

Student Learning & Development

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Overview of Student Development

Student learning and development refers to the body of research related to human development as applied in the postsecondary education setting. Understanding student learning and development is key for faculty and administrators to design quality courses, programs, and services to best meet the needs of today's college students.

To understand the developmental challenges and experiences of our students, many student learning and development theories have emerged to provide a framework for discussion and practice. Derived from a wide range of philosophical and methodological perspectives, student learning and development theories offer faculty and administrators key information about students' cognitive, affective and behavioral growth and development.

While many types of theory exist, most student development theories are categorized into the following clusters:

1. **Psychosocial and Identity Development** — Theories that focus on examining students' thoughts, feelings, behaviors, values, and how students relate to oneself, peers, communities, and the world.
2. **Cognitive-Structural Development and Learning Theory**- Research examines how and why people learn and illuminates changes in the way individuals think. There is an emphasis on heredity and environment in relation to the various ways individuals develop cognitively.
3. **Typological Models**—These theories examine individual stylistic differences and how students approach learning and life. Characteristics are unique to each student and help explain interpersonal interaction. Student impact, student success and career development often fall in this category.

Student learning and development theory and research helps educators access the tools needed to inform and improve practice. Faculty and administrators can draw from theory to understand and identify the needs of diverse student groups, accounting for and identifying commonalities and differences in student development with consideration for race, ethnicity, nationality, class, gender, age, sexual orientation, gender identity, disability, and religious beliefs.

By understanding this research area, educators can use theory to design intentional programs, services and learning experiences that promote student growth and holistic development.

Social Identity Theory Overview

Identity theory models seek to explain how individuals develop their understanding of their personal identity in a social context. Erickson (1959/1980, 1963, 1968) was one of the first researchers to investigate the concept of identity development. His contributions to theory were that he (1) viewed development as occurring across the life-span, not just during childhood, and (2) connected development to external factors rather than just internal dispositions.

Erickson's theory divides development into eight phases, with each phase marked by a dilemma or crisis that one must solve to move to the next life stage. This concept of a dilemma is a common theme in developmental theories (see transformative learning).

Childhood Stages

One	Trust vs. mistrust — infants experience mistrust when their guardian's patterns change; children must learn trust early in their development
Two	Autonomy vs. Doubt — children learn to walk, talk, and behave in ways that are appropriately self-sufficient; children must learn to learn and grow or they will be afraid to try new things
Three	Initiative vs. Guilt — children start to interact with other, show their imagination and become conscious of right and wrong
Four	Industry vs. inferiority — children begin to be influenced by non-guardian adults and peers and develop skills helpful to society; without encouragement, they may feel inferior

Transition

Five	Identity vs. Identity Diffusion — turning point at which a child becomes an adult by defining his or her own values, beliefs, worldviews, and life goals; many other theories are based on this aspect of development; identity diffusion occurs when individuals cannot reconcile external pressures with internal beliefs or are unable to synthesize learning from earlier stages into a coherent whole (e.g., they cannot state what they value)
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Adulthood Stages

Six	Intimacy vs. Isolation — adults form lasting, enduring relationships with others and their community
Seven	Generativity vs. Stagnation — adults seek to define their legacy and give back to future generations through work, mentoring, community engagement, parenting, etc.
Eight	Integrity vs. Despair — older adults look back and reflect on their life; some despair over decisions and lost opportunities while others feel that they have lived their life well and accept that they had only one life to lead

Traditional identity theories build from the work of Erickson and often look at specific populations and how they develop; therefore, scholars often divide these theories into categories including: racial/ethnic identity, gender and gender identity, sexual identity, and multi-racial identity.

Scholars consider these theories social because aspects of one's identity are socially constructed and socially mediated, a contribution made by Erickson. In other words, society constructs meaning around differences inherent to people's identity. Two important concepts related to identity are oppression and privilege.

Privilege and oppression are contextual. In the United States, privileged groups traditionally include: white, European ethnicities; high social class; Christians; men; heterosexuals; and able-bodied individuals. Oppressed groups are those without privilege

Each specific social identity theory speaks to the specific context, but to summarize, one can simplify this body of theories into the following schema of development:

1. **Denial or pre-encounter:** lack of acknowledgement or identification with difference; no awareness of oppression or privilege
2. **Encounter:** student faces adversity related to identity, signaling an awareness shift; encounters a challenge that creates an awareness of difference
3. **Immersion:** Student seeks to immerse self in target culture and preferences interactions with that group; retreats to a safe zone to deal with new awareness
4. **Internalization:** acceptance of identity and belief system
5. **Synthesis:** integrates identity into various aspects of life

As with many developmental models, pushing individuals too far, too fast may cause their development to regress or stagnate.

Chickering's Vectors

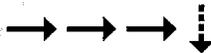
Chickering and Reisser (1993) authored a foundational theory related to student development. They identified seven major tasks, which they termed vectors, that students should complete during college. These vectors relate to how individuals understand themselves and relate to other individuals and groups.

Although a foundational theory, their model has been critiqued by some theorists, especially post-modernists, for being overly rigid and linear in its approach.

Despite this critique, the model does state that students can move along different vectors at the same time and at varying speeds. Overall though, the model suggests that the earlier stages are preparatory for later, more complex tasks.

