Arts and crafts are enjoyable pastimes
- Expression through dance is beautiful
- I like working with tools
- I live an active lifestyle
- I learn best by doing or "hands-on" activities

**TOTAL for Section 6**

#### **Section 7**

- I enjoy reading all kinds of materials
- Taking notes helps me remember and understand things better
- I faithfully contact friends through letters and/or e-mail
- It is easy for me to explain my ideas to others
- I like to keep a journal
- Word puzzles like crosswords and jumbles are fun
- I write for pleasure
- I enjoy playing with words like puns and anagrams
- Foreign languages interest me
- Debates and public speaking are activities that I would like to participate in

**TOTAL for Section 7**

**Section 8**

- I am keenly aware of my moral beliefs and values
- I learn best when I have an emotional attachment to the subject
- Fairness is important to me
- My attitudes can have an effect on how well I learn
- Social justice and equality issues concern me
- Working alone can be just as productive as working in a group
- I need to know why I should do something before I agree to do it
- When I believe in something I will give 100% of my effort to it
- I like to be involved in causes and projects that help other people
- I am willing to protest or sign a petition to right a wrong

**TOTAL for Section 8**

**Section 9**

- I can imagine ideas in my mind
- Rearranging a room is fun for me
- I enjoy creating art using a variety of materials and ideas
- I remember things better when I use graphic or visual organizers
- Performance art(such as singing, dancing, acting) can be very satisfying
- Spreadsheets are great for making charts, graphs, and tables
- Three dimensional puzzles bring me much enjoyment
- Music videos are very stimulating
- I can recall things in mental pictures
- I am good at reading maps and blueprints

**TOTAL for Section 9**

**Part II**

Record your total from each section in Part I in the table below and multiply by 10.

Section	Total	Multiply	Score
1: Nature Smart		X 10	
2: Music Smart		X 10	
3: Math Smart		X 10	
4: Wondering Smart		X 10	
5: People Smart		X 10	
6: Body Smart		X 10	
7: Word Smart		X 10	
8: Self Smart		X 10	
9: Picture Smart		X 10	

**Part III**

Plot your scores from Part II on the bar graph below to see your strengths.

100									
90									
80									
70									
60									
50									
40									
30									
20									
10									
0	<b>Sec 1</b>	<b>Sec 2</b>	<b>Sec 3</b>	<b>Sec 4</b>	<b>Sec 5</b>	<b>Sec 6</b>	<b>Sec 7</b>	<b>Sec 8</b>	<b>Sec 9</b>

**Part IV**

List your top 2 "Smarts" according to results in Part III.

1. \_\_\_\_\_

2. \_\_\_\_\_

ability. Gardner proposes the existence of eight intelligences. These intelligences are called musical intelligence, bodily kinesthetic intelligence, logical-mathematical intelligence, linguistic intelligence, spatial intelligence, interpersonal intelligence, intrapersonal intelligence, and naturalist intelligence. Over the years, he has added to the list, such as wondering smart.

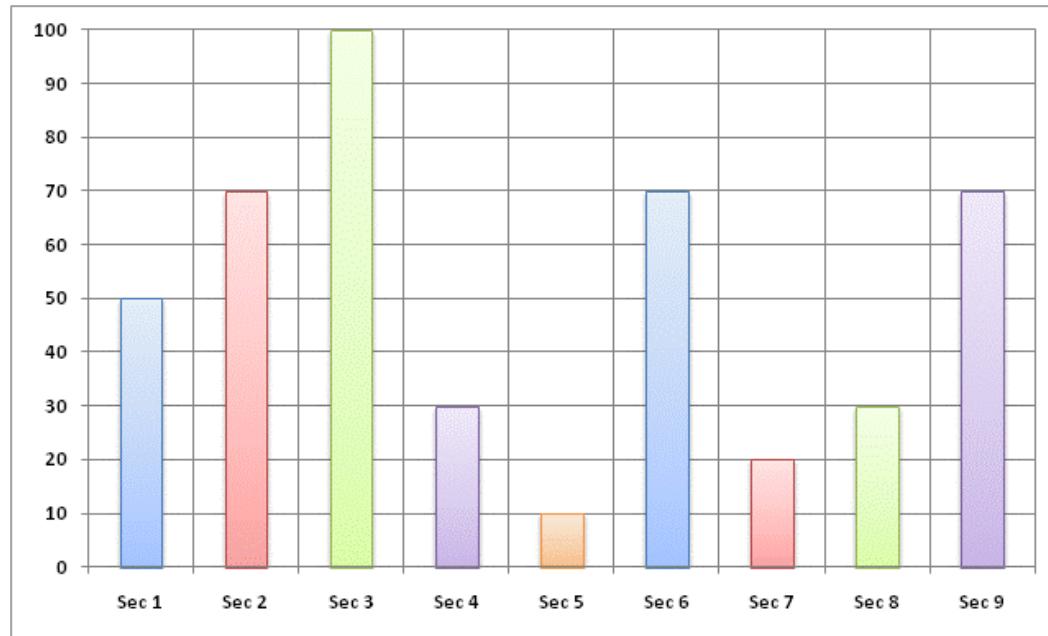
### Practical Application

Complete the printable Multiple Intelligence Inventory, "How smart are you?", on the previous pages. As a general rule, any score higher than 60 tends to be your preferred intelligence. My multiple intelligence inventory results are displayed to the right. I am a logic smart person; however, I am also music, body, and picture smart.

### Final Product

Preferred learning styles and multiple intelligences affect the output of knowledge as well as the input of information. It is important for the teachers to offer students options for differentiating the final product by readiness, interest, and learning profile just as they differentiate content and process activities.

Differentiation of the final product refers to the methods in which students demonstrate what they have learned. For example, to demonstrate understanding of the principles of photography, one student may choose to create a skit, and another student may choose to write a report. The key element with differentiation is offering students the option to choose their preferred method of demonstrating the knowledge and its assessment.



