Teaching and Learning in Adulthood

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TRACY SMITH



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Dedication

I would like to take a moment to dedicate this Pressbook to Dr. Nicholas Marks, Dean and Dr. Carolyn Cormier, Associate Dean of the School of Education at Granite State College. Dr. Marks, without the confidence and support you have given me I would not be where I am today. You have given me opportunities that required your trust in my abilities that I have not received in the past and for that I am forever grateful. Dr. Cormier, your enthusiasm and passion is contagious. You have given me the courage come out of my comfort zone a few times and while I wasn't impressed I am, in fact, forever grateful.

I also would like to thank my family for all the love and support of my own lifelong learning. My husband, Jeff, and my two boys, believe I will never leave school. They may be right.

Lastly, I would like to give a big shout out to my daughter Annissa who has always bragged on my behalf which has fueled my continuous pursuit of learning and teaching, and furthermore, writing this book. Thank you Annissa for the encouragement, support, and love you have given me along the way.

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Thank you! 77

Hello learners,

As you navigate through this Pressbook you will encounter several different learning opportunities.

There will be:

- websites
- videos
- interactive content
- web applications

You will also find information boxes that include takeaways, examples, and/or exercises. Graded exercises that are required for your course will be noted in Moodle. You are expected to explore all resources in this Pressbook to promote comprehensive learning on the topic.

Learning Objectives

Key Takeaways

Examples

Exercises


Twitter handles – I am still a little bit new to Twitter but here's mine @TracylSmith72

Learning Objectives

- [1]Compare and contrast the principles of major theories of learning and cognition and how they relate to adult learners.
- [3]Provide a rationale for instructional strategies based on specific cognitive and/or learning principles.

Key Takeaways

- Biographies and background information on key contributors to adult learning
- Traditional adult learning theories and their key components and applications



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Malcolm Knowles & Adult Learning Theory

Malcolm Knowles (1913-1997)

- Born August 24, 1913 – Died November 27, 1997
- Credential – Ph.D.
- Alma mater – University of Chicago
- Last Occupation – Associate Professor of Adult Education at University of Arkansas

Andragogy is the close cousin of pedagogy. Pedagogy refers to teaching as a whole and andragogy, a term coined by Malcolm Knowles, is the practice of teaching adult learners. Below is the Wikipedia breakdown of the two words.

Greek Word	Meaning	Theory/Practice
agogos	"leader of"	
pedo-	"children"	pedagogy
andr-	"man"	andragogy

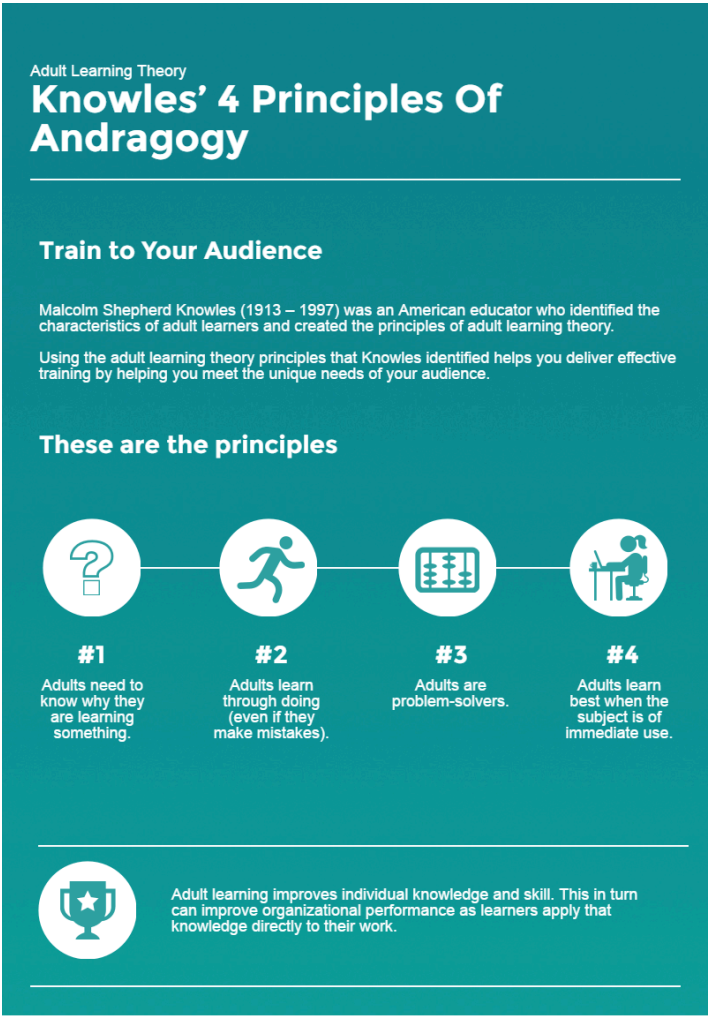
It makes sense to equate adult learning and teaching with the learning and teaching of children. Adults learn in a few different ways: problem-centered, relevance and impact on their own life, involvement, and using their own experience. The difference is evident. Children, who do not have much of their own experience rely on teacher's experience to enhance their learning.

Knowles made four assumptions (and added a fifth later) of the characteristics of adult learners which differ from assumptions that can be made about child learners.

1. **Self-concept –** as adults, learning takes place in a more personal way and, with maturity, can be done best in a self-directed way.

2. **Adult learner experience –** plays an enormous role in adult learning. Adults harbor an immense amount of experience that they can connect learning to- for themselves or for their classmates.
3. **Readiness to learn –** adult learners are ready to learn. Readiness to learn is typically associated with a *need* to learn in order to increase their role and contributions to society, family, work, etc (Pappas, 2017).
4. **Orientation to learning –** As adults, learning becomes less of subject learning and more of problem centered learning. Adults are often faced with difficult tasks or situations that call for an immediate need to learn/discover a solution. Therefore, adults are positioned differently than children who only require the acquisition of knowledge rather than solving problems.
5. **Motivation to learn (added in 1984) –** adult learners have a vested interest in their education. Adults are most likely learning because (s)he wants to learn. According to Knowles' assumption, adult motivation increases with age and is internal (Pappas, 2017)[1]

1. Pappas, C. (2017, December 21). The Adult Learning Theory - Andragogy - of Malcolm Knowles. Retrieved from https://elearningindustry.com/the-adult-learning-theory-andragogy-of-malcolm-knowles



Watch the following video regarding Andragogy (Creative Commons Attribution-Share Alike 3.0 Unported License.)

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Find more education infographics on e-Learning Infographics

Experiential Learning Theory or Cycle Learning Theory

David Kolb (1939-1997) Bio:

- Born 1939
- Credentials – Ph.D.
- Alta mater – Harvard University

Kolb's experiential learning theory or cycle learning theory was developed with a holistic approach to learning in adults. Experiential learning theory depends on experience for the learning process. The experience can be experiences of self or experiences of others.

Experiential learning theory defines learning as: [2]

2. Contributions to https://wildernessmedicine.wikispaces.com/ are licensed under a Creative Commons Attribution Share-Alike 3.0 License. Creative Commons Attribution Share-Alike 3.0 License

- "*the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience.*"[4)]

The theory is based on six propositions summarized by the following three statements:

1. Learning is best described as a holistic process of creating knowledge and adapting to the world.
2. Learning is actually relearning, since it is greatly dependent on already learned material.
3. Learning is driven by conflict, differences, and disagreement, and results in assimilation and accommodation.

More information on Kolb will be found in Chapter 4 – Experiential Learning

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Mezirow's Transformative Learning Theory

Jack Mezirow (1923-2014)

- Born March 7, 1923 – Died September 24, 2014
- Credential – Ed.D.
- Alma mater – University of California
- Last Occupation – Emeritus Professor of Adult and Continuing Education at Teachers College, Columbia University

Jack Mezirow introduced Transformative Learning Theory in the late 1900's and described the theory as, "learning that transforms problematic frames of reference to make them more inclusive, discriminating, reflective, open, and emotionally able to change".