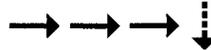
Developing Competence

Possessing basic intellectual, physical, and interpersonal skills and a general feeling of confidence in those skills



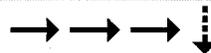
Managing Emotions

Balancing self-control and self-expression



Moving Through Autonomy Toward Interdependence

Gaining emotional and instrumental independence while developing interdependence



Developing Mature Interpersonal Relationships

Developing the capacity for tolerating and appreciating the differences of others, developing the capacity for intimacy



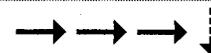
Establishing Identity

Resolving a host of issues related to appearance, gender, ethnicity, sexual orientation, class, and social situation and developing a positive, stable self-concept



Developing Purpose

Assessing interests, clarifying goals, making plans, and persisting despite obstacles in vocational, personal, and interpersonal and family commitments



Developing Integrity

Humanizing values. Balancing self interests with needs of others

Personalizing values. Personally and actively owning values

Developing congruence. Allowing personally held values to guide behavior



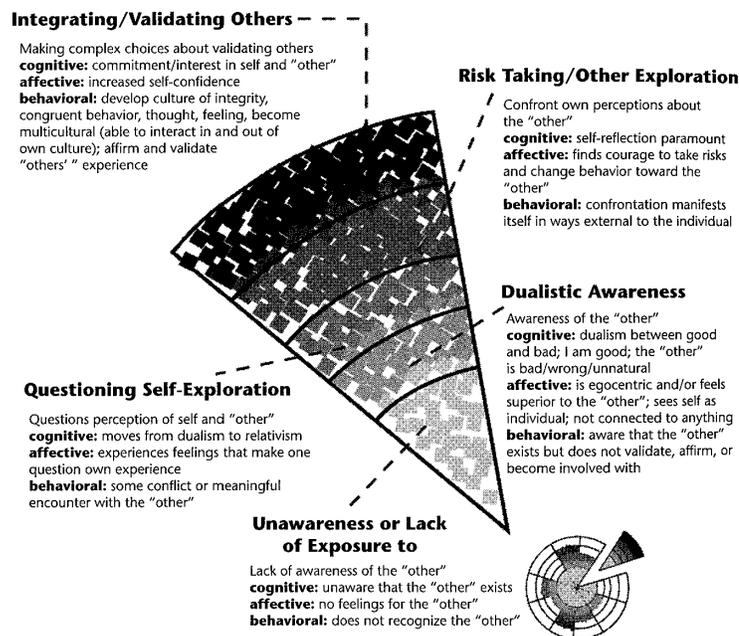
Diversity & Intercultural Development

One aspect of social identity is how one's personal development allows him or her to understand and support others who are different.

Two prominent theories are Chavez, Guido-DiBrito, and Mallory's (2003) Theory of Individual Diversity Development and Bennett's (1986) Model of Intercultural Development. As with other aspects of identity development, pushing an individual too fast on their acceptance and understanding of others may cause them to regress.

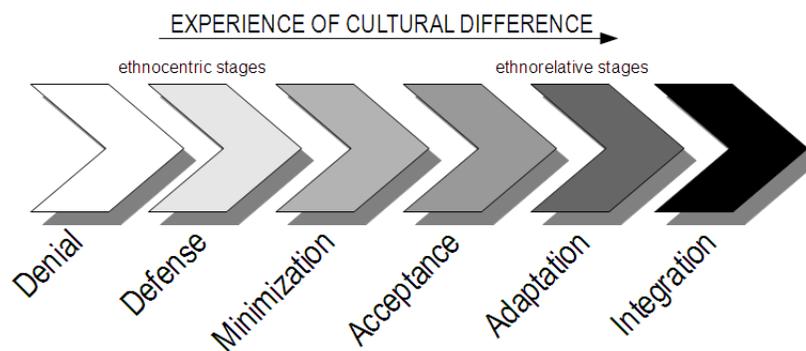
Modern perspectives on identity acknowledge that one can progress through these models at different rates for different aspects of identity. For example, one can be more accepting and tolerant of gender differences than they are of sexuality differences. Similarly, one may be able to accept intercultural differences related to time orientation more readily than they can related to personal space.

Newer pluralistic, post-modern theories represent a major revision, and in some cases critique, of earlier linear, staged models. Many scholars state that these early models do not clearly highlight the complexity of development, suggesting a uniformity and simplicity that does not exist in the real world. Also, one should note that many of the major developmental models are based on Western, primarily U.S., samples and populations.



Source: Chávez et al. (2003). Learning to value the "other": An individual framework for diversity development. *Journal of College Student Development*, 44(4), 459.

Developmental Model of Intercultural Sensitivity



Adapted by Mark Sample from Bennett, M. J. (1993). Towards Ethnorelativism: A Developmental Model of Intercultural Sensitivity. In R. M. Paige (Ed.), *Education for the Intercultural Experience* (pp. 21-72). Yarmouth, ME: Intercultural Press.