When teachers differentiate, they differentiate based on a student's readiness, interest, and/or learning profile. **Readiness** refers to the skill level and background knowledge of the particular student. To determine a student's readiness, teachers can use diagnostic assessments, including standardized tests, pre-test assessments, and informal assessments. **Interest** refers to topics that the student may want to explore or tasks that will motivate the student. Teachers can ask students about their outside interests and their favorite tasks using classroom dialogue or other interest inventories. Finally, the student's **learning profile** includes learning style (i.e., visual, auditory, read/write, or kinesthetic), grouping preferences (i.e., individually, with a partner, or in a large group), and multiple intelligences (e.g., music smart, word smart, picture smart, or logic smart). This learning profile can be determined using multiple intelligence surveys and learning style questionnaires.

When developing a differentiated lesson, a teacher

should consider all of these factors individually or in combination (Tomlinson, 1999). There are various methods for differentiating final products in the classroom. A teacher could choose to use a choiceboard, tiered activity, or learning contract. Each of these final products can be developed using the student's readiness, interest, and/or learning profile.

### Choiceboards

**Choiceboards** are organizers that contain a variety of activities. Students can choose one or several activities to complete in order to demonstrate their knowledge of a specific concept or skill. These organizers can be created based on the readiness, interest, and learning profile of the student. When designing a choiceboard, the teacher should include a range of interests and learning styles and guide the students to choose challenging, but not frustrating, activities. For example, if the student must select three activities in a row, design at least one challenging activity for all of the possible rows. It is essential for the teacher to provide clear instructions for using the choiceboard so the

students understand the expectations. Within the category of choiceboards, there are different types of choiceboards with a variety of shapes and formats, such as tic-tac-toe choiceboards and dinner menus (Gregory & Chapman, 2007).

### Tic-Tac-Toe Choiceboards.

**Tic-tac-toe choiceboards** are a differentiation tool that offers a collection of activities where the students can choose to demonstrate their understanding. It is presented in the form of a three by three square grid similar to a tic-tac-toe game board, and students are expected to complete "three in a row". The activities vary in content, process, and product and can be tailored to address different levels of student's readiness, interests, and/or learning profiles. The center square may be left open for the student to select an activity of their own similar to a wild card option.

Tic-tac-toe activities may be given to every student in the class (i.e., higher ability students for extension activities or lower students for review and practice). Involvement in this strategy encourages independent learning. Teachers should check in with students periodically and require students to keep a log of their progress. In place of lengthy activities, the tic-tac-toe choiceboard may also be used with shorter, open-ended questions posed at varying levels of Bloom's Taxonomy. The example that is



presented on the next page is a tic-toe-toe choiceboard activity from my classroom. With this choiceboard, the student chooses three in a row, whether vertically, horizontally, or diagonally, but the student must use the center block. This choiceboard was developed based on the multiple intelligences of Howard Gardner. The arrangement requires the student to choose at least one challenging activity, whether it is creating a word game with vocabulary, creating gestures or actions, or planning an interview. A student may prefer to interact with various people because he or she is "people smart", but he or she may not prefer the "word smart" task of creating a vocabulary game.

### Dinner Menus.

The purpose of a **dinner menu** is to give students structured choices in four categories: appetizers, entrées, side dishes, and desserts. The structure can be modified to include only three options (i.e., appetizers, entrées, and desserts) for younger students. To begin the meal or activities, a small, but rich, "appetizer" warms up the students and generally is required of all students to complete. The hearty "entrees" require the students to dig into the meat and potatoes of the concept or skill. These entrées can be differentiated by readiness, interests, and/or learning profiles. The "side dishes" allow the students to expand their entrée with more applications of concept and/or skill. To conclude the meal, the entrée course is followed by a sweet and satisfying "dessert" to finish the unit with a little fun. Often, the dessert is optional for extra credit because it requires higher order thinking or skill levels to complete.



This example on the following page provides a dinner menu for a Lewis W. Hine photography project. For the Appetizer course, the students will *view and discuss photographs that are representative of the late 19th and early 20th century immigration by Lewis W. Hine*. After the students view and discuss the photographs as a group, they will *take a neighborhood photo walk*. While walking through the neighborhood, the students will be instructed to *take four pictures from different angles with interesting subject matter*. The goal is to collect photographs that have similar subject matter to the Hine photographs. The appetizer course will appeal to the visual, auditory, and kinesthetic learners.

Once returning from the photo walk, the students will begin the Entrée course. The individual student should choose one of the two entrée options. The activities are developed based on the learning profile of the students. In addition, both entrées require the students to use their photographs, which were taken on the photo walk during the appetizer course. The first option requires the students to use a Venn diagram to compare and contrast the pictures, which were taken on the photo walk, to the photographs by Lewis

# Unit Choice Board

Create a skit to summarize the concepts from the unit.	Use a Venn Diagram to compare & contrast two concepts.	Interpret in your own words and illustrate the concepts from the unit.
Explain in a flowchart the concepts from the unit.	<b>Free Space</b> You may choose from these options or create your own. 	List a concept that could appeal to each of the five senses. Include rationale.
Compare & contrast two concepts by writing a jingle for each.	Summarize concepts from the unit.	Design an activity to teach the important concepts.

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# Today's Menu

## Appetizer (Everyone shares.)

1. View and discuss photographs that are representative of the late 19<sup>th</sup> and early 20<sup>th</sup> century immigration by Lewis W. Hine, such as:
  - *New York tenement family gets fresh air on a hot day* (1910)
  - *Italian family looking for lost baggage* (1905)
  - *Midnight at the Brooklyn Bridge* (1906)
  - *Street play in the early days - N.Y.* (1910)
2. Take a neighborhood photo walk.
3. Take four pictures from different angles with interesting subject matter during the photo walk.

## Entrée (Choose one.)

- Use a Venn diagram to compare and contrast the neighborhood in your pictures, which were taking on the photo walk, to the photographs by Lewis W. Hine, which were viewed previously. Focus on the following elements: clothing, transportation, streets, housing, recreation, facial expressions, and occupations.
- Read “You, Whoever You Are” by Walt Whitman. Interpret the message of the poem regarding American immigration and the opportunities awaiting immigrants. Describe how the poem, viewed photographs by Hine, and your pictures taken from the neighborhood walk connect.