Transformative learning takes place when a person is faced with a “disorienting dilemma” that requires the person to look at their beliefs in a new way. Through dialog with others and ‘critical reflection’, one considers their original beliefs.



Different authors suggest different roles for students and teachers during transformative learning. The role of the students is mostly to take responsibility for their learning and creating a pleasant environment. Suggestions for teachers generally refer to[7] :

- creating a safe environment
- facilitating relationships characterized by trust and care
- understanding *why* they want to encourage a change in students and (not only how and what to change)
- assisting in the development of the critical reflection in students
- taking into consideration and talking about students’ feelings
- enabling students to apply new insights outside the classroom
- helping others by sharing his experiences
- modelling a willingness to change and learn

McClusky's Theory of Margin

Howard McClusky (1900-1982)

- Born February 20, 1900 – Died August 15, 1982
- Credential – Ph.D.
- Alma mater – University of Chicago
- Last Occupation – Visiting Professor of Adult Education at University of Nebraska

McClusky's most important contribution to adult education was his Theory of Margin. He describes how adults need to possess a large margin in order to successfully engage and learn. Margin (M) comes from the Load (L) / Power (P). The load can be described as how much the adult has on their plate (figuratively speaking) and power is the resources one has in possession in order to satisfy the load. According to McClusky (1970, p. 27, as cited in Caruso, 2016), load is "the self and social demands required by a person to maintain a minimal level of autonomy.... [Power is] the resources, i.e. [sic] abilities, possessions, position, allies, etc. [sic], which a person can command in coping with load [sic]."Margin = Load/Power (M=L/P) can be visualized in the following diagram (click link below).

McClusky Theory of Margin.docx

What happens when you have a great supportive family, tons of knowledge and experience but then face an unforeseen situation such as a death of a family member or a job loss thrown onto the load? You experience a severely decreased margin which makes learning difficult. The ability to focus and succeed is hindered by the load because there is not enough power to compensate. When there is a balance of power and load, or an abundance of power or limited load, there is opportunity for exponential learning and growth.

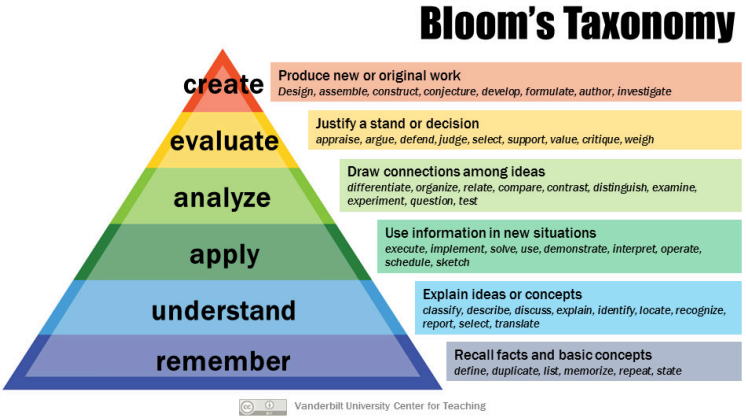
Bloom's Taxonomy

Benjamin Bloom (1913-1999) [3]

- Born February 21, 1913 in PA – Died September 13, 1999
- Credential – Ph.D. in Education
- Alma mater – Pennsylvania State University and University of Chicago
- Last Occupation – Educational Psychologist at American Educational Research Association

Bloom's Taxonomy begins at the bottom where rudimentary learning begins. As you move up the chart you are building upon the last. Young children start at the bottom with learning through memorization, defining, and repeating information. As a person grows (s)he acquires the ability to move up the chart to be able to use critical thinking and other skills to reach the top. When building courses and objectives it is important to use the verbs that apply to the level of thinking at the right level of education.

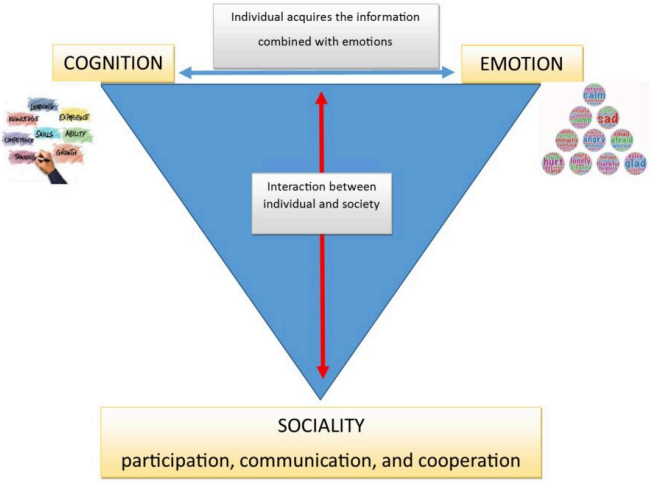
3. https://en.wikipedia.org/wiki/Benjamin_Bloom[



Illeris's Three Dimensions of Learning Model

Knud Illeris (1939-)

- Born March 7, 1939
- Occupation – Author, Scientist and Professor of Lifelong Learning at Teachers College, Columbia University



3 Dimensions of Learning

Illeris's 3 Dimensions of Learning describes how an individual acquires information, knowledge, content, and combines it with emotions and feelings to interact, grow, collaborate, and share in society. Illeris's model was introduced in 1999 by Knud Illeris who was a professor at the Danish University of Education in Copenhagen (Caruso, n.d.). Learning begins with, what Illeris refers to as 'raw materials':[4]

4. Caruso, S. J. (n.d.). Illeris's Three Dimensions of Learning Model. Retrieved from HRDI HR Development Info: https://hrdevelopmentinfo.com/illeris%E2%80%99s-three-dimensions-of-learning-model/

The original version of this chapter contained H5P content. You may want to remove or replace this element.

Learning Objectives

- [1]Compare and contrast the principles of major theories of learning and cognition and how they relate to adult learners.
- [7]Compare and contrast the characteristics of instructor-centered versus learner-centered and subject centered teaching and their effectiveness in promoting active learning, collaborative learning, self-direction and reflection by students.

Key Takeaways

- The differences between philosophies, theories, and models in education
- The overarching philosophies of education
- Types of education
- Student centered versus teacher centered learning

What's the Difference Between Philosophies, Theories, and Models?

One might think philosophies, theories, and models may be all the same but, in actuality, they are distinctly different. Here, we will learn the differences in the three in an effort to build a base understanding of each. Although this is not a detailed account (we will save that for another course at another time) it will allow you to understand the chapters to come.

Visit Philosophies of Education for a chart that shows how it all comes together.

Philosophy: Dictionary.com describes philosophy as "the study of the basic or fundamental nature of knowledge, reality, and existence, especially when considered as an academic discipline; a particular system of philosophical thought; and the study of the theoretical basis of a particular branch of knowledge or experience (dictionary.com, n.d.) – think of ethics, logic, and aesthetics. In education, philosophies are defined by how and what information are students are taught. Philosophies also include the roles of the teacher and the student, what methods of teaching will be used, and the purpose of learning.



An interactive H5P element has been excluded from this version of the text. You can view it online here:

https://pressbooks.usnh.edu/teachingandlearninginadulthood/?p=22#h5p-4

Examples

- Liberal/Classical
- Behaviorist
- Progressive
- Humanistic
- Radical

Theory: Dictionary.com describes a theory of a system of ideas that is intended to explain something – think of Einstein's Theory of Relativity or Darwin's Theory of Evolution. A theory can also be an idea that is used to justify a situation or the practice of an activity.

Examples

- Andragogy and the 6 adult learning principles
- Experiential Learning
- Theory of Margin
- Transformational Learning

Model: a simplified representation of a system or phenomenon – think of charts, diagrams, and the like, which all represent theories.