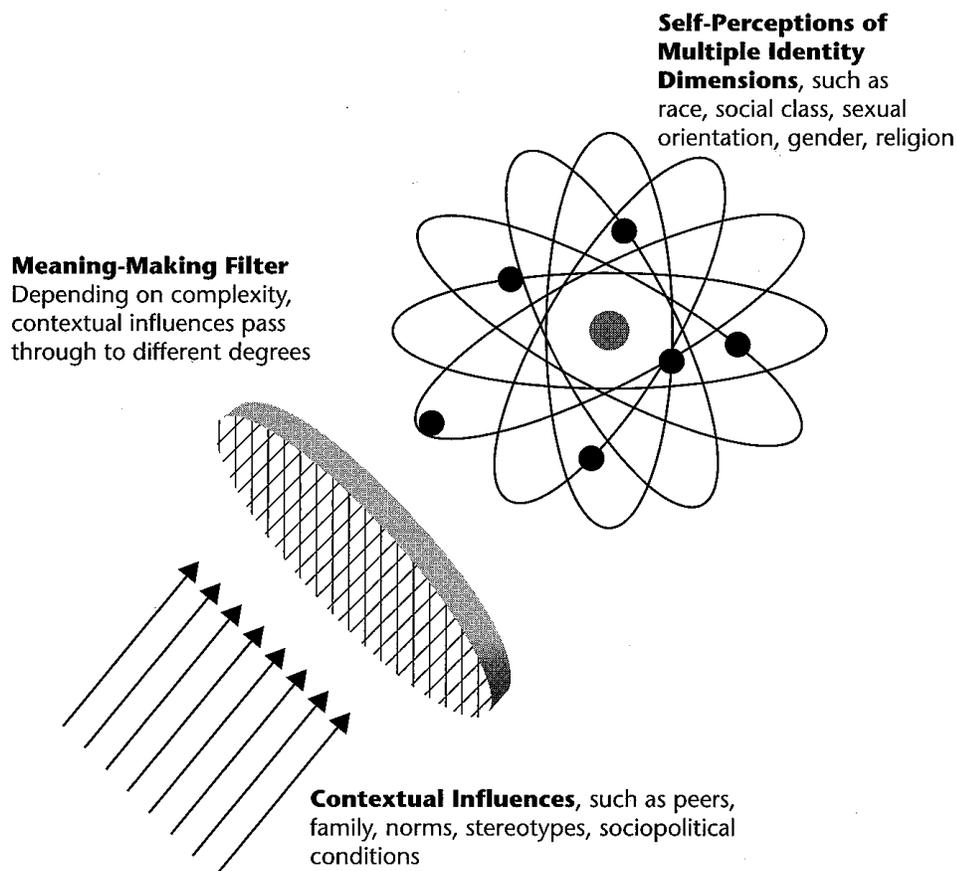
Multiple Identities

Although development of identity is historically been thought about in linear stages, recent theoretical models indicate that aspects of one's identity intersect with other forms of identity and are affected by other dimensions of identity. This has led to the recent significance of multiple identities, the social construction of identity, and how these identities affect people in different contexts.

Some of this work has been advanced by scholars' investigation of bi- and multi-racial individuals. By considering how these individuals developed their sense of identity, they were confronted by the fact that identity is complex. For example, looking at racial minorities who also identify as LGBTQ highlight the fact that one's sexuality development is mediated by one's race and ethnicity.

Jones and McEwen (2003) formulated a theory of multiple identity dimensions that centered on a model with layers much like an onion. At the core of this identity development is the personal sense of self and one's individual characteristics. Surrounding this core are the aspects of an overall identity such as family heritage, religion, sexual orientation and socio-economic status. The intersection of these elements is represented by an atom model with these separate, but interacting identities located around the core of self identity.

A later addition to this theory was the influence of situation context from the external environment. These influences are filtered through the individual based on their complexity of understanding and personal identity.



Source: From Abes, E. S., Jones, S. R., & McEwen, M. K. (2007). Reconceptualizing the model of multiple dimensions of identity: The role of meaning-making capacity in the construction of multiple identities. *Journal of College Student Development*, 48(1), 7.

Cognitive Development Theory

Cognitive structural theories provide details about how students view, experience and reason with the world around them. They do not detail how intelligent people are but rather how people develop and relate to knowledge construction. Like identity development, most earlier cognitive theories view development as a series of levels or stages, with higher orders stages based on those before them. These theories suggest that all individuals progress through these stages, but they do not link the development to specific ages or rates.

Perry (1968) is considered a foundational theorist related to cognitive development. He highlighted nine steps associated with this development; during these steps, students move from more simplistic, categorical understanding of knowledge to a more relative understanding.

In general, researchers present the nine steps in three general levels: dualism, relativism and commitment. The levels and their steps are listed below:

1. **Level one: dualism**—knowledge as truth (right or wrong); teachers as experts with definitive answer; information should be presented directly; evaluation focuses on memorization and recall of facts; uncertainty is an error
 - Step 1 — all information is right or wrong
 - Step 2 — information is right or wrong; uncertainty is caused by an error in authority
 - Step 3 — all information is right or wrong; uncertainty is caused by lack of knowledge on the topic (the right answer has yet to be discovered)
2. **Level two: relativism**—knowledge understood in the context of the situation; understanding that one's personal values, experiences and perceptions frame truth and understanding; professors as resources to help guide inquiry
 - Step 4 — knowledge is uncertain, and ideas have equal value; no one has “the answer”; some right and wrong areas may still exist
 - Step 5 — knowledge is contextual; choices can be better or worse based on the context, but not right or wrong; question of one's context in life: values, identity, actions, etc.
 - Step 6 — Values emerge from commitments made; ability to apply context to making value based decisions
3. **Level three: commitment**—students recognize and value diverse opinions; students begin to integrate personal life and experience with their professional studies into a unified self-concept and worldview; identity defined and modified based on lived experiences
 - Step 7 — Affirmation of self and responsibility in the world
 - Step 8 — Commitments made to personal causes with an understanding for diversity
 - Step 9 — Development of one's role or worldview within the context of the world

Some individuals fail to progress through the nine steps of development. They might take one of the following paths instead:

1. TempORIZING — delaying change in position by staying at a lower step
2. ESCAPE — avoiding commitment and staying in relativism
3. RETREAT — return to dualism for safety or simplicity

A simple way to understand the following theory is by thinking of it as four—rather than nine—steps:

1. **Dualism**—something is right or wrong, and the experts are right
2. **Multiplicity**—knowledge becomes subjective, all values and opinions are equal
3. **Relativism**—knowledge is subjective, and some evidence is better than other evidence
4. **Commitment**—knowledge is based on experience and perspective, and one must learn to integrate and grapple with diverse perspectives in life

Women's Ways of Knowing

Building from and critiquing Perry, researchers such as Gilligan (1982/1993) and Belinky, Clinchy, Goldberger, and Tarule (1986) sought to define development from a gendered perspective. These scholars' work focused on females whereas the majority of works previous to this theory were based on males as the standard or sample. This distinction is important because Gilligan determined that females value and understand relationships with others differently than males.