## Side Dishes (Choose at least 2.)

- Sort the historical photographs by Hine chronologically. Use them to make a timeline.
- List the types of photos that could be included in a time capsule.
- Discuss the aspects of the quality of the past and present photographs, including lighting, angle, color, and subject. It should be at least 300 words.
- Using words, pictures, or drawings, suggest a method for showing future generations what your life is like today.

## Dessert (Optional)

- Create a time capsule by decorating an appropriately sized container. Place objects and photos in the time capsule. Compose a letter to be included in the capsule, which explains the time capsule’s contents and how each item relates to your life. Possible categories of contents may include technology, recreation, education, occupation, fashion, transportation, housing, and food.

# ¡Bon appétit!

original idea by Rebecca Haden ([artsedge.kennedy\\_center.org](http://artsedge.kennedy_center.org))

W. Hine, which were viewed and discussed previously. To assist the students who may struggle with readiness, the following prompt is given to focus the student's diagram:

*Focus on the following elements: clothing, transportation, streets, housing, recreation, facial expressions, and occupations.*

The second option requires the students to read "You, Whoever You Are" by Walt Whitman. After reading the poem, the students must interpret the message of the poem regarding American immigration and the opportunities awaiting immigrants. Once the message of poem has been interpreted, the students will need to describe how the Whitman poem, viewed photographs by Hine, and their four pictures taken from the neighborhood walk connect. This entrée option requires higher cognitive levels than the other Venn Diagram selection. Within the directions, prompts or other scaffolded assistance were not included with this entrée. The directions are more open-ended for the students.

For the side dishes, the students will need to select at least two side dishes. Each of the choices is based on different learning profiles from Howard Gardner's multiple intelligences. The first side dish requires the students to *sort the historical photographs by Hine chronologically and use them to make a timeline*. This type of activity would appeal to the "logic smart" student. The second side dish requires the students to *list the types of photographs that could be included in a time capsule*. This type of activity would appeal to the

"picture smart" student. The third option requires the student to *discuss the aspects of the quality of the past and present photographs, including lighting, angle, color, and subject*. By giving the guidelines of "It should be at least 300 words," the students are given an expectation to fulfill in order to receive full credit. This type of activity would appeal to the "word smart" student. Lastly, the fourth option requires the student to *suggest a method for showing future generations what your life is like today using words, pictures, or drawings*. Depending on the learning style of the student, he or she can present his or her ideas. This type of activity would appeal to various students, such as "logic smart", "picture smart", "word smart", or "music smart".

For the dessert course, the students have the option to create a time capsule by decorating an appropriately sized container then placing objects and photos, which represent life today in the time capsule. The student must compose

a letter to be included in the capsule, which explains the time capsule's contents and how each item relates to his or her life. As a guidance tool, a list of possible categories of contents was included: technology, recreation, education, occupation, fashion, transportation, housing, and food.

This photograph project should be evaluated using a menu rubric that is presented on the following page. Each rating lists the expectations in various combinations and correlates them to a point value. By providing this rubric to the students when the project is assigned, the students are aware of the required expectations in order to earn the desired grade.

## Practical Application

Review the article by Toni Theisen in CougarVIEW about differentiated instruction in a foreign language classroom. Select one idea from the article and think about how you could use it in your classroom.



# Grading Rubric for the Photography Project Dinner Menu

<b>Category</b>	<b>4 points</b>	<b>3 points</b>	<b>2 points</b>	<b>1 point</b>	<b>0 points</b>
<b>Appetizer</b>	Viewed and discussed the photographs Participated in the photo walk with appropriate behavior. Four photographs were taken from different angles with interesting subject matter during the photo walk.	The photographs were not viewed and discussed <b>OR</b> Participated in the photo walk with inappropriate behavior <b>OR</b> Less than four photographs were taken <b>OR</b> the photographs were not from different angles <b>OR</b> without interesting subject matter.	The photographs were not viewed and discussed <b>AND</b> Participated in the photo walk with inappropriate behavior <b>AND</b> Less than four photographs were taken <b>AND</b> the photographs were not from different angles <b>OR</b> without interesting subject matter.	The photographs were not viewed and discussed <b>AND</b> Participated in the photo walk with inappropriate behavior <b>AND</b> Less than four photographs were taken <b>AND</b> the photographs were not from different angles <b>AND</b> without interesting subject matter.	Photographs were not taken <b>AND/OR</b> the appetizer was not completed.
<b>Entrée 1: Venn Diagram</b>	Appropriate steps were followed to create the Venn Diagram <b>AND</b> all of the focus elements were included.	Appropriate steps were followed to create the Venn Diagram <b>BUT</b> less than 5 focus elements were included.	Appropriate steps were not followed to create the Venn Diagram <b>BUT</b> at least 5 focus elements were included.	Appropriate steps were not followed to create the Venn Diagram <b>AND</b> less than 5 focus elements were included.	The entrée was not completed.
<b>Entrée 2: Poem Interpretation</b>	The poem's interpretation was appropriate <b>AND</b> the connection between the poem, Hine photographs, and the taken photographs was appropriate.	The poem's interpretation was appropriate <b>BUT</b> the connection between the poem, Hine photographs, and the taken photographs was inappropriate <b>OR</b> missing a part.	The poem's interpretation was inappropriate <b>BUT</b> the connection between the poem, Hine photographs, and the taken photographs was appropriate.	The poem's interpretation was inappropriate <b>AND</b> the connection between the poem, Hine photographs, and the taken photographs was inappropriate.	The entrée was not completed.
<b>Side Dish 1: Sort &amp; Timeline</b>	The photographs were sorted chronically <b>AND</b> were used to create a timeline.	The photographs were sorted chronically <b>BUT</b> were not used to create a timeline.	The photographs were not sorted chronically <b>BUT</b> were used to create a timeline.	The photographs were not sorted chronically <b>AND</b> were not used to create a timeline.	Did not include Side Dish 1.
<b>Side Dish 2: Types of Photos for a Time Capsule</b>	At least ten photographs were listed for inclusion in a time capsule.	Between nine and seven photographs were listed for inclusion in a time capsule.	Between six and four photographs were listed for inclusion in a time capsule.	Between three and one photograph(s) were/was listed for inclusion in a time capsule.	Did not include Side Dish 2.
<b>Side Dish 3: Qualities of Past and Present Photographs</b>	The quality of past and present photographs was discussed <b>AND</b> included lighting, angle, color, and subject <b>AND</b> was at least 300 words in length.	The quality of past and present photographs was discussed <b>BUT</b> did not include lighting, angle, color, and subject <b>OR</b> was less than 300 words in length.	The quality of past and present photographs was discussed, <b>BUT</b> did not include lighting, angle, color, and subject <b>AND</b> was less than 300 words in length.	The quality of past and present photographs was not discussed <b>AND</b> did not include lighting, angle, color, and subject <b>AND</b> was less than 300 words in length.	Did not include Side Dish 3.
<b>Side Dish 4: Method for Showing Future Generations</b>	Suggested a method for showing future generations what life is like today <b>AND</b> included sufficient detail.	Suggested a method for showing future generations what life is like today <b>BUT</b> did not include sufficient detail.	Did not suggest a valid method for showing future generations what life is like today <b>BUT</b> included sufficient detail.	Did not suggest a valid method for showing future generations what life is like today <b>AND</b> did not include sufficient detail.	Did not include Side Dish 4.
<b>Dessert</b>	A time capsule was created in an appropriately decorated container <b>AND</b> contained appropriate objects and pictures <b>AND</b> composed a letter explaining the contents and their connections <b>AND</b> represented a variety of categories.	A time capsule was created in an appropriately decorated container <b>BUT</b> it did not contain appropriate objects and pictures <b>OR</b> did not compose a letter explaining the contents and their connections <b>OR</b> did not represent a variety of categories.	A time capsule was created in an appropriately decorated container <b>BUT</b> it did not contain appropriate objects and pictures <b>AND</b> did not compose a letter explaining the contents and their connections <b>AND</b> did not represent a variety of categories.	A time capsule was not created in an appropriately decorated container <b>AND</b> it did not contain appropriate objects and pictures <b>AND</b> did not compose a letter explaining the contents and their connections <b>AND</b> did not represent a variety of categories.	The dessert was not completed.
<b>GRADE:</b>					