Examples

- Illeris's 3D of Learning
- Bloom's Taxonomy

Types of Education

How and when do we learn? Who do we learn from? We go to college/university to learn from professors who are experts in their fields and children learn from teachers. But, it should be mentioned, that we also learn from our everyday interactions with family, friends, peers, and even strangers. We also learn in different types of environments. Learning can happen in a formal classroom, taking a MOOC through Coursera, or a course through EdX. We can be listening in an informal environment to a speaker, or enjoying a discussion with an elder, or even talking with our friends. Learning can pretty much take place anywhere.

Review the following slides to gain an understanding of the different types of education.



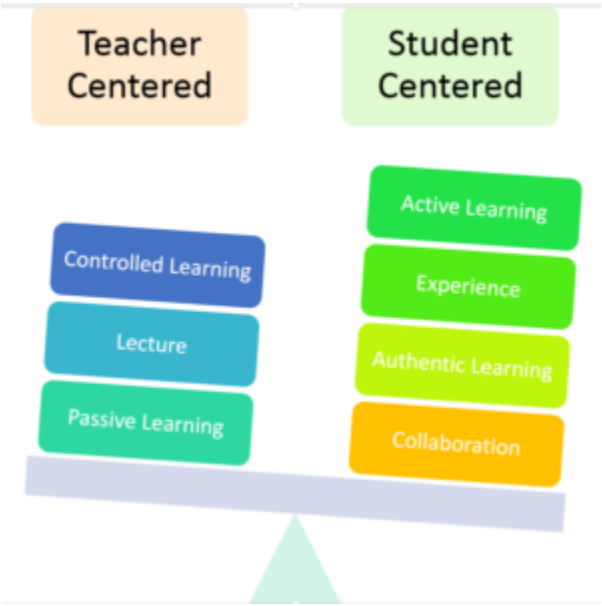
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https://pressbooks.usnh.edu/teachingandlearninginadulthood/?p=22#h5p-24

Student Centered Versus Teacher Centered

Traditionally, teachers have been considered the experts in the classroom providing information through lectures, handouts, and/or texts. Students were typically stationary, absorbing the information (or so we thought they were). The expectation was that students consume information and then regurgitate the information back. Assessment practices included quizzes and tests designed to show that the students received the information.

A new way of teaching is beginning to catch on in both higher education and primary and secondary schools. Studies are beginning to show that students learn best through engagement, cooperation, autonomy, group discussion, and other non-traditional ways of learning. Technology is playing a big role in this change in the way we teach and learn. Rather than the teacher be the only expert in the class and disseminating information to the students, the teacher is supporting students who are driving the learning experience.

The graph below shows the differences between student centered and teacher centered learning.



Unbalanced Scale of Learner vs Student by Tracy Smith, 2018

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Sean Bengry's Twitter

What is needed to be a learner in the 21st century?

21st Century skills are:

1. Critical thinking
2. Creativity
3. Collaboration
4. Communication
5. Information literacy
6. Media literacy
7. Technology literacy
8. Flexibility
9. Leadership
10. Initiative
11. Productivity
12. Social skills

Have the skills changed much between centuries? The required skills did not change much but the classroom comparison has quite a bit. Technology has been a major factor in the changes in schools but there are some time-honored traditional learning strategies that still remain relevant. There are also some eliminations of

classroom teachings that have gone by the wayside but perhaps should have remained.

A comparison of classrooms from the 20th century and the 21st century can be found here http://www.cais.ca/uploaded/Professional_Development/21st_Century_Schools.pdf

https://www.aeseducation.com/career-readiness/what-are-21st-century-skills

Learning Objectives

- [1]Compare and contrast the principles of major theories of learning and cognition and explain how they relate to adult learners
- [3]Provide a rationale for instructional strategies based on specific cognitive and/or learning principles
- [6]Explore, experience and analyze various instructional strategies and their relationship to individual differences and experiential learning

Key Takeaways

- How experience plays a role in learning
- Experiential learning theories and their applications

Whether it is through our own experiences or through learning from others', experience plays a major role in teaching and learning in adulthood. Julius Caesar once said, "Experience is the teacher of all things". He was onto something so long ago.

What do our experiences provide us? Our experiences can provide us with knowledge, empathy, compassion, faith, discovery, motivation, and so on. Our experiences can also cause pain, anger,

disruption, and other negative emotions. The good and the bad give us the opportunity to become inquisitive and embrace the lessons we learn. Furthermore, this extraordinary happening within us can even occur through reflection on another person's experience.

In the TED Talk by Mary Helen Immordino-Yang (below), you will learn about a young woman from Sudan who had an experience which no person should have to experience. This painful experience fueled her desire to learn and give back so that no other person would have to experience what she experienced. Watch the video and think about the feelings that come to mind when hearing the story. Were you inspired? Did it make you want to fulfill some untouched dream of your own? Did you start believing you could accomplish anything because this young woman was able to accomplish what she did?



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Sociocultural environment is powerful. We are moved by stories because our social and biological systems are interconnected through the neurosystems in our brains.

Do our emotions drive us to learn? The young girl from Sudan was driven to learn because of her traumatic experience of seeing her mother and baby sister die. Her emotions fueled her desire to learn so much so that she had to find a creative way to gain her education in an environment in which it was not easily accessible.

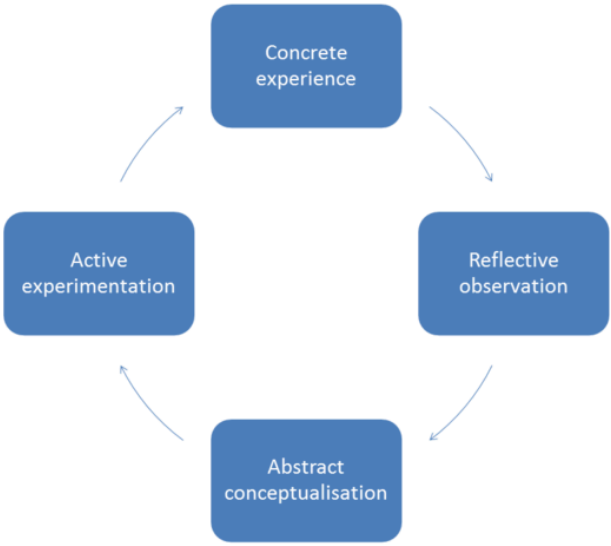
What happens to your brain when you think about stories such as Mary Helen's? One finding, according to Ms. Immordino-Yang, is found in the brain activity of an inspired person. Portions of a person's brain light up where a person experiences most feeling/

emotion. The brain stem, the "very essence of your survival" (Immordino-Yang, 2011) also lights up during inspiration, showing that "your biology and sociology are completely intertwined" (Immordino-Yang, 2011).

John Dewey and Experiential Learning

John Dewey (1859-1952) Bio:

- Born October 20, 1859 – Died 1952
- Credentials – Ph.D.
- Alma Mater – John Hopkins University
- Last Occupation – Head of Philosophy and faculty at University of Michigan



Experiential Learning Theory (ELT) by John Dewey

1

The Experiential Learning Theory provides "a holistic model of the learning process and a multi-linear model of adult development" (Baker, Jensen, & Kolb, 2002 as cited in Zhou and Brown 2015, p. 49). The theory is not linear as in traditional primary education, and has many levels of learning that fits better for adult learners. Experience plays a significant role in the learning process of adults.

In Dewey's model, adults apply their experience (apprehension) and abstract conceptualization (comprehension) to learning. In order for the learning to be achieved, reflective observation (intention) and active experimentation (extension) must occur to

1. Contributions to https://wildernessmedicine.wikispaces.com/ are licensed under a Creative Commons Attribution Share-Alike 3.0 License. Creative Commons Attribution Share-Alike 3.0 License

gain desired knowledge (Zhou and Brown, 2015). With the four aspects combined, a cycle of learning can be acquired.

Example



David Kolb (1939-1997) Bio:

- Born 1939
- Credentials – Ph.D.

