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How Children Learn

SESSION OVERVIEW

Ten Principles for Learning

Receiving and Processing Information

Kolb's Learning Style Model

Application

Exam

Discussion Guide for Mentor and Participant



If we are to teach children, we have to understand some basic principles for learning. We learn all the time through our experiences if we are intentional about drawing insight from those experiences (children do not have the same ability to draw from personal experience as adults). The following principles, many based on different theories of learning, remind teachers how to use basic communication patterns when teaching.

LEARNER OBJECTIVES

At the end of this session, you should:

- explain ten key principles of learning.
- understand the concept of learning preferences and multiple intelligences.
- identify your own preferences as a learner and begin to understand how these preferences affect your teaching.

TEN PRINCIPLES FOR LEARNING



Ministers must incorporate basic teaching patterns that include direct instruction alongside the child's exploration and encounter of the world. Still, even direct instruction must attend to basic principles for sound teaching and learning.

- Learners need feedback. All learning starts with some form of listening. While being a good listener is often thought to be instinctive, learning requires loops of feedback between the teacher and the learner. Learners should be given the opportunity to check that they understand the instruction, and teachers need opportunity to clarify instruction based on learner feedback. The quality of our instruction improves with feedback. Children must have the opportunity to ask questions and get feedback on their assumptions.
- 2. Learners seek patterns and categories based on their previous experiences. The more we can help learners tie new knowledge to things they already know, the more easily they will learn. In fact, all learning is based on prior experience, with each new bit of information connecting to something learned previously. Offering illustrations that connect to learner experience allows children to see connections within their own lives.
- 3. Learners make use of models. Demonstrations and examples help learners understand expectations. Yet modeling is not only physical; it is also social. We learn from teacher examples, watching peers and others, and adjusting our behavior to fit. Children learn from watching people do things and from sensing their attitudes.
- 4. Learners benefit from multiple methods used in combination. Multiple methods do two important things. They allow us to communicate with more learners more effectively. Offering two or more ways of teaching offers students another advantage. Each activity reinforces what a learner might have already "gotten" the first time.
- 5. Learners need repetition and reinforcement for learning to become "permanent." Repetition doesn't necessarily mean rote recall or repeating the same thing the same way. Learners benefit when they can apply the same information in multiple ways. Wouldn't it be sad if a baby "thought" he or she could only walk from Mommy to Daddy and didn't learn the skill of walking to the couch, to school, or to the store?

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- 6. Learning occurs more readily and on deeper levels if the learning is based on active engagement of the learner, and not on "receiving" alone. Children don't just absorb information blankly. They are constantly assimilating and accommodating new information, to use Piaget's language from last week's lesson. Providing opportunities to actively engage material at their own level, and allowing them to explore and appropriate information, stretches their understanding and develops their thinking abilities.
- 7. Learning occurs more readily and on deeper levels if there is a "need" for the knowledge and the new knowledge is put into use immediately. Need establishes a readiness to learn. You **need** to learn how people learn so you can be an effective teacher. Whenever a situation from a child's life demands an explanation or a new skill, he or she is ready to learn.
- 8. Learning is most effective when the experiences involve an emotional component. Neuroscience research reveals that emotion and cognition go together; learning includes both motivation as well as understanding. Emotions may be nurtured through a pleasant environment or experience. Emotional climates can also involve relationships. Relationships are emotional by definition, and we respond emotionally to both peers and teachers, as well as to situations. For children, this principle also means the learning environment should be both safe and fun.
- 9. Depth of learning requires personal reflection and application. Learning often does not occur until children have the opportunity to reflect deeply on principles, apply them, and see an outcome. Laboratory models of education model this principle through trial and error efforts where children learn from their application of concepts and ideas. Children need to be given time to engage and reflect on new information rather than race through a lesson. Simple opportunities for application help when they allow for student creativity as well as repetition.
- 10. Learners learn best when there are high expectations communicated clearly. These expectations must be reasonable. The final principle deserves greater elaboration since it summarizes many of the goals of learning. We need to help children decide what is important to learn. We are bombarded by things that compete for our attention. Without narrowing down what is important from what is irrelevant, we would literally not be able to maintain our sanity! Look around you and pay attention to the buzzing of the lights, the traffic or nature sounds outdoors, the sounds of activity in the building. Pay attention to the color of the walls, the feel of your clothes against your body, and to the smell of your deodorant (or the lack