## Tiered Activities

Tiering a lesson is one way to differentiate the curriculum for mixed ability classrooms. The primary purpose of **tiered activities** is to differentiate the final product based on the student's readiness. Students will be required to master the same objectives and content, but they will process the information and gain understanding at their ability level. There are six strategies for structuring a tiered lesson or unit.

- **By Challenge** Using Bloom's Taxonomy, the teacher writes questions at the knowledge, comprehension, application, analysis, evaluation, and synthesis levels. The questions could range from placing information learned on a chart, to comparing and contrasting, or to using the information learned to create something new.

- **By Complexity** The teacher creates activities from simple to complex. For example, activities could require the student to report information on a given issue, report different points of

view on the given issue, or determine a position on an issue and present a persuasive argument to defend that position.

- **By Resources** The teacher developed activities with materials at various reading levels and complexity of content.

- **By Outcome** The teacher designs tasks from basic to the more advanced. For example, tasks could require the student to present what was learned about a given topic or to deliver a presentation that compares same topic to today's similar issues and looking at the impact and changes related to the topic.

- **By Process** The teacher plans instructional activities from the basic to the more advanced. For example, the students would be required to research information about a technique and report findings, to establish criteria for using the technique based on information learned through the research, or to interview three people about the given technique

and identify the criteria they used with the technique.

- **By Product** The teacher differentiates the activity based on the learning profiles of the students. For example, the students would create a final product that reflects their learning preferences and/or interests, such as word smart, picture smart, logic smart, body smart, or music smart.

It is important for the tiered activities to be parallel (i.e., the same essential understanding, key concepts, or skills) with varied levels of complexity, depth and abstractness and with various degrees of scaffolding or support. Make sure all tiered activities are introduced with the same level of enthusiasm and interest. One tier should not be copying definitions from a glossary, and the other tier has the students creating a Native American listening doll. The advantages of tiered activities are they allow students to work on tasks that are neither too easy nor too difficult. In addition, they are highly motivating because they allow students to be successful at their level of readiness, and they allow students to work in their preferred learning style.



The steps for creating a tiered assignment:

- 1. Select an essential skill or concept.**
- 2. Think about the readiness, interests, and learning profiles of your students and decide which of the six strategies will be used for developing the assignment.**
- 3. Create an interesting, high-level activity that requires the students to use the essential skill or concept to demonstrate understanding.**
- 4. Duplicate the activity along a continuum of the selected strategy.**
- 5. Match different levels of the assignment to the students based on their readiness, interests, and/or learning profiles.**

This tiered project on the following pages illustrates three levels for a 20th century mural. This tiered project is structured by resources, outcome, process, and product. Level 1 would be appropriate for the struggling learners. The research has been completed by the teacher for this level for a designated decade (the 1920s in this example). The writings, photographs, artwork, links for music, and overview information has been included for the student in a newspaper-type format. In addition, the mural that the students will create only

involves drawings and/or paintings. Level 2 would be appropriate for the immediate learners. At this level, the students are required to pick a decade during the 20th century and complete independent research regarding the themes (i.e., People & Culture, Political Events, and Science & Technology) related to the selected decade. A link for an interactive website is included for the students to research their decade. The website does not require advanced research skills to locate information because it is a fairly intuitive website.

Level 3 is intended for the advanced learners. These students must choose two decades and select a different theme to depict each decade. A different website is given to this group of students. This website is less intuitive and requires more advanced research skills to navigate the website and to locate information. In addition, this level requires students to use printed materials, objects, images, and audio and multimedia

representations within the mural. A link for a three-dimensional mural is included to provide visual inspiration for the students. Paper mache, scissors, and magazines will be given as materials along with colored pencils, markers, paints, and markers, which will be given to the Level 1 and 2 students, so the students can create their individualized three-dimensional mural.

All tiers are allowed to work in small groups of two or three students, access the internet, choose how to depict the decade visually, select a theme to represent the decade, and create a mural. Depending on the level of the student, the given resources varied, the final outcomes differed, the process for creating the final product was modified, and the finished murals varied. Watch the "Bloom's Taxonomy Tiered Activities" video by Dr. Andrew Johnson for more examples of tiered activities. You can select the link or copy and paste it into your internet browser.