- Alta mater – Harvard University

Experiential learning theory[2] is a **cycle learning theory** introduced by American educational theorist David Kolb[1] in 1971[2] and was inspired by earlier works of Kurt Lewin, Jean Piaget[3] and John Dewey. Developed within humanist paradigm, experiential learning offers a **holistic perspective on learning** and is centered mostly on adult learning. The name of this theory was intended to emphasize the importance of experience in the learning process.

Experiential learning theory defines learning as

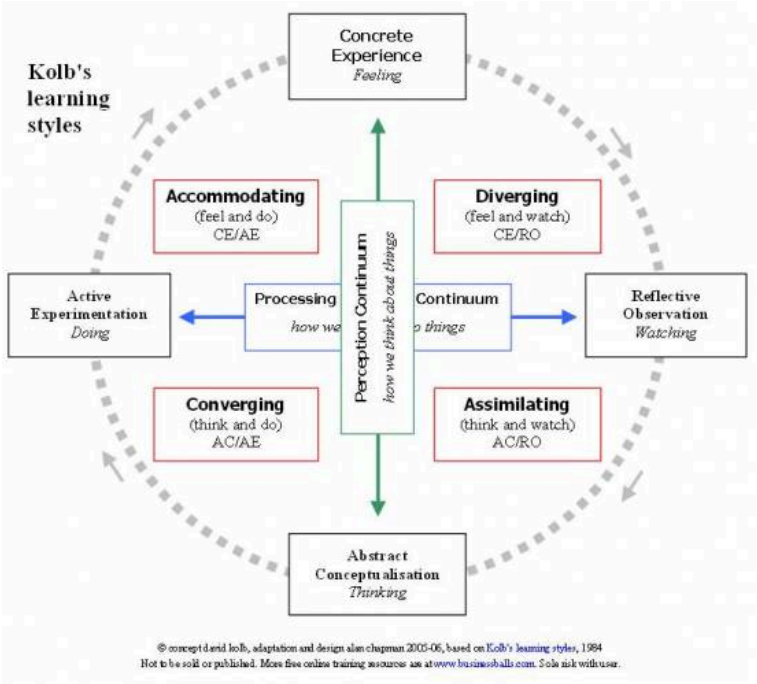
- "*the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience.*"[4]

What is experiential learning?

The experiential learning theory is based on six propositions[5] described with the following three statements:

1. Learning is best described as a holistic process of creating knowledge and adapting to the world.
2. Learning is actually relearning, since it is greatly dependent on already learned material.
3. Learning is driven by conflict, differences, and disagreement and results in assimilation and accommodation.

2. https://www.learning-theories.org/doku.php?id=learning_theories:experiential_learning used under CC BY SA 4.0



Kolb[6] suggests two opposite modes of acquiring experience:

- **concrete experience** or CE (feeling through practical experiencing),
- **abstract conceptualization** or AC (concluding and thinking about the experience),

and two opposite modes of transforming that experience into knowledge:

- **reflective observation** or RO (actively observing experience and its outcomes),
- **active experimentation** or AE (planing on how to test something and finally doing).

All of these components follow one another in a circle of learning: CE◈RO◈AC◈AE◈CE◈... The very process of **learning can begin in**

any of them. Still, every learner develops strengths in some modes more than others, or learn better under those conditions, which results in four different **learning styles** identified also by Kolb[7)8)]:

- **Assimilator** – Strong in AC and RO components. Prefers **abstract conceptualizations** and theoretical models. Requires time to think. Values **logical validity** more than practical applications.
- **Converger** – Strong in AC and AE components. Prefers **practical applications** of concepts and theories and enjoys experimenting. Good problem solvers and likes dealing with technical issues.
- **Accommodator** – Strong in CE and AE components. Prefers **practical experiences** and acting more according to feelings versus logical analysis or theoretical aspects.
- **Diverger** – Strong in CE and RO modes. Prefers **learning through observing** and **collecting information.** Good at viewing concrete situations from different points of view. Imaginative and emotional and often specialize in arts.[9)]

In order to identify a preferred learning style in Kolb's model, "**learning style inventory**" method has been developed. This **method for determining an individual's optimal learning style** and learning strengths and weaknesses, includes a survey which explores one's perceiving (how one prefers to acquire information) and processing (how one makes sense of new things). Variants of this method can be found in simplified, free, online tests. Newer methods like *the adaptive style inventory* or *the learning skills profile* have also been introduced 14[14)].

What is the practical meaning of experiential learning?

Experiential learning is a model **suggested for adult learners**. General implications of this model are that the teaching/learning process should consist of all four stages of Kolb's model, but it also suggests that **individual changes** should be applied, depending on learners' learning styles.

- Assimilators – prefer **watching** and **thinking**. An assimilator appreciates **good explanations of theories and ideas** as they relate to practical experiences. These learners usually enjoy lectures and readings as well as having enough time to think about new ideas.
- Convergers – prefer **doing** and **thinking and enjoy finding practical solutions** to problems. These learners usually like new ideas and their practical applications.
- Accomodators – prefer **practical experiences** and **intuitive approaches** versus reading instructions. These learners usually prefer **teamwork**.
- Divergers – prefer **watching**, **collecting information**, and **working in groups.** These learners would prefer to brainstorm versus practical experience.

Kolb's theory was applied in a number of studies on topics that include (online) education, computer and information science, psychology, management, medicine, nursing, accounting and law.[18)19)20)]

Criticisms

Some of the criticisms referring to Kolb's theory suggest:

- his learning cycle is **oversimplified** and ignores non-experiential ways of learning[21],
- his learning cycle pays insufficient attention to **goals**, **purpose**, **intentions**, and choice & decision-making, which are also a part of learning[22]
- the results of the *learning style inventory* are based solely on the way learners rate themselves causing **questionable results**[23]

Learning Objectives

- [1]Compare and contrast the principles of major theories of learning and cognition and how they relate to adult learners.
- [2]Explain the development of cognitive processes throughout adulthood.

Key Takeaways

- Students will gain a general understanding of the various developmental theories
- Students will use this understanding to define their own thoughts on development

The 4 Adult Development Theories

- The Behavioral / Mechanistic Approach
  - Instruction created to prompt a certain behavior
  - Behavior in response to stimuli (positive reinforcement)
  - Teachers provide opportunity for practice and give grades, prizes, or praise for reinforcement

- The Psychological / Cognitive Approach
  - Focuses on an individual's "internal developmental processes" [1]
  - Learning is based on life experiences, so development is different for each individual
  - Gould's Stage/Phase model – Gould identifies four false assumptions that must be overcome in order to move through life:
    - Age 16 – 22: "I will always live and believe in my parents world"
    - Age 22 – 28: "Doing things my parents' way will bring results and if it becomes to difficult my parents will step in and show me the way"
    - Age 28 – 34: "Life is simple and controllable"
    - Age 34 – 45: "There is no evil or death in the world. The sinister has been destroyed" [2]
  - Instruction should encourage thoughtful reflection & discussion, and students should be receptive to new ideas and be open to learning through others' perspectives

Click here to review Perry's Developmental Scheme



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https://pressbooks.usnh.edu/teachingandlearninginadulthood/?p=30#h5p-16

1. Baumgartner, Lisa M. (2007). Four Adult Development Theories and Their Implications for Practice
2. Baumgartner, Lisa M. (2007). Four Adult Development Theories and Their Implications for Practice

Erikson's Psycho-Social Development model

For more information on Erikson's theory read chapter 8 in Educational Learning Theories

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https://pressbooks.usnh.edu/teachingandlearninginadulthood/?p=30#h5p-6

An interactive H5P element has been excluded from this version of the text. You can view it online here:
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Levinson's Age-Graded Model

For more information on Levinson's model click here.