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of it!). Listen to the beating of your heart, feel the temperature of your skin, and pay attention to your breathing. If we had to attend to all these things at the same time, we could not take in new information because we would be constantly "busy" with what we already have to deal with.

If we have certain expectations, we can help learners know what they should be paying attention to in order to meet our expectations. One word of warning with young children: If you ask them to pay attention to sitting still, don't expect them to pay attention to the message you are teaching. They will be so busy trying to control their bodies they won't have much attention left to focus on what you are teaching.

The older we get, the more automatic some kinds of "screening" become to us. You don't have to think about sitting still. You've learned to largely ignore what the chair against your back feels like until you are in significant pain. Children haven't learned to do this yet, and many things are vying for their attention.

Teacher expectations also influence learners. You may have heard of the Pygmalion Effect. It is the theory that people respond according to other people's expectations. Research done by Rosenthal and Jacobson demonstrated that when teachers had high expectations of children and expected them to "bloom," they did. When teachers had low expectations, students stayed the same or declined from their starting performance. The researchers' work demonstrated that labeling children based on teacher expectation matters, and the younger the child, the more the labels matter. We, in our own minds, need to apply the rules of Philippians 4:8, and think about (expect) "whatever is true, whatever is noble, whatever is right, whatever is pure, whatever is lovely, whatever is admirable—if anything is excellent or praiseworthy—think about such things." Using this mindset, we will communicate both intentionally and unintentionally the expectations that children can and will respond to the Holy Spirit's work in their lives by learning how to be the kind of person God wants them to be.

If you are having a difficult time with a child in a learning setting, take time to reflect on what you have come to believe about that child. Are you expecting ongoing misbehavior? Are you expecting him or her not to have anything of value to contribute to the classroom? Are you anticipating that he or she will frustrate you and make you uncomfortable? Our communication cues can be very subtle or very obvious, but children pick up on our expectations for them. Is it time for the Holy Spirit to do something about "that child," or is it time for the Holy Spirit to do something about you and your expectations?

RECEIVING AND PROCESSING INFORMATION

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Learners have preferences in the ways they take in and process information—the raw material of learning. We know that from our own experience. Some of us very much enjoy lecture and discussion, while some of us would rather see films, videos, and demonstrations. Others would rather be trying and applying—we'd love to have kids right here alongside us so we could learn by practice. Some of us would like to be outdoors while we're having class, while others are perfectly content with a more controlled environment. Overall, there are five areas in which we exhibit preferences: environmental, social, physical, emotional, and psychological. As we review each of these, think about yourself and where your preferences lie.

When we speak of **environmental elements**, we are talking about the design and feel of the space we are in. We might prefer either silence or background noise, like music, white noise, or people sounds. In addition, we may desire bright or soft lighting; a warm or cool temperature, or formal or informal room design. Reflect for a moment: do you need a desk and clear workspace, or do you feel best lying on the floor or sprawling on the couch? How children respond to space might be different depending on their preferences.

Socially, children may relate to others differently based on patterns of relationships both in their homes and other settings. Internally, children may deal with variety quite differently. Depending on experience and disposition, they may prefer to work alone, to work with one other child, to work in a team, to work with an authority figure, or to work in a variety of groupings.

Physically, we prefer to take in information through different senses and actions. This approach to learning is known as the VAKT approach.