Current researchers are also critiquing Perry stating that, even though the sample for Perry's work consisted of male students, his work was gender-neutral. In other words, having men in the sample does not attend to the intersection of the male identity on their development. Scholars such as Jason Laker point out that just because a study is done on men (e.g., men are in the sample), does not mean the study is about men. As such, newer theories suggest that scholars must make aspects of gender and gender roles central to research and consider multiple aspects of identity and development in cooperation, not isolation.

Belinky et al. identified five perspectives that relate to how women view the world:

1. **Level one: silence** — women have no voice or opinion and are subject to external forces
2. **Level two: received knowledge**—knowledge comes from outside authorities; individual lacks confidence to generate own ideas; truth is held by authorities
3. **Level two: subjectivism**—knowledge is uncertain; everyone has their own truth; truth comes from the gut and is internal to self; understanding is more important than remembering information.
4. **Level four: knowing**—Looking at information in context; discerning between various opinions; being able to formulate new ideas and original thought; procedural knowing is often associated with males, and involves objective, rational, analytical decision-making; connected knowing, often associated with females, is more subjective, empathetic, and care-based with an understanding what works for oneself through personal experience vs. authority
5. **Level five: construction**—Knowing combines subjective and objective aspects; knowledge is constructed and the knower is part of the knowledge creation process

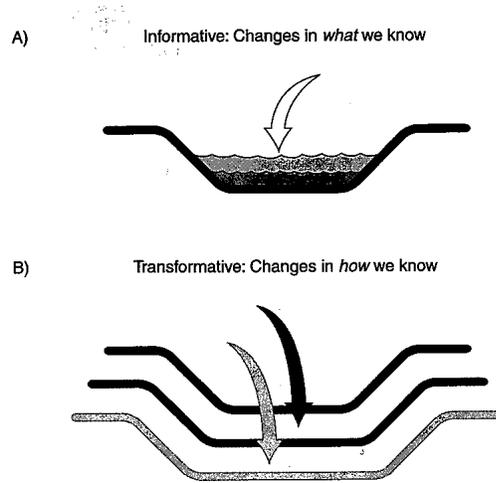
Generally, the contribution of these scholars is that, although both men and women progress through these similar stages of cognitive development, Gilligan's research shows that men tend to behave **impersonally (procedurally)** and women behave **interpersonally (connected)**:

Interpersonal	Impersonal
<ul style="list-style-type: none">• Seeks to exchange ideas with others	<ul style="list-style-type: none">• Seeks to debate ideas with others
<ul style="list-style-type: none">• Seeks rapport with the instructor	<ul style="list-style-type: none">• Wants to be challenged by the instructor
<ul style="list-style-type: none">• Wants evaluation to take individual differences into account	<ul style="list-style-type: none">• Wants fair and practical evaluation
<ul style="list-style-type: none">• Resolves uncertainty with personal judgment	<ul style="list-style-type: none">• Resolves uncertainty by logic and research

Transformative Learning

Often, educators discuss a learning activity or experience as transformative. Transformative learning refers to a body of literature that investigates the process by which the individual shifts their perspective in qualitatively different ways. Transformative learning is not additive; it does not mean the person has learned more or new information. Transformation means that a person has shifted their thinking about something in ways that leads to new ideas, worldviews, and ways of being. The individual shifts their frame of reference to be open to new understandings.

It is these transformative moments that Erickson described as leading to development; therefore, transformative experiences are those that propel students to new forms of identity and cognition. Mezirow (1990, 2000) was one of the first scholars to discuss this concept in the context of transformative learning theory. A graphic of this work as adapted by Kegan is presented below (Mezirow, 2000, p. 22):



Mezirow investigated major changes in adults and found that qualitative shifts in meaning making tend to follow some common steps:

1. Something happens that disorients or confuses the individual
2. Self-reflection
3. Critical assessment
4. Recognition of discontent or deficiency in current status
5. Exploration of new options
6. Planning for action (what should I do)
7. Preparation for action (what do I need to learn to take action)
8. Trial and error period
9. Competence and confidence building
10. Integration of new ways of knowing, being, thinking, etc.

Key concepts inherent to this work:

- Narratives — unexamined stories about how things are or the way the world exists; example, men are better athletes than women
- Critical reflection — process of examining and interrogating internal and external narratives
- Reframing — process of rejecting or rewriting personal narratives as a means of making sense of new experiences, values, or ways of being

Kegan's Orders of Consciousness

Kegan (1994) focused on the personal evolution of how individuals relate to their experiences. He proposed that people progress through series of stages of increased complexity, with these stages representing the varying importance between the competing desires for inclusion and distinctiveness.

For Kegan, transformation occurs (development happens) when a person is able to take aspects of the self that are subject—unknown, uncontrollable, internal, unexamined, and one's identity—and make them object—known, controllable, external, understood, and an aspect of one's identity. Put simply we are subject and have object.

Stage	Subject	Object
0: Incorporative Stage	Reflexes	Nothing
1: Impulsive Stage	Impulses and perceptions	Reflexes
2: Imperial Stage	Needs, interests, desires	Impulses and perceptions
3: Interpersonal Stage	Interpersonal relationships and mutuality	Needs, interests, desires
	<p>Many individuals stagnate at this stage, and this stage is where most of college students will be at when you deal with them. In this stage, relationships with others are of primary importance, and thus peer pressure and external opinions are a major influence.</p> <p>Students at this stage cannot recognize or understand why someone they love does not love them back in the same ways. People make them feel bad about themselves or make them feel lonely or angry. Similarly, they may find their value in their relationships. You see this often with dating and the student who cannot be without a partner because the relationship is what defines them as a person.</p>	
4: Institutional Stage	Authorship, identity, and ideology	Interpersonal relationships and mutuality
	<p>Although many researchers talk about helping students reach self-authorship, Kegan's work suggests that many adults do not reach this stage until their 30s or later, if at all. In this stage, people have taken ownership over their relationships with others; however, they still have not fully integrated their identity in complex ways.</p> <p>At this stage, one might not be able to juggle one's multiple roles and identities, as a parent, worker, friend, etc. They may have trouble understanding boundaries and social conventions that come with these multiple roles. Finally, they are only beginning to take full ownership of their life in terms of their values, goals, and worldview. Authority may still be external to the self.</p>	
5: Inter-institutional Stage	Post-modern thinking and self-transforming systems	Authorship, identity, and ideology
	<p>Few individuals reach this theoretical level. Here identity is so well understood, one's life has been so examined, and one is so confident in one's self, that one can fluidly move between different identities skillfully and hold what might be considered totally opposite views with ease. One understands that yielding to an external authority does not diminish one's self or personal identity.</p>	