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Piaget's Stages of Development Model

For more information on Piaget's model read chapter 2 in Educational Learning Theories



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- The Contextual / Sociocultural Approach
  - Learning is influenced by society and culture
  - Sociocultural development can be affected by race,

gender, ethnicity, age, sexual orientation, and norms within society
- Educators need to encourage cultural awareness and respect in the classroom

Vygotsky's Social Cultural Learning

For more information on Vygotsky's theory read chapter 4 in Educational Learning Theories



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- Integrated Approach
  - Holistic approach to teaching and learning
  - Encompasses social, cultural, life experience

Learning Objectives

- [1]Compare and contrast the principles of major theories of learning and cognition and how they relate to adult learners.
- [2]Explain the development of cognitive processes throughout adulthood.
- [3]Provide a rationale for instructional strategies based on specific cognitive and/or learning principles.

Key Takeaways

- Some of the previous understandings of learning has been debunked.
- Additional theories have been added throughout the years due to technology.
- Neuroscience and learning theory have evolved exponentially since the invention of the MRI.

Popular Myths about Learning

According to Ulrich Boser, there are some misconceptions about

learning (that we may believe) that research and studies have been proven not only inaccurate, but harmful to learning (Vozza, 2017).

Myth 1 – We have a set of learning styles commonly known as visual, auditory, and kinesthetic learning. Better put – we have a preferred way of learning but we can learn in any of the ways depending on subject matter. Example: a kinesthetic learner cannot learn to sing a song by doing; learning would be auditory. {more reading can be found here}

Myth 2 – Rereading material is a good way to learn. While 80% of those surveyed in Boser's study believed it was a highly effective tool in learning, research shows that quizzing yourself is a much better way to retain material. The repetitive nature of quizzing yourself fosters retention of content. Check out Quizlet for creating a free way to quiz yourself.

Myth 3 – Focus on one subject at a time to learn best. Studies show, however, that interdisciplinary studies produce better understanding. Hyper-focusing on one subject can become overwhelming and tedious. Switching between subjects gives the brain time to absorb the information and reflect. This is not to be confused with multitasking. Sometimes taking a break and returning refreshed is the best way to learn.

Myth 4 – Your first answer is often the right answer. Although we tend to believe this, taking a moment to consider the answer is a better approach. As noted in myth three, the brain needs time to absorb information, reflect, and associate.

Myth 5 – The more hours you devote to learning something, the better your understanding will be. Actually, just because someone puts several hours into writing a research paper, this does not make them an expert on writing any more than a person who put very little time into writing. In fact, it can often be more beneficial to spend less time with more focused feedback and input. [1]

1. Vozzo, S. (2017, May 17). Five Popular Myths About Learning That Are Completely Wrong. Retrieved from Fast Company:

New Approaches to Adult Learning

There are several expansions in adult learning theory that go beyond Andragogy and look to the future of adult education. Understanding the simple fact that adults learn through experiences, exposure, connectivity, and engagement with peers provide an overview of adult learning.

Connectivism [2]



Photo by rawpixel on Unsplash

- Learning through connections in networks of people (constituents, peers, social groups) and/or things (internet,

https://www.fastcompany.com/40420472/five-popular-myths-about-learning-that-are-completely-wrong

2. Contributions to http://education-2020.wikispaces.com/ are licensed under a Creative Commons Attribution Share-Alike 3.0 License. Creative Commons Attribution Share-Alike 3.0 License

social media)

- Theory promoted by Stephen Downes and George Siemens that explains the rapidly changing digital world and the complex learning experiences associated with it.
- "Connectivism is the integration of principles explored by chaos, network, and complexity and self-elements – not entirely under the control of the individual. Learning (defined as actionable knowledge) can reside outside of ourselves (within an organization or a database), is focused on connecting specialized information sets, and the connections that enable us to learn more are more important than our current state of knowing. Connectivism is driven by the understanding that decisions are based on rapidly altering foundations. New information is continually being acquired. The ability to draw distinctions between important and unimportant information is vital. The ability to recognize when new information alters the landscape based on decisions made yesterday is also critical." – Siemens
- Siemen's Principles of connectivism:
    - Learning and knowledge rests in diversity of opinions.
    - Learning is a process of connecting specialized nodes or information sources.
    - Learning may reside in non-human appliances.
    - Capacity to know more is more critical than what is currently known
    - Nurturing and maintaining connections facilitates continual learning.
    - Ability to see connections between fields, ideas, and concepts is a core skill.
    - Currency (accurate, up-to-date knowledge) is the intent of all connectivist learning activities.
    - Decision-making is, in itself, a learning process. Choosing what to learn (and the meaning of incoming information) is decided through the lens of a shifting reality. While there is a right answer now, it may be wrong one tomorrow due

to alterations in the information climate affecting the decision.

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://pressbooks.usnh.edu/teachingandlearninginadulthood/?p=48#h5p-3



George Siemens Twitter

Neuroscience



Photo by jesse orrico on Unsplash

- Neuroscience is how the brain learns: By connecting what it already knows, looking for patterns, emotions, and experiences. This explains why repetition is crucial to learning. There has been an abundance of research to demonstrate how brains learn and how neuroplasticity plays a role in adult learning. (More information will be discussed in Chapter 5)

One or more interactive elements has been excluded from this version of the text. You can view them online here: https://pressbooks.usnh.edu/teachingandlearninginadulthood/?p=48#oembed-1

Lara Boyd, PT, PhD website

Transformative (Ah-ha moments)



Photo by Max Felner on Unsplash

- Learning through a change of perspective through critical reflection of beliefs and assumptions.
- Transformative learning supplements regular learning (such as acquiring facts or learning a new skill) (Brock, Florescu, & Teran, 2012).

Examples

- A mother originally thinks that Facebook is appropriate for her eleven year old son. The mother then spends a good amount of time on Facebook where she posts her political positions and gets intense reactions from her friends and family. These reactions become increasingly hostile, often resulting in her being blocked by others or by her blocking her friends/family. The mother has increased stress due to the overall situation. How might the mother's beliefs transformed? She once thought her eleven year old could handle Facebook, but now finds Facebook troubling. She has transformed her opinion of her son having his own Facebook page.

Spiritual



Photo by William Farlow on Unsplash

- Spiritual learning (not necessarily religion) involves learning from a spiritual experience (a birth, death, music, nature, meditation) that can be used to construct knowledge.
- People construct knowledge through past experiences. Experiences can be from images, songs, stories, rituals, or other experiences that help integrate knowledge in new ways. (Tisdell, 2009, p. 457).
- Tisdell (2009) states, “Thus, attending to spirituality in adult learning involves making space for its expression, attending to paradox, sacredness, and the graced moments in teaching and learning that lead to unexpected insights” p. 457.

Embodied



Photo by Lacie Slezak on Unsplash

- Embodied learning is an awareness of bodily experiences as sources of knowledge.
- We learn in many ways. Our brain makes sense of experiences. Because our brain is part of our body, we cannot rule out the fact that our bodies play a large role in our learning.
- Traditional learning in the classroom is restrictive to learning with the whole body. The need to learn through all senses is a large part of how we learn in a holistic manner.
- Experiencing events out of our comfort zone (like taking risks, and facing challenges) is important to growth. It is also important to understand our bodies' reaction to these types of experiences.

An interactive H5P element has been excluded from this

version of the text. You can view it online here:
https://pressbooks.usnh.edu/teachingandlearninginadulthood/?p=48#h5p-21



Kelly McGonigal Twitter

Narrative Learning



Photo by Lonely Planet on Unsplash

- Narrative learning gives meaning to learning through experience.
- Sharing stories has been a custom of an infinite amount of generations. People learn from the sharing of stories.
- According to Clark and Rossiter (2009), narrative learning is a two-fold concept:
    - Learning comes through from story telling &
    - is the learning process is conceptualized.
        - Learners engage on a human level:
            - by hearing stories that appeal to our imagination and emotions,
            - telling stories and understanding one's own learning and experience, and
            - recognizing stories and beginning to understand their position to create room for critique.
- Clark and Rossiter (2009) state, "Learning something means working to create a coherent narrative of new ideas and concepts – we story our understanding (p. 460).
- Narrative learning is an ongoing process where we identify what we don't yet understand and we recognize gaps or things we still do not understand.