**Objective:**

To create a mural using colored pencils, paints, markers, and/or colored chalk to depict the historical events and trends of the 1920s based on one theme: Political Events, People & Culture, and Science & Technology.

**Materials:**

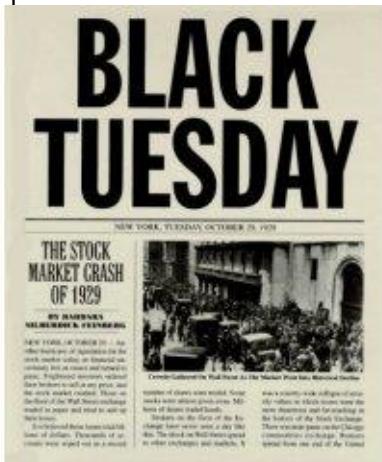
- Large white paper
- Colored pencils
- Paints
- Markers
- Colored chalk

**Directions:**

1. Work in groups of two or three to discuss how to visually communicate the political events, people & culture, and science & technology of the 1920s using the following images and information.
2. Select one theme to be illustrated in the mural.
3. Create a responsibility list for each member of the group.
4. Fulfill each responsibility as the mural is created.

**Political Events**

- Stock Market Crash in 1929 devastated the economy and began the Great Depression.



- 18<sup>th</sup> Amendment went into effect on January 16, 1920 which made the manufacture, sale, and transportation of liquor illegal. Prohibition gave rise to gangsters and "speak-easies".



- Herbert Hoover was the controversial American president during the economic crash of the 1920's.



- St. Valentine's Day Massacre, which was orchestrated by Al Capone, occurred in 1929 when seven men were gunned down in a Chicago garage.



- 19<sup>th</sup> Amendment was ratified in 1920 and gave women the right to vote.



## People & Culture

- Writers from the Harlem Renaissance emerged, such as Langston Hughes.



### Jazzonia

By Langston Hughes

Oh, silver tree!

Oh, shining rivers of the soul!

In a Harlem cabaret

Six long-headed jazzers play.

A dancing girl whose eyes are bold

Lifts high a dress of silken gold.

Oh, singing tree!

Oh, shining rivers of the soul!

Were Eve's eyes

In the first garden

Just a bit too bold?

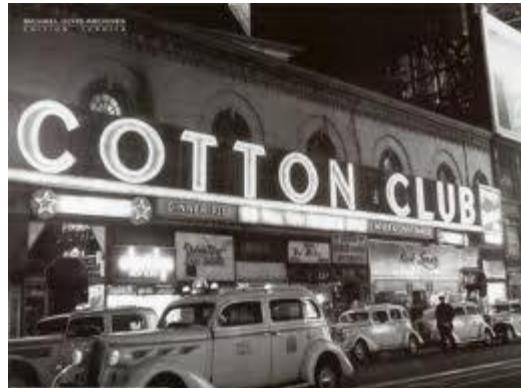
Was Cleopatra gorgeous

In a gown of gold?

Oh, shining tree!

Oh, silver rivers of the soul!

- Jazz music was born in the 1920s. Duke Ellington's orchestra began its 4-year residency at Harlem's famous Cotton Club in 1927.



"Jazz is a good barometer of freedom. In its beginnings, the United States spawned certain ideals of freedom and independence through which, eventually, jazz was evolved, and the music is so free that many people say it is the only unhampered, unhindered expression of complete freedom yet produced in this country." – Duke Ellington.



Duke Ellington



Louis Armstrong

To listen to the music of Louis Armstrong, Bessie Smith, Duke Ellington, Ella Fitzgerald, George Gershwin, and others of the 1920's, click [faculty.pittstate.edu/~knichols/jazzpoems2.html](http://faculty.pittstate.edu/~knichols/jazzpoems2.html).



The Savoy Ballroom opened in Harlem, NY in 1926.



Lindy Hop was a swing-type dance for jazz music.



Charleston became a popular dance in 1923.

## Science & Technology

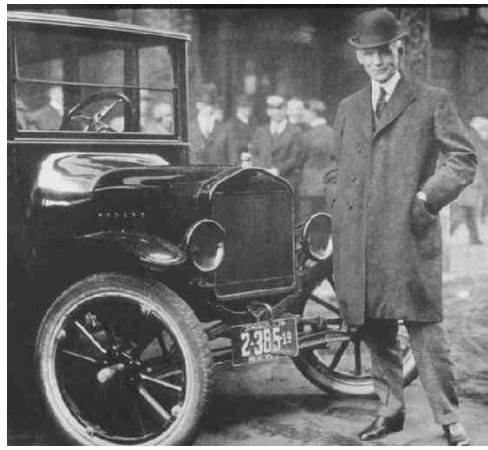
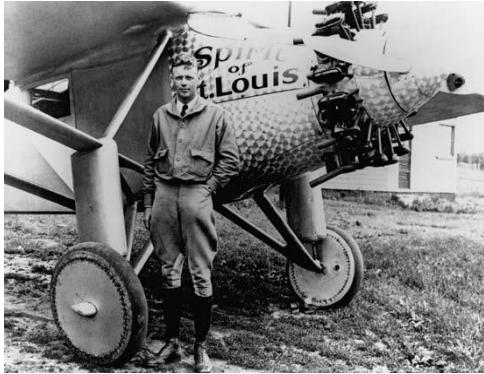
- Sound was added to movies. They were referred to as "talkies"



- Radio became the staple in people's home to provide information and entertainment.



- Charles A. Lindbergh flew across the Atlantic Ocean by himself in the *Spirit of Louis*.



- Henry Ford designed the Model T for the common man and installed an assembly line to produce the car which made production cheaper and faster.

- Clarence Birdseye invented frozen food in 1924.



- Bubble gum was invented by Walter Diemer in 1928.



- Art Deco Design began in the 1920s. It affected architecture across the US, including New York skyscrapers and hotels in South Beach Miami.



- Alexander Fleming discovered penicillin in 1928.



## 20<sup>th</sup> Century Mural Tiered Project: Level 2

### Objective:

To create a mural using colored pencils, paints, markers, and/or colored chalk to depict the historical events and trends of one decade from the 20<sup>th</sup> century based on one theme: Political Events, People & Culture, and Science & Technology.