Ideas about Learning

In general, learning is characterized by a change in behavior due to external stimuli and internal processing (thinking). Learning can occur in three major areas:

1. **Cognitive learning**—knowledge recall and associated intellectual skills including comprehending information, organizing ideas, analyzing and synthesizing data, applying knowledge, choosing among alternatives, evaluating ideas, etc.
2. **Affective learning**—application and understanding of emotions, attitudes, appreciations and values including awareness, interest, attention, concern, responsibility, caring, enjoyment, respect, support, etc.
3. **Psychomotor learning**—physical ability associated with the use of fine motor skills (use of tools and instruments) and gross motor skills (dance and athletics) as defined by coordination, dexterity, grace, speed, manipulation, strength, etc.

Traditionally, one associates learning with only the cognitive realm; however, newer approaches to education have expanded the definition of traditional learning to incorporate a more holistic view. Hence, learning is a difficult concept to define. One can best understand the term when contrasting this new learning paradigm with the predominant teaching paradigm.

Teaching Paradigm	Learning Paradigm
<ul style="list-style-type: none">• Teacher as expert who provides facts• Focus on facts, statistics, dates• Knowledge is concrete, based on logical analysis• Tests, quizzes and essays to measure knowledge and understanding• Focus on competition or being the best• Focused on a discipline or field of study	<ul style="list-style-type: none">• Teacher as facilitator who guides inquiry• Focus on meanings, understandings and application of information• Knowledge is subjective and requires understanding of circumstances• Essays and projects to measure understanding and application of knowledge• Focus on collaborative learning• Focused on drawing understanding from many relevant fields

Another way to understand learning is to associate it with related terms like intelligence, development and learning styles.

- **Intelligence**—disciplines a person has a natural ability for; areas of high skill for an individual
- **Development**—biological and emotional process during which individuals increase their capacity to learn and understand; maturation
- **Learning**—changes in understanding on various levels; as an individual develops they can learn at new levels (taxonomies), especially in those areas for which they have high intelligence
- **Learning styles**—preferred ways of learning, regardless of developmental level or discipline studied

Learning Styles

Many different definitions exist for the term “learning styles,” and over 30 instruments are currently being used to help define it. In general though, we can define a *learning styles as a biological and developmentally determined characteristic that makes a particular teaching method more or less effective.*

While learning encompasses many facets of human development, learning styles usually deal with learning in the cognitive realm. Cognition refers to the ability to store, manipulate, memorize, recall and use information. Hence, an individual’s cognitive style has many layers, similar to an onion. Each layer can focus on how he or she accumulates, stores, processes and uses information over time.

A learning style is part of one’s cognitive style. A learning style incorporate a variety of human factors detailed below. Learning styles refer to how we prefer to think, learn and solve problems and perceive the external environment.

Environmental	Preferences for noise, temperature, lighting, etc. while studying Also deals with the physical environment for studying (clean, messy, formal, informal, etc.)
Emotional	Issues dealing with one’s motivation, persistence, responsibility and attitude Also important as to the source of these attributes (e.g. internal or external motivation); related to emotional intelligence
Social	Preferences for working alone, in small groups, in large groups, etc. Also issues relating to personality (introversion and extraversion)
Physiological	Preferences based on how our body prefers to take in information, either visual, auditory or tactile (kinetic)
Cognitive-psychological	Preferences based on how our brain functions, either right-brain (global) or left-brained (analytic) A more traditional understanding of learning styles

Personality & Learning Styles

Over 50 years ago, Katherine Cook Briggs and her daughter, Isabel Briggs Myers, developed the Myers-Briggs Type Indicator (MBTI) to explain human behavior based on Carl Jung's theory of personality. Today, the MBTI is the most common and widely used measure for personality .

While researchers have long used the MBTI to understand human behavior, teamwork, work style and even spirituality, they have only just started to look at its use in relationship to learning. Researches have noted that the MBTI incorporates all the domains that define a learning style into its design. Hence, personality is a major defining factor for an individual's learning style. Personality affects learning in the following ways:

1. The way individuals process information and form ideas (cognitive-psychological).
2. The preferences individuals have for learning situations and settings (social, environmental).
3. The ability, desire and motivation to seek environments that are beneficial to learning (social, emotional).
4. The preference for certain learning tools and techniques over others (physiological, cognitive-psychological).