3

3. Merriam, Sharan B. (2009). "Beyond Andragogy: New Directions in Adult Learning Theory," Adult Education Research Conference. http://newprairiepress.org/aerc/2009/symposia/2

21st Century Learning



Photo by Jonathan Francisca on Unsplash

- In a post-industrialized world, we find a need for a new way of teaching and learning. The 21st century has shown that the United States is falling behind in innovation and STEM disciplines.
- Grant Lichtman discusses, in his TEDx Talk, about how to create great educational opportunities and how to break down the barriers that are preventing teachers from being empowered to teach students to be "self-evolving learners"?

What 60 Schools Can Tell Us About Teaching 21st Century Skills | Grant Lichtman

Blooms Taxonomy, Constructivism, and Skills for the 21st Century

[4][/footnote]

Blooms Taxonomy has long been used to describe and organize thinking behaviors that are considered important to learning outcomes. Describing differing levels of complexity, Benjamin Bloom organized learning into six major categories, from the simplest behavior to the most complex. At the more basic end of the spectrum is knowledge, with the most complex demonstration of learning being described as evaluation.

The 6 levels including sample outcome verbs are listed below:

- **Knowledge** (Recall data or information) e.g.: defines, describes, identifies, knows, labels, lists, matches, names, outlines, recalls, recognizes, reproduces, selects, states.
- **Comprehension** (Understand the meaning) e.g.: comprehends, converts, defends, distinguishes, estimates, explains, extends, generalizes, gives an example, infers, interprets, paraphrases, predicts, rewrites, summarizes, translates.
- **Application** (Use a concept in a new situation) e.g.: applies, changes, computes, constructs, demonstrates, discovers, manipulates, modifies, operates, predicts, prepares, produces, relates, shows, solves, uses.
- **Analysis** (Separate material or concepts into component parts so that its organizational structure may be understood. Distinguishes between facts and inferences) e.g.:
- **Synthesis** (Put parts together to form a whole, with emphasis

4. [footnote]21st Century Learning by http://education-2020.wikispaces.com/ used under Creative Commons Attribution Share-Alike 3.0 License, some videos and photos removed.

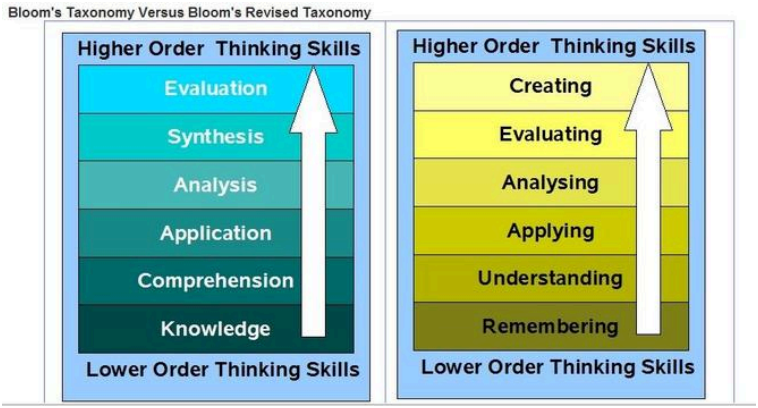
on creating a new meaning or structure) e.g.: categorizes, combines, compiles, composes, creates, devises, designs, explains, generates, modifies, organizes, plans, rearranges, reconstructs, relates, reorganizes, revises, rewrites, summarizes, tells, writes

- **Evaluation** (Make judgments about the value of ideas or materials.) e.g.: appraises, compares, concludes, contrasts, criticizes, critiques, defends, describes, discriminates, evaluates, explains, interprets, justifies, relates, summarizes, supports

Technology and the New Bloom's Taxonomy for the 21st Century Learner

The wide spread adoption of technology has led a group of cognitive psychologists, including Lorin Anderson (a former student of Bloom), to modernize Bloom's original taxonomy/hierarchy. Reflective of the new core competencies associated with the integration of technology into the classroom and workplace, the updated taxonomy places creating at the highest level of cognitive skill.

The following diagrams compare Bloom's original taxonomy with Anderson's revised taxonomy (Blue/Original – Yellow/Revised):



Digital Blooms: Verbs (Learning Outcomes) & Their Nouns (Tools)

The Digital Blooms Pyramid represents the new learning outcomes as defined by the hierarchical verbs and some of the sample tools (nouns) that can be used to facilitate learning.



Blooms_Taxonomy_Digital

Click the link below to view an explanation of Bloom's Taxonomy for the Digital world.

http://www.slideshare.net/mjcawley/blooms-digital

Connectivism, Technology, and Validity

Think about how knowledge was held and transmitted centuries ago. Back in the early days of higher education, the exchange of knowledge was done by an "expert" to a "pupil" and disseminated through lectures, texts, and ancient scrolls. Now travel through time to today, where you will find adult learning being done digitally through shared thoughts and experiences. Everyone now has a platform to contribute to: the World Wide Web, Social Media, Wikipedia, Blogs, and on and on. There are conflicting viewpoints and perspectives on every topic. Does that make one perspective more valid than another? Fake news? OR Do all perspectives have some validity that you may not have otherwise explored? The following video puts connectivism and learning and validity into perspective.

The original version of this chapter contained H5P content. You may want to remove or replace this element.

Learning Objectives

Type your learning objectives here.

- [2]Explain the development of cognitive processes throughout adulthood.
- [3]Provide a rationale for instructional strategies based on specific cognitive and/or learning principles.

Key Takeaways

- General understanding of how neuroscience plays a role in teaching and learning.
- The invention of the MRI and how brain scans have changed the way we understand the brain's function in development.
- Neuroplasticity explains that the brain is not hardwired and can change throughout a person's lifetime.

The Evolution of Neuroscience

Neuroscience has come a long way since the 1970s. The creation of the Magnetic Resonance Imaging (MRI) and Computerized Tomography (CT) scans has allowed researchers to view the electrical synapses within the brain while it is being cognitively tested – WHILE THE PERSON IS AWAKE AND ALIVE!! Exciting stuff!! Previously, brain research was conducted postmortem which does not give adequate information on how the brain functions while it is in action.

The evolution of neuroscience and the inventions that came along since the 1970's have really changed the way scientists study brain function, including how it applies to education.

Exercises (optional but encouraged)

Read the following article, annotate the key findings in the article, and fill out the years on the timeline

- A Brief History of Human Brain Mapping
- Fill out the years on the timeline.



An interactive H5P element has been excluded from this version of the text. You can view it online here:

https://pressbooks.usnh.edu/teachingandlearninginadulthood/?p=50#h5p-9

Exercises (optional but let's be curators of information regarding neuroscience and learning)

- Find one peer-reviewed research study on neuroscience and learning
- Summarize the findings of the study
- Determine whether a study is relevant, reliable, and can be replicated
- Post your responses here

Neuroplasticity

"I am set in my ways" is a phrase that describes someone who believes they cannot learn or is unwilling to learn something new. That person is resistant to change or new learning. Fortunately, regardless of outlook, people have the ability to learn something new at any age. It has been shown, through neuroscience, that adult learners can rewire their brain due to neuroplasticity. The brain is not hard-wired as some may think.

Read: What is Neuroplasticity?

Watch: The Woman who Changed her Brain


Arrowsmith Program Twitter
https://twitter.com/ArrowsmithProg

The Impact of Neuroscience on Teaching and Learning

Watch the video below for some understanding of how the study of neuroscience can be useful in education.