### Materials:

- Large white paper
- Colored pencils
- Paints
- Markers
- Colored chalk

### Directions:

1. Select one decade from the 20<sup>th</sup> century.
2. Research each theme for one decade of the 20<sup>th</sup> century using the following website:  
[kclibrary.lonestar.edu/decades.html](http://kclibrary.lonestar.edu/decades.html). (An interactive website that presents the American cultural history of the 20<sup>th</sup> century.)
  - **Political Events** - (elections, government, recessions/depressions, revolutions, wars, assassinations)
  - **People & Culture** - (U.S. presidents, world leaders, sports figures, artists, musicians, trends/developments in dance, literature, music, theater, visual arts, clothing, fads, food, modes of transportation)
  - **Science & Technology** - (inventions which made life easier, concepts, discoveries, experiments, scientists)
3. Work in groups of two or three to discuss how to visually communicate the political events, people & culture, and science & technology for the selected decade.
4. Select one theme to be illustrated in the mural.
5. Create a responsibility list for each member of the group.
6. Fulfill each responsibility as the mural is created.

## 20<sup>th</sup> Century Mural Tiered Project: Level 3

### Objective:

To create a mural using paper mache, magazine cut-outs, colored pencils, paints, markers, and/or colored chalk to depict the historical events and trends of at least two decades from the 20<sup>th</sup> century based on the following themes: Political Events, People & Culture, and Science & Technology. The mural must use multiple forms of media, and the representations must have cultural or historical significance.

### Materials:

- Large white paper
- Paper mache
- Scissors
- Magazines
- Colored pencils
- Paints
- Markers
- Colored chalk

### Directions:

1. Select at least two decades from the 20<sup>th</sup> century.
2. Research each theme for each decade of the 20<sup>th</sup> century. Be sure to use printed materials, objects, images, and audio. The following website can assist you with your research, [www.eyewitnesstohistory.com](http://www.eyewitnesstohistory.com). (It is an interactive website that presents history from the Ancient World to the present through the eyes of those who lived it.)
  - **Political Events** - (elections, government, recessions/depressions, revolutions, wars, assassinations)
  - **People & Culture** - (U.S. presidents, world leaders, sports figures, artists, musicians, trends/developments in dance, literature, music, theater, visual arts, clothing, fads, food, modes of transportation)
  - **Science & Technology** - (inventions which made life easier, concepts, discoveries, experiments, scientists)
3. Work in groups of two or three to discuss how to visually communicate the political events, people & culture, and science & technology for the selected decades. The following website can assist you with three-dimensional ideas, [www.wallofamerica.org](http://www.wallofamerica.org). (The mural is a three-dimensional painting that celebrates American ingenuity, productivity, and commitment to work.)
4. Select a different theme to be illustrated in the mural for each of the selected decades.
5. Create a responsibility list for each member of the group.
6. Fulfill each responsibility as the mural is created.

## Learning Contracts

**Learning contracts** provide a method of individualizing instruction and developing student responsibility. This method of differentiation is based on readiness and learning profile of the student. They permit individual pacing so students may learn at a pace that allows them to master the material. Learning contracts can be designed where students function at the academic levels most suitable to them and work with resource materials containing concepts and knowledge that are appropriate to their abilities and experiences. Although this method focuses on the individual, learning contracts also provide an opportunity for students to work in small groups. The teacher may select this option for some students who may need peer tutors to provide support as they learn to work independently.

When students are first beginning to use learning contracts, the teacher should provide specific learning objectives, identify a choice of resources, and assign a deadline for the project. Consider our discussion about classroom management and daily classroom procedures in Chapter 10. The students will need to be able to read the expectations and procedures in the learning contract document. As students become more experienced with learning contracts, the teacher may choose to involve them in setting the learning objectives. Learning contracts usually require students to demonstrate the new learning in some meaningful way, but students are provided choice in the selection of a method or activity. After the agreement between the teacher



and the student is confirmed, the student, parent/guardian, and teacher sign the learning contract.

Learning contracts can be highly motivating for students. As they become skillful in making appropriate choices and as they begin to assume more responsibility for their own learning, they become increasingly independent, learn to use resources to their advantage, and take pride in their ability to teach themselves and share their new learning with others. It allows for student choice in the way in which material is accessed and products are developed. Most learning contracts can be graded with a rubric. If you give the students a rubric during the assignment phase, they will be able to see the expectations that will be used for their grading once the assignment is submitted.

The learning contract on the following pages allows students to explore careers in the visual arts. The students will read through the three career descriptions and the assignment's requirements, then

they decide which career project they would like to complete. Once a selection is made, the due date will be assigned. The student, along with his or her parent/guardian, and the teacher will sign the agreed upon contract. For each career (i.e., Fashion Designer, Architect, and Graphic Artist), there is a different work sample that is indicative of that specific career. For example, the Fashion Designer will design four outfits for a special occasion or event. The Architect will design a building using different materials, size, and color. The Graphic Artist will design a cereal box for a new cereal. Once completed, the student will complete the "Self-Evaluation", and the teacher will complete the "Teacher Evaluation" of the student's performance and final product. The rubric allows the student and teacher to see differences between the perception and the reality of the student's work ethic and final products. In addition, the student can reflect upon his or her work to determine his or her strengths, weaknesses, and interests.

# Learning Contract for Careers in the Visual Arts

**Objective:** The student will use a variety of visual media to explore a career (i.e., Fashion Designer, Architect, and Graphic Artist) in visual arts.

Name \_\_\_\_\_

**Directions:** Read through the three career descriptions and their expected requirements. Select one career assignment to complete by placing a check mark in the appropriate box.



**Fashion Designer:** A fashion designer is an artist who designs all of the things that we wear, such as clothing, hats, and shoes. Fashion designers must know how to draw, illustrate, and sew. They should be very creative and aware of trends.

## Materials:

- photocopied page with two simple children's figures representing one male and one female
- pencils and erasers
- crayons and/or colored pencils
- scissors
- colored construction paper
- pattern paper or wallpaper samples
- fashion ads from the Sunday newspaper

## Directions:

1. Use the male and female figure copies to design two outfits for each figure. (They will be a total of four outfits). The clothing should be suitable for a very special day or occasion, such as a holiday party.
2. Cut and paste the clothing or draw it directly on the paper.
3. Print the name of the occasion on the back of each paper.