Based on these four areas, individual MBTI scales have meaning in relation to learning styles:

Extroversion

Enjoy action; physical activity; study with others; use background noise; enjoy discussion; dislike reading and writing

Introversion

Value reading; prefer to study alone; enjoy lectures; dislike public speaking

Sensing

Like facts and figures; can memorize; prefer clear directions; value practical experiences; trust material presented

Intuition

Value imagination and creativity; create own directions; like theories; prefer to think independently

Thinking

Want objective answers; value logic; critique new ideas; learn through challenge and debate

Feeling

Need to personally relate to information; like to feel appreciated; enjoy personal relationships with others; value harmony

Judging

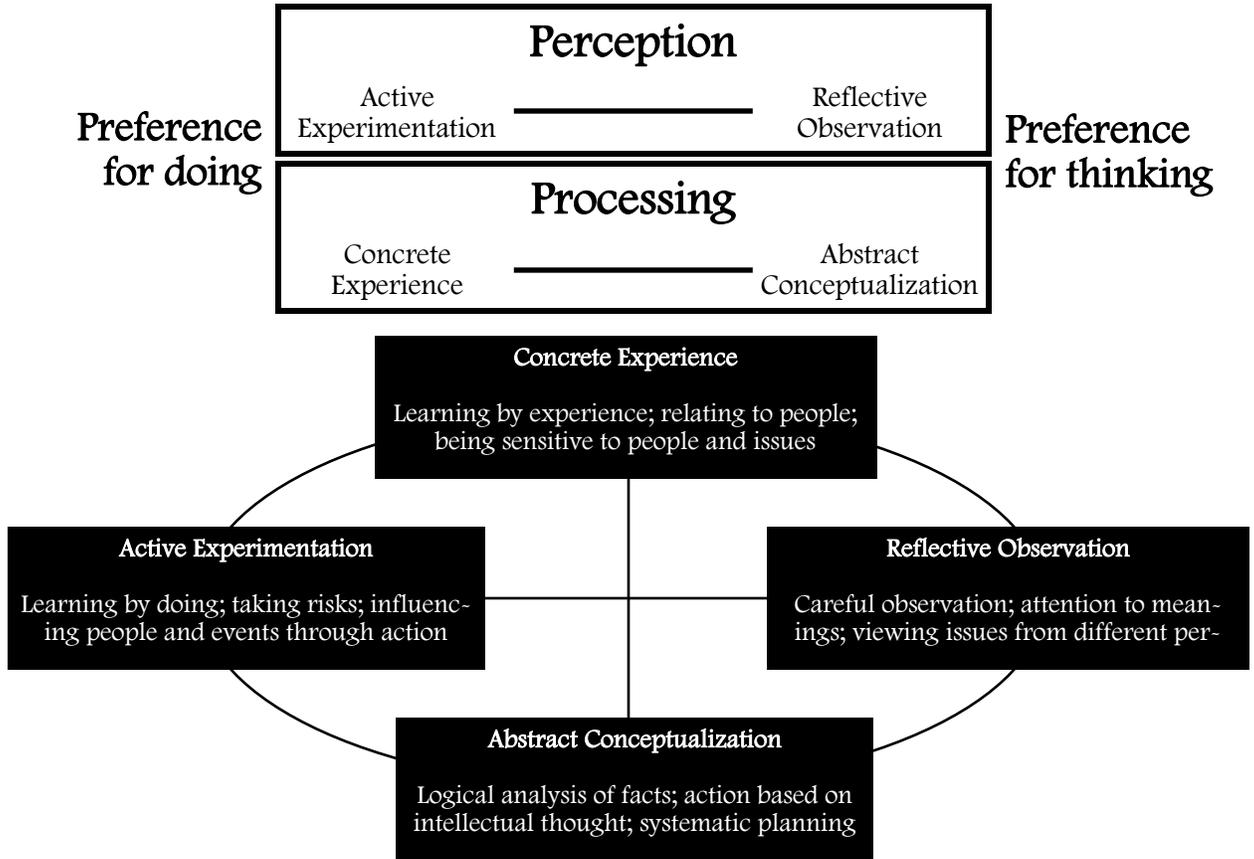
Like formal structures; value dependability; plan in advance; like to be in charge; seek closure and organization

Perceiving

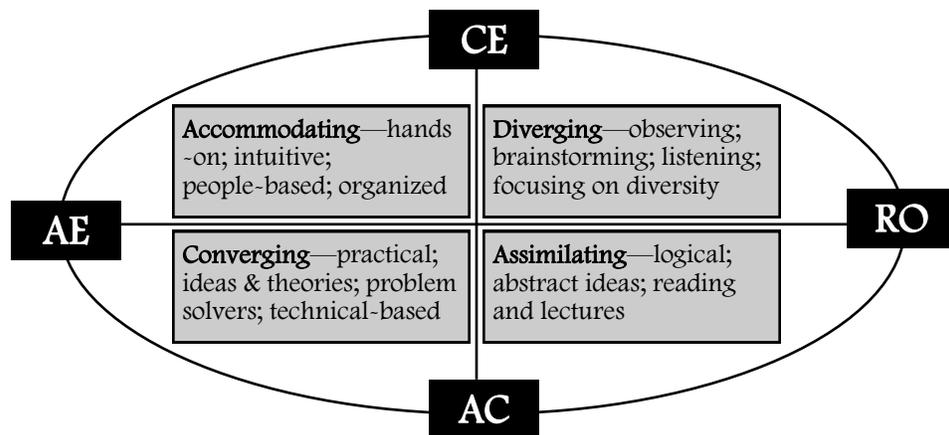
Like informal situations; value change; flexible and spontaneous; open to new ideas and information

Kolb's Learning Styles Inventory

Kolb's Learning Styles Inventory (LSI) describes four phases of learning, each defined by unique characteristics. Kolb created the four phase grid from two bipolar scales: perception and processing. According to the LSI theory, individuals prefer one way of taking in information (perception) and one way of dealing with the information (processing).



The best learning, Kolb theorizes, involves the use of all four stages of the cycle; however, most individuals tend to favor one or two stages and may skip some stages altogether. The combination of an individual's preference for perception and processing defines the specific learning style.



Body, Brain and Learning Styles

As mentioned earlier, human biology plays a role in how we learn. Researchers have linked both brain function (cognitive-psychology) and physiology to learning preferences.