Big Thinkers: Judy Willis on the Science of Learning

While a lot of Ms. Willis' talk relates to children, the science behind the brain and learning is the same. Adult brains need stimuli to continue building interest in a subject. The science behind boredom shows that without stimuli and a dopamine response, people discontinue learning. This is because the amygdala is continually sorting information into the appropriate parts of the brain. Boredom causes the amygdala to become stressed; similar to a 'fight or flight' response to a high stress situation, the amygdala throws up a big STOP sign.


Judy Willis Twitter
https://twitter.com/RADTeachWillis

Learning With an Emotional Brain

Some believe that emotions get in the way of learning. The contrary is true, however: We learn with passion.

The following are 10 key takeaways from the next video:

1. "Social-emotional learning changes the brain"

2. "Brain is an organ that is built to change and respond to experience" ~ Neuroplasticity

3. Social and emotional learning can change brain function and structure which allows for adaptive emotional and cognitive functioning.

4. The bottom front of the brain (the orbitofrontal cortex) is for decision making or emotional judgments (ie: whether something is good or bad). The top front of the brain is called the dorsolateral prefrontal cortex (PFC), responsible for guiding decision making through positive emotions. The amygdala is important for negative emotions and for detecting threats and the anterior cingulate is important for both cognitive and emotional conflict resolution.

5. People who are able to downgrade their emotional response and regulate their amygdala, show an increase in activation in the prefrontal cortex. There is a responsive relationship between the two.

6. The stress hormone, cortisol, can be harmful to your body, memory, and brain function if too active. Higher PFC activation during emotional regulation can make it possible for lower levels of cortisol to be activated. The lower the cortisol level, the less stress on the mind and body.

7. Over time, high-stress levels and consistent cortisol levels are damaging to your brain (amygdala and hippocampus) and can be harmful to learning and memory.

8. Anxiety can be a major interference in learning and memory. Learning how to calm yourself can increase academic performance.

9. New noninvasive technology shows how social-emotional learning can be seen and verified.

10. Neuroplasticity occurs throughout life.



One or more interactive elements has been excluded from this version of the text. You can view them online here: https://pressbooks.usnh.edu/teachingandlearninginadulthood/?p=50#oembed-1



Mindful Projects Twitter

Key Takeaways from the next video:

1. It may feel like your emotions are hardwired but you are not born with emotion circuits.
2. Emotions are guesses that your brain constructs at the

moment.

3. Experiential blindness occurs when one is unable to identify with something based on what you already know. The brain makes predictions about things it cannot make sense of.
4. Emotions you believe are happening to you are actually being created *by* you. You have more control over your emotions than you think you do.
5. Be the architect of your experience.
6. Your body's response is not necessarily a bad thing. For example, a fast heartbeat during test taking may not be anxiety, but simply your body getting ready for a fight.



One or more interactive elements has been excluded from this version of the text. You can view them online here: https://pressbooks.usnh.edu/teachingandlearninginadulthood/?p=50#oembed-2



Lisa Feldman Barrett Twitter

Learning Objectives

- Understand adult learning in the digital world and reflect on how digital literacy is crucial in teaching and learning.
- [5]Incorporate a personal philosophy of learning into the design of instructional strategies for teaching in a variety of learning environments.
- [6]Explore, experience and analyze various instructional strategies and their relationship to individual differences, and experiential learning.

Key Takeaways

- Develop an understanding of digital citizenship and how it applies to adult learners.
- Recognize the importance of maintaining an online presence with what is considered appropriate behavior.
- Technology can be a friend.

Digital Citizenship

Today, technology has integrated itself into our everyday lives. The use of a personal computer, smartphones, smart TVs, social media, collaboration tools, and communication applications, has us surrounded by digital activity. But, there are those who have not accessed the wide array of technology that is available. Age, socioeconomic status, or simply refusal to join the digital world, can all cause a disconnect with the necessity of digital citizenship. Individuals who embrace technology use should be introduced to the 9 Themes of Digital Citizenship. According to Ribble (2007), "Digital citizenship can be defined as the norms of appropriate, responsible behavior with regard to technology use".[1]

The 9 Themes of Digital Citizenship are defined as:

1. Digital Etiquette – set of standards of behavior much like proper dinner etiquette

2. Digital Communication – digital exchange of information, communicating ideas and information through electronic means

3. Digital Literacy – teaching and learning technology and its use

4. Digital Access – fully participating in society when it comes to technology

5. Digital Commerce – buying and selling goods electronically, purchasing online, selling online

6. Digital Law – knowing the responsibility of digital usage law, including copyright and fair use, theft, hacking, etc.

7. Digital Health and Wellness – recognizing the physical, emotional, and psychological implications to a person's well-being in regards to technology

1. Ribble, M. (2007). In Digital Citizenship, Using Technology Appropriately. (chap. The 9 Elements of Digital Citizenship). Retrieved July 24, 2018, from http://www.digitalcitizenship.net/Nine_Elements.html

8. Digital Security – knowing how to be safe and protect the information, as well as how to implement preventative methods to avoid threats.
9. Digital Rights and Responsibilities – online citizen rights, such as privacy, freedom of speech, etc.

Netiquette

Were you given the golden rule to follow as a child? "Treat others as you would want to be treated." This appropriate behavior for children and adults applies to an online presence as well. In Virginia Shea's book, *Netiquette*, Ms. Shea provides core rules for maintaining an online presence with proper etiquette. It boils down to having proper etiquette both in-person and online. You can view her rules here.



One or more interactive elements has been excluded from this version of the text. You can view them online here: https://pressbooks.usnh.edu/teachingandlearninginadulthood/?p=53#oembed-1

Technology CAN be your Friend

Some students are fearful or reluctant to using technology. It is important to ease the discomfort of these students because

technology is here to stay and it should be embraced in appropriate contexts. Unless of course, you plan on living off the grid in the woods of Maine, you will someday encounter a situation in which computer/technology skills will come in handy.

Tips to make technology your friend:

1. Don't be afraid to make mistakes. All mistakes can be undone (unless you are working in a rocket science lab or sending someone to the moon). Pay attention to your mistakes. Most of the time mistakes are how we learn to be better.
2. Explore new FREE technology available on the web. This technology may or may not require you to create an account but even if it does, most of them are free.
3. Remember, no one expects you to be an expert. Playing around on internet applications does not require you to learn to write code. Coders create applications that allow you to use the interface without expertise. Most are intuitive.

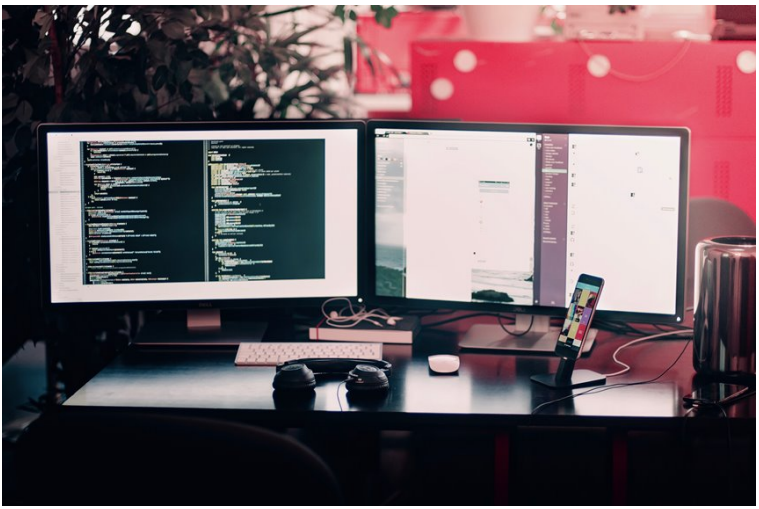


Photo by Farzad Nazifi on Unsplash

Learning Objectives

- [4]Formulate and articulate a personal philosophy of adult education informed by principles and theories of adult learning.
- [5]Incorporate a personal philosophy of learning in the design of instructional strategies for teaching in a variety of learning environments.
- [6]Explore, experience, and analyze various instructional strategies and their relationship to individual differences and experiential learning.
- [7]Compare and contrast the characteristics of instructor-centered versus learner-centered and subject-centered teaching and their effectiveness in promoting active learning, collaborative learning, self-direction, and reflection by students.
- [8]Demonstrate the importance of practice, experience, and critical reflection for both learners and teachers for personal and professional development.