**Architect:** An architect is an artist who designs buildings. The architect studies all types of building styles, construction, and materials for the interior and exterior of buildings. Some architects also design landscapes around buildings and parks.



Directions:

1. Choose a building to design or construct from the following list:
  - a new school
  - a new house for a family of 6
  - a house or apartment for your teacher
2. Look at some of the pictures of the buildings before beginning your design.
3. Consider the type of materials, size, and colors.
4. Draw or build your building.
5. If you draw a model, you should indicate materials, size, and colors on the drawing.
6. If you build a model, you can take a picture of the model or turn in the actual model.



**Graphic Artist:** A graphic artist is a broad category that includes many types of artists. For this assignment, the graphic artist designs the commercial packaging that is seen at stores and markets. Graphic artists study design, form, and marketing. The work of the graphic artist must grab the attention of the customer and sell the product.

Materials:

- large white drawing paper
- pencils, erasers
- crayons and/or colored pencils
- color markers
- rulers
- empty cereal boxes to be used as examples

Directions:

1. Look at the examples of cereal boxes before beginning to draw.
2. Consider what things you will put on the front of the box, what types of images will be included, and what colors will you use.
3. Create a drawing for the box front of the new cereal called "Bunches of Crunch". The design should include the name of the cereal.

Due \_\_\_\_\_

Student signature: \_\_\_\_\_

Parent/Guardian signature: \_\_\_\_\_

Teacher signature: \_\_\_\_\_

## Learning Contract Evaluation

### Self-Evaluation

criteria	1 (poor)	2 (fair)	3 (good)	4 (excellent)	5 (superior)
I used my time effectively.					
I planned my career project.					
I followed classroom policies and procedures.					
I followed directions.					
I created a work sample for a visual art career to the best of my ability.					

### QUESTIONS:

1. One area where I could improve on is \_\_\_\_\_.
2. One thing that I found frustrating was \_\_\_\_\_.
3. One thing that I really enjoyed was \_\_\_\_\_.

### Teacher Evaluation

criteria	1 (poor)	2 (fair)	3 (good)	4 (excellent)	5 (superior)
Student used my time effectively.					
Student showed evidence of planning.					
Student followed classroom policies and procedures.					
Student followed directions.					

## Conclusion

As teachers, we have little jurisdiction over content modifications given the mandated curriculum for the state of Georgia. However, we have great influence over the processes and products within our classroom. After spending 8 years as a special education teacher, process and product differentiation became second nature for me. When I transitioned to high school math in a general education setting, I quickly found my “second nature” beneficial for all students, with and without disabilities. Every student is different! Even within the same family, siblings have different process and product preferences. For all students to be successful in your classroom, you will need to modify and vary the instructional process and assessment products.



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## Answers and explanations for the Learning Preferences Activating Strategy

1. **FALSE.** According to Neil Fleming, approximately 60% of any population prefer multiple modalities.
2. **FALSE.** Multimodal learners are able to match their preferred modalities with presented instructional methods; however, some multimodal learners need to have more than one of their modalities involved in learning before they understand the material.
3. **TRUE.** Boys have more kinesthetic responses, and girls more read/write responses.



As this semester approaches its end, you are finishing your educational philosophies. I am concluding this textbook by including my educational philosophy entitled *The Game of Education*. As a side note, I have always wanted to be a teacher. Every Sunday afternoon, I would play school at my Nana's house. My Daddy did not want me to be a teacher. He told me that I was too smart to be a teacher. I replied as a loving teenager that "They need smart teachers, too!". I considered other careers, but I was certain that teaching was the place for me. As I talk with my husband now, I do not consider my current position as a job. I can work for hours without realizing that the day has passed. My husband says that I have found my true calling in life because I love what I do and have such passion for my profession. I completely agree with him, and, thankfully, I get paid for it, too. I hope that you will see the connections between my educational philosophy and teaching practice in the classroom. After all, the educational philosophy defines our purpose and perspective as teachers.

## The Game of Education

Growing up in a small rural community in South Georgia, everyone knew everyone, and the entire town attended the Friday night football games. Based on this childhood experience, I envision education as a Friday night football game. Each team has the goal of scoring the most points on the scoreboard. There are numerous options for reaching this highly anticipated goal. In a football game, the team acquires points through touchdowns, field goals, safeties, points after touchdowns, and two-point conversions. In the education arena, there are numerous methods to reach the students - whether it is visual, auditory, or kinesthetic learning strategies, emotional support, or daily living skills. Tossed among the players and coaches is the football, which symbolizes knowledge that students try to acquire. The football players apply different fundamentals, such as blocking, tackling, passing, or rushing, to gain possession the ball. In the classroom, students participate in

different learning opportunities and activities to obtain their ball of knowledge.

In every football game, there are two teams. To form the football team, the coaches strategically assign the football players to various offensive or defensive positions. Likewise, in school, our students play the game of education as they toil through courses, which are assigned by counselors and teachers, in pursuit of their high school diploma. On Friday night, the football players wear their protective gear and their school jerseys which are filled with pride and tradition. The players' uniforms represent the school culture, which creates a protective and prideful learning environment for all students. This school culture does not have benchwarmers because everyone needs a chance to play the game.

On the sideline of the football game, there are head and assistant coaches. The head coach supervises and leads the assistant coaches and players to a winning season. At a school, a principal makes consistent decisions based on the best interests of the teachers and students to impact student learning positively, which results in a successful school year. The assistant coaches work endless hours throughout the week to cultivate strategic plays. As the plays are designed, the assistant coach keeps the team's ultimate goal in mind – victory. As the assistant offensive coaches design these tactical plays and then instruct the players on how to implement them and gain the next first down during the game, teachers also create learning experiences for their students. These learning experiences teach the students how to solve real-world problems, connect new

concepts to prior knowledge, and apply these concepts to practical situations so they can master the next objective or standard.