Physiology refers to how individuals prefer to accumulate or perceive information, which is one of the scales on Kolb's model. Terms associated with these preferences are detailed below:

- | | |
|-----------------------------------|--|
| Visual learners | <ul style="list-style-type: none">• Learn by seeing• Enjoy visual aides, videos, reading, demonstrations, displays, models, etc.• Have a visual memory, can see things in their mind• Like having TV on while studying |
| Auditory learners | <ul style="list-style-type: none">• Learn by hearing• Enjoy music, lectures, verbal directions, media with sound, etc.• Able to memorize facts through reading and reciting• Like having white noise or radio on while studying |
| Tactile (kinetic) learners | <ul style="list-style-type: none">• Learning by doing or touching• Enjoy role-playing, experiments, games, interaction, etc.• Able to retrace or reenact steps taken• Like working with objects, tools, etc. |

Brain function refers to how individuals prefer to organize and process information (the other scale on Kolb's model). Terms associated with these cognitive-psychological processes are detailed below:

- | | | |
|--------------------|---|--|
| Terminology | Left-brained; field independent; analytic learners; structured learners; detailed learners | Right-brained; field dependent; field sensitive; global learners; low structured learners; big picture learners |
| Definition | <ul style="list-style-type: none">• Prefer logical analysis through observation and experimentation• able to break problems into parts• Prefer impersonal relationships• Enjoy formal, traditional classrooms• Like structure and order | <ul style="list-style-type: none">• Prefer human interaction• Excel at social and value oriented situations• Prefer discussion• Enjoy working collaboratively• Enjoys external stimuli |

Multiple Intelligences

The Theory of Multiple Intelligences has been furthered by the work of Howard Gardner and others (1991). Gardner has identified eight “intelligences,” which he feels that we all possess to some degree. Hence, Gardner believes that all individuals are intelligent, only in different ways.

At this point, it is important to distinguish between learning styles and intelligence. According to Gardner, his theory indicates an aptitude for certain areas on knowledge and skill. Learning styles defines how an individual best learns any knowledge or skill. In other words, a student can be adept at music (her intelligence), but she can have a social learning style (she enjoys learning in a group, regardless of the subject). Despite this distinction, the two theories overlap.

Visual-Spatial	Think in terms of the physical environment; aware of and relate to visual imagery, drawings, graphics, charts, maps, videos, models, etc. Disciplines: geography, art, advertising, graphic design, architecture
Bodily-Kinesthetic	Aware of body and its movement; Learn through touching, doing, role-playing, acting, using tools and equipment Disciplines: athletics, physical therapy, theatre, surgery
Musical	Sensitive to sound, rhythm and beats; Enjoy anything dealing with sound Disciplines: music, performance, theatre
Interpersonal	Understand and interact well with others; Notice emotions, feelings and values in others; Enjoy group activities, discussion, writing, etc. Disciplines: teaching, psychology, social work
Intrapersonal	Understand and knowledgeable of their own needs, feelings and ideas; Enjoy independent learning, diaries, reading, etc. Disciplines: research, psychology, writing
Linguistic	Understand meaning and use of words; Enjoy writing and reading Disciplines: writing, history, journalism, English, languages
Logical-Mathematical	Understand meaning and use of numbers; can see patterns and concepts; Enjoy experiments, logic puzzles, mysteries, etc. Disciplines: engineering, math, research
Naturalistic	Think in terms natural systems and the environment; Learn from interaction outdoors in the natural environment Disciplines: agriculture, natural resources, natural sciences
Existential	Think in terms of human relations to cosmic forces; questions the meaning of life, happiness, grief, etc. Disciplines: community service, religious service, human rights

Maslow's Hierarchy of Needs

Abraham Maslow devised a hierarchy of needs that he identified as key motivators to human behavior. He placed basic—animalistic—needs required for survival at the bottom of the list and higher level—human—needs at the top. Only when individuals achieve their basic needs can they move on to higher level needs. For example, a starving person needs to find food before he or she can worry about finding a friend or spouse.

Physiological needs—biological needs such as oxygen, food, water, warmth/coolness, shelter, etc. These needs are strongest because without them, one could die.

Safety needs—common need among children who are insecure. Adults tend to feel this need during emergencies or other periods of disorganization and disorientation.

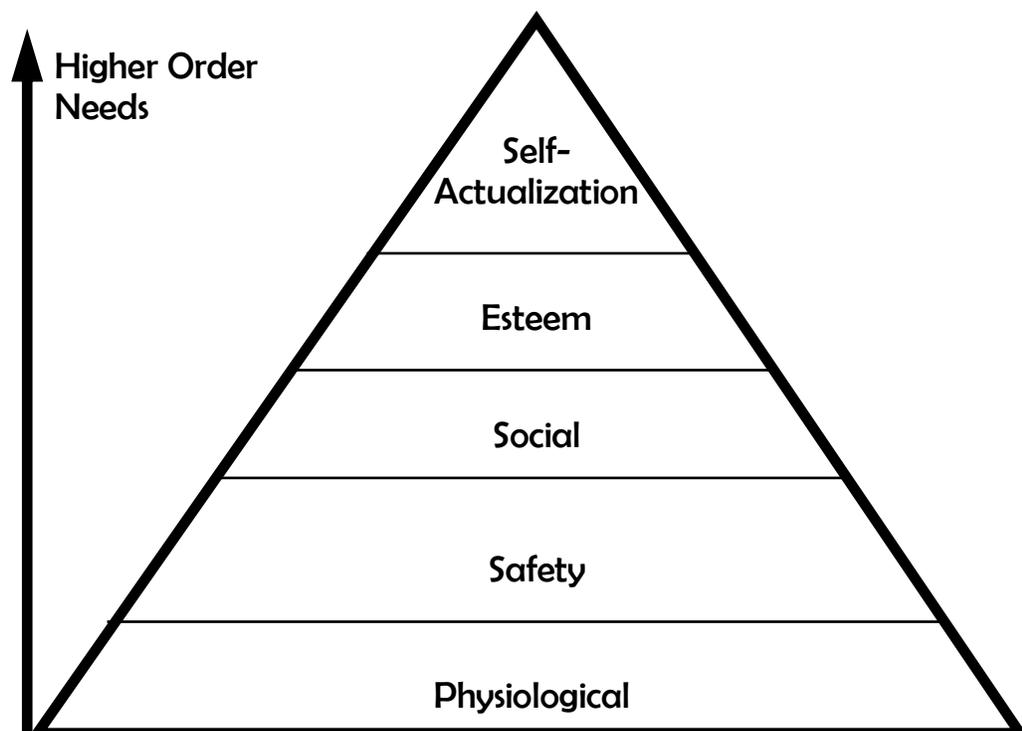
Social needs—need for and to provide love, affection and belonging. This need relates to one's desire to escape loneliness and alienation.