Key Takeaways

- Understanding that learning styles are not necessarily relevant in teaching and learning.

- Explore UDL and the 5 Cs of Teaching and Learning in order to draw conclusions on how adults learn.
- Learn how to implement assessment activities geared towards adult learners.
- Construct a personal philosophy of learning by examining others' philosophies.
- Identify and formulate a rationale for teaching which includes audience and course research.

Learning Styles and Myths

Have you ever been asked to describe what kind of learner you are? Were you an auditory learner or visual learner? Do you need to learn by doing? By touch?

What if someone told you that all of that is a myth? What if having this assumption actually slowed your learning?

Distinguishing or categorizing your learning can sometimes hinder your ability to process in different ways. For example, if you only consider yourself a kinetic learner, you may find difficulty in learning by watching. It might be more suitable to consider it a "preferred" learning style rather than "your only" learning style.

Duncan Geere wrote an interesting article, *Busting the 'Neuromyths' About How We Learn*', which describes the myth of learning styles and other 'Neuromyths' about how we learn. Below you will find a list of some of the myths described in the article.

- Humans use only 10% of their brains – there is evidence that shows humans use almost 100% of your brain every day through dormant and active cycles of neurons.
- Left-Brain/Right-Brain – while there was some evidence of

networks of neurons being stronger on the left or right, however, the "Our data [2013 study of MRI brain images] are not consistent with a whole-brain phenotype of greater 'left-brained' or greater 'right-brained' network strength across individuals" (Geere, 2016).

- Preschool programs have an enormous effect on children's cognitive development – meta-studies show that by the age of eight it is not evident which children had preschool and which did not.
- Importance of play – there has not been any evidence that distinctly supports that pretend play is uniquely important in development but could be possible that play is only one of many routes to development.
- "Digital Natives" (a title given to kids who have grown up with screens/internet) are able to multitask while parents cannot. While kids today are good practitioners of multitasking, doing so results in the same pitfalls and setbacks as those for non-"digital natives".
- Medicating students who do not perform well (pre-labelled students) – most sinister practice of all – while the diagnosis are real there may be more sinister reasons for the spike in students who are labelled as such.[1]

 Duncan Geere Twitter

1. Busting the 'Neuromyths' About how we Learn by Duncan Geere used under CC SA BY 4.0

Universal Design for Learning

When designing a course or training, many educators use Universal Design for Learning (UDL) as a framework for the design of the curriculum. The framework is the "what", the "how", and the "why" of learning.

UDL Guidelines by CAST



CAST on Twitter

Joe Ruhl's The 5 Cs

While Joe Ruhl's 5 Cs are geared towards kids, his methods are applicable to adult learners as well. The 5 Cs advocate for moving from a teacher centered classroom into a student centered classroom by redirecting the teacher from the front of the class (and center of attention) to a mentoring role, allowing students to become the center of attention.

Choice – Offering choice in learning allows adults to explore in a manner that matters to them the most.

Collaboration – Learning is enhanced with others' experiences and by working together to learn something new.

Communication – Without communication collaboration is not

possible. Learners need to communicate their own understanding to others in order for collaboration to be effective.

Critical Thinking – Using problem solving skills and critical thinking skills helps solve problems and form an opinion or judgement on a subject.

Creative – Creativity makes learning pleasurable and can be a motivator.

The 6th C – Caring – this is what people remember the most. What you care about in regards to your students is what they will remember most. This will be the lasting memory that students will hold onto.



One or more interactive elements has been excluded from this version of the text. You can view them online here: https://pressbooks.usnh.edu/teachingandlearninginadulthood/?p=55#oembed-1

Assessment in Adult Learning

Exercises

- Review the Top 10 UDL Tips for Assessment
- Review Types of Assessments: A Head to Head Comparison

Personal Philosophy of Education

How to Write a WINNING Philosophy of Education by Xica Henley gives a overview on how to construct an effective Philosophy of Education.



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https://twitter.com/XicaHenley

Let's have some fun! Begin your Personal Philosophy of Teaching and post below. Your Personal Philosophy of Teaching should start with one or two sentences. Think about these questions: Why do you love to do what you do? What you want to accomplish as an educator? Who are the students you wish to serve?

You will have 1.5 minutes to present your philosophy. Have fun!!
https://flipgrid.com/55d864
Password is Summer2018

Rationale, Audience, and Research

Before expecting students to learn something new, you will need to identify the audience, do the research, and provide a rationale behind why the information is important to learn. The rationale is the "why" for your course. Slides 4 – 8 on the following slideshow from SlideShare, created by **Alvy Mayrina**, explain the process and requirements of a course rationale. Review of the remaining slides is not required but they contain important information for educators.
Course Planning and Syllabus Design from **Alvy Mayrina**

Examples

Rationale

In summer 2018, Granite State College's School of Education will be offering professional development sessions for educators around the state of New Hampshire. Limited human resources in our schools can contribute to educator burnout. The School of Education feels there is a need for mindfulness practice instruction, emotional skills instruction, and caring and compassion discussion in order to ensure that teachers are taking care of themselves while educating and taking care of our children.

Audience

In today's climate, it can be assumed that the audience has some previous knowledge of the topics, even if informal. Since this prior knowledge will be varied, and attendees will bring varying personal backgrounds and learning differences to the sessions, the ID team will need to consider additional support resources to ensure all attendees are able to access and participate in the course.

Course Research

There are many resources available regarding the content in this course. Many of the resources are links to YouTube videos which provide considerable information regarding each of the topics.The instructional designer was able to obtain written permission from the author of PalouseMindfulness.org to include and potentially alter some of the assignments in his course about mindfulness practices.The assignments and activities were gathered from multiple sources and created with the ID and SME.



Photo by Wyron A on Unsplash

What does the future hold for the field of education? Technology is going to play a big factor in education moving forward. Bryan Alexander is a futurist, educator, speaker, and writer who has written many articles on education. You can view his work here https://bryanalexander.org/feed/ or follow him on Twitter Bryan Alexander

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Open Education – Let's save our college students some money!!



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There are many educators and authors who share a common belief that knowledge is constructive when shared. David Wiley says he can share his knowledge without completely giving his own knowledge away. It has a special property that it can be *given* without giving it away (Wiley, 2010).



An interactive H5P element has been excluded from this version of the text. You can view it online here: https://pressbooks.usnh.edu/teachingandlearninginadulthood/?p=58#h5p-5

David Wiley 5 Rs and Open Education



One or more interactive elements has been excluded from this version of the text. You can view them online

here: https://pressbooks.usnh.edu/teachingandlearninginadulthood/?p=58#oembed-4

What do you think? Do you think there needs to be a change in the way education is practiced? Several things comes to mind when we talk about education:

- Safety in our schools
- Cost of textbooks
- Motivation to learn
- Who are our educators?

It does seem that we have been doing something wrong. While policy defines standards that must be followed, it also adds hurdles to teaching. This occurs in public education (standardized testing) and in higher education (academic freedom vs. standards). Now may be the time to really focus on how other countries are educating their youth and adults. The Top 10 (and Counting) Education Systems in the World counts down the best countries for education (starting with number one, South Korea). The "greatest" country in the world, the U.S.A, is not even in the top 10. The United States ranked 14th, right beneath Russia. Granted, the US is up three spots from a previous study, but shouldn't the greatest country in the world be in the top ten? Can you take any guesses as to why this is? Take some time to explore what other countries are doing to make their education systems the best. What technology are they using? Are their practices better? Are they more intelligent? Are they utilizing educational practices that the U.S. just has not yet caught up to?



Photo by Courtney Hedger on Unsplash

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