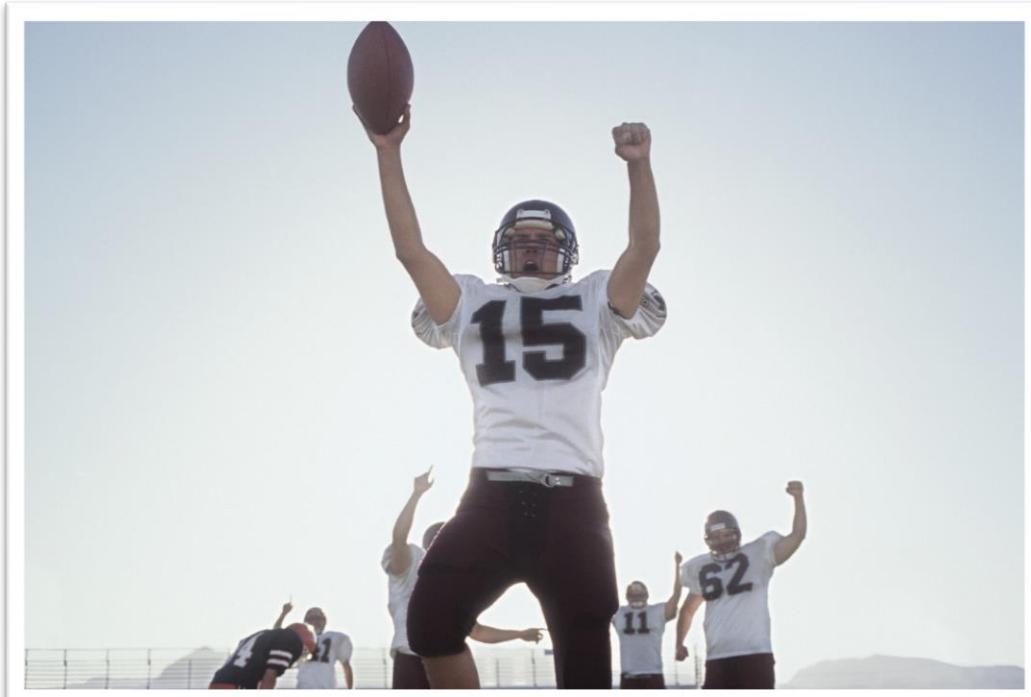
Sometimes, when the head coach calls a play, the football players fail to execute it correctly on the field, whether it is the center that dropped the snap, the defensive lineman who missed the tackle, or the punter who kicked the ball too far to the right. As a result, these players feel like failures. Players during the games of football and education make mistakes. It is the coach's responsibility to keep the morale high among his players and fellow coaches, and the faculty and staff has this same responsibility within a school. Similarly, when the quarterback throws the perfect pass to the hands of the tight end that is waiting on the five yard line and runs across the goal line to score those coveted six points, the players and coaches celebrate. Inside the gridiron of education, principals, teachers, support staff, and students rejoice when the students achieve their goals, whether it is passing a standardized test, understanding a difficult concept, or earning a high school diploma.

Most importantly, the residual effect of any game is the critical life lessons which extend beyond the boundaries and parameters of the curriculum. These life lessons are acquired on the football field and in the classroom, such as good sportsmanship, cooperation with others, and the value of hard work. Within the classroom, teachers utilize hidden curriculum to develop these valuable character traits within their students because life is a spectator sport. Each decision made in the game results in a consequence. That consequence may be a gain of seven yards or a loss of fifteen yards. Also,

that consequence may require the player to step back and punt or to run the ball into the end zone for the game-winning touchdown. Using these valuable character lessons, the players of the game learn that the more thought and effort put into each decision will result in greater yields. Using this insight gained on the field and in the classroom, the players manifest into a productive citizens in the community, which is ultimate victory in the game of education.

The comparison of a Friday night football game to education illustrates the interdependence that exists among the players of the game, the process of playing the game, and the supports needed to guide the game. The accomplishments and attitudes of each player mutually affect the other players within the game; therefore, the contact among the players must have mutual respect and open communication. It is critical to recognize this interdependence to impact student learning positively.

In order to claim victory in the game of education, all students should receive an appropriate and meaningful education that implements research-based practices. Often, the prescribed curriculum needs to be adapted or modified in order to meet the individualized strengths, needs, and interests of the students and community. Since education is the agent for social change, the curriculum involves a process of planning and guiding learning opportunities, which encompass all aspects of the school culture. The intent of these opportunities is to prepare students for future endeavors, whether they choose post-secondary education, military, or employment. I want to use my education and experience to create this metaphorical game. Thus, teachers will be able to prepare their students to be productive citizens in the community where life is a continuous spectator sport!





## Closing Thoughts

After using various textbooks and reviewing others, I found that I was supplementing the course content more often than utilizing the assigned textbook. When examining student course evaluations, I read comments like "The textbook wasn't very engaging". Such comments sparked the question of how could the content be restructured to capture all of the components that were necessary to build in the educational foundations for the 21st century classroom teacher.

Every year, the students who enter your classroom will be different. If you teach the same subject more than one period a day, you will find that what worked with first period will not work with third or even seventh period. My task is to equip you with as many "tools" as possible so you are

ready for any group of students during any given year. To equip this toolbox, teachers need a firm educational foundation, including history, philosophy, and ethics; however, these teachers also need a practical guide to apply the various theories of educational psychology, which benefitted me immensely while in the K-12 setting.

When beginning this endeavor, I had two goals. First, I wanted to provide educational foundations and educational psychology without the jargon. I decided to produce clear and concise reading with illustrations, short videos, and interactive activities so the content was understandable as well as came to life through visual appeal instead of overwhelming words on a page. Second, I wanted to create a "how to" book as if I were the mentor

teacher who would assist you with the day-to-day activities within the classroom. I intended to offer a first hand personal account of my knowledge and experience gained while in the classroom to facilitate your connection with the concepts. In addition, each topic has been accompanied by at least one concrete example or application for immediate use.

Throughout this textbook, I have tried to present foundational topics and demonstrate an assortment of instructional ideas, examples, and "tools". Hopefully, you have utilized or will utilize some of these "tools" in your classroom. In the future, please continue to use this practical guide as a resource. Do not forget to place these "tools" in your toolbox! You never know when you will need them.