Esteem needs—need for stable, firm self-respect and respect from others to feel satisfied, self-confident and valuable. Left unmet, these needs can cause a person to feel weak, inferior, helpless and worthless.

Self-actualization needs—ongoing need defined as a commitment to something beyond one's self such as a career, organization, club, cause, etc. This need relates to one's need for personal growth, creativity, and achievement of one's dreams.

Maslow believed that society often hinders individuals from achieving self-actualization. Some recommendations he had for helping promote personal growth include:

- Encourage people to be aware of their needs and honest about their desires
- Encourage people to transcend cultural conditioning and become global citizens
- Help people identify their aptitudes, limitations and potential
- Help people recognize how to make good decisions (critical thinking)
- Help people identify their ideal career and soul mate
- Help ensure that basic needs (physiological, safety, social) are met
- Help people appreciate life, nature and the good that exists
- Help people identify higher order issues needing to be addressed in the world (e.g. injustice, pain, suffering, inequality, etc.)



Bloom's Taxonomy

In 1956, Bloom and a team of educational psychologists developed a rubric for understanding cognitive learning known as Bloom's Taxonomy. This model was updated in 2001 and is now known as the Revised Bloom's Taxonomy (RBT).

The taxonomy has six levels of cognitive complexity, starting with lower-level cognition and moving to higher levels of mental ability. The theory states that as students develop, they are more prepared for higher levels of learning and understanding. Also, good assignments and evaluations should incorporate multiple levels of understanding, not just basic remembering.

Bloom's work can also be applied to affective (attitudinal) and psychomotor (skills) learning. The chart below relates primarily the to cognitive aspects of this theory

	Level	Definition	Associated terminology
Low	Remember	<ul style="list-style-type: none"> • Observation and recall of information • Recall of dates, events, places and major ideas 	<ul style="list-style-type: none"> • List, define, tell, identify, describe, show, label, name, quote, memorize, repeat, etc.
	Understand	<ul style="list-style-type: none"> • Understanding of information and meaning • Interpretation, prediction and inference • Translation of information into new contexts 	<ul style="list-style-type: none"> • Summarize, describe, contrast, predict, estimate, discuss, translate, classify, etc.
	Apply	<ul style="list-style-type: none"> • Use information, methods, concepts and theories in new situations • Solve problems using knowledge 	<ul style="list-style-type: none"> • Apply, demonstrate, solve, modify, change, experiment, illustrate, schedule, choose, etc.
	Analyze	<ul style="list-style-type: none"> • Ability to see patterns and organize parts • Recognition of hidden meanings 	<ul style="list-style-type: none"> • Analyze, categorize, compare, contrast, criticize, explain, differentiate, etc.
	Evaluate	<ul style="list-style-type: none"> • Make choices based on evidence • Critiquing and judging 	<ul style="list-style-type: none"> • Assess, recommend, argue, critique, judge
High	Create	<ul style="list-style-type: none"> • Put ideas together in new patterns or ways • Bringing disparate elements together to understand a greater whole • Organize data in ways that illuminate new understandings 	<ul style="list-style-type: none"> • Generate, create, produce, reorganize, plan

Challenge and Support

Sanford (1967) was one of the first scholars to consider the influence that college had on students' development. He advanced the idea that human development was related to one's environment and the environment played a role in how individuals develop.

One of Sanford's major contributions in the field was the concept of challenge and support. Related to this theory, he discussed the idea of readiness. Students cannot exhibit certain behaviors—or develop—until they are ready to do so. Two factors can enhance readiness. The first is internal dispositions and maturation; the student might find it possible to be ready through his or her internal reflection.

The second factor, and the one related to challenge and support, was the environmental factors influencing the student. Environmental stimuli creates disequilibrium for the student, which necessitates a response. This process is termed *differentiation*, and it refers to the manner in which the student connects with the campus stimuli that cause him or her to develop new ways to live and be. Similar to the disorientating dilemma proposed by Mezirow, students have to find different ways to interact with their environment that they did not have before in order to thrive.

If students are not ready to face the challenge, or if *too much challenge* is present within the environment, then students will typically:

- Regress to an earlier state of development or being,
- Solidify their current state of development and stagnate,
- Retreat from the challenge, or
- Ignore the challenge.

If too little environmental challenge is posed, then students may also stagnate and not develop because they feel too safe and secure to do so.

To help balance challenge in the environment, student affairs professionals (and other educators) can provide support. The amount of challenge a student can face is considered to be a function of the amount of support provided. Similar to providing too little challenge, if too much support is provided, then students are enabled and may fail to grow and develop into self-sufficient, autonomous adults.

The goal then is to find the optimal amount of dissonance or disequilibrium a student can tolerate. Too much or too little of either challenge and support may cause students' development to regress or stagnate.

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