- Visual (eyes)
- Auditory (ears)
- Kinesthetically (through movement-also called haptic learners)
- Tactilely (by touch)

These approaches are also sometimes called learning or perceptual modalities (how people perceive or first attend to new information). Some learners tend to connect visually (eyes), through graphic presentation, visual outlines, or even a picture that orients the lesson. Other learners approach learning primarily through sound, using their auditory faculties (ears) to listen closely and verbalize



meaning. Still other learners connect best when they have the opportunity to enact information through some activity that includes themselves and parts of their bodies, even if it just means taking notes or practicing a new form of worship. Finally, other children want to literally "grasp" new information through displays, handouts, or other physical means.

In addition to these modalities, we have varying physical preferences that affect our ability to take in information, including our need for nutrition in order to think, biological awareness rhythms (night owl vs. early bird), differing needs for amount of movement, different temperature tolerances, and differing ability to shut out distractions.

Emotionally, we are impacted by levels of motivation to want to learn. Any drive or initiative to learn can be internally (intrinsically) or externally (extrinsically) motivated. For example, do I do my job out of a sense of personal accomplishment—internal motivation—or because I get a paycheck to do other things—external motivation? Emotionally, persistence plays a key role through a willingness to hang in or to try again in spite of obstacles. A sense of responsibility or discipline, regardless of desire, proves important in other learning settings. Children emotionally possess different needs for structure, including the amount of direction and support one needs in order to begin and complete a task. Do you want the task clearly defined or left open for your own creative interpretation? Finally, personality applies here as well. We have different levels of need for fun, different levels of need for space or reflective time. Some children are shy and quiet by nature, while others are talkative and expressive.

Psychologically, children have preferences for detailed (analytical) or global (big picture) thinking patterns. While left and right brain thinking has been proven a myth, many people possess a tendency toward analysis or creativity. Children also possess differing degrees of impulsivity, or ability to attend to outside stimuli. We need to be aware of a student's level of readiness or developmental maturity. Readiness is a developmental feature. We are made ready to learn by both our maturity and the need we perceive for new information or skills.

To review, there are five arenas in which we have learning preferences and characteristics. All these preferences come together in what we know as learning styles. There are many different models of learning styles. Each model has been carefully researched and has some valuable things to say about why some people understand a teacher who uses a certain approach and others do not. In an essay entitled "Matters of Style," Richard Felder of the University of North Carolina (1996) concluded that the particular learning style theory that we use as a model is not as important as the fact that the theory challenges us to balance instructional style to meet all learners in the way they can learn best.



One thing worth noting here is that there is a distinct difference between learning styles and another set of descriptors known as multiple intelligences, a term coined by Howard Gardner in his book, *Frames of Mind: The Theory of Multiple Intelligences* (Basic Books, 2011). The most notable difference is that learning styles are how we take in and work with information, and intelligences are ways in which we categorize, synthesize, and express information. Gardner, a Harvard researcher on intelligence, proposes that there are at least eight different ways to be "smart." Each of these categories points to cognitive abilities that we might also consider creation gifts from God.

- Linguistic intelligence or word smart: A gift for using languages to understand and express ideas.
- Logical-mathematical intelligence or logic smart: A gift for seeing cause and effect and manipulating mathematical concepts.
- **Spatial intelligence or picture smart:** A gift for making representations of the physical world in one's mind and sometimes for others (such as pictures, sculpture, and map-making).
- **Bodily-Kinesthetic intelligence or body smart:** A gift for using one's body in athletics or performance art.
- **Musical intelligence or music smart:** A gift for using musical rhythm and tone patterns.
- Interpersonal intelligence or people smart: A gift for understanding others.
- Intrapersonal intelligence or self smart: A gift for understanding one's own inner workings.
- Naturalist intelligence or nature smart: A gift for perceiving and classifying patterns, usually in the natural realm, but sometimes in manufactured items.

Gardner's purpose was not to observe God's image in humanity; however, the intelligences do reflect attributes of God. Gardner's purpose was to draw attention to the way in which we exhibit biases in our perception of what is "smart" based on school behaviors.

In many schools, the highest value is placed on one or two kinds of intelligence (word smart and logic smart). In the real world—all over the world—many kinds of smart are valued. For example, I can be a word smart person and know a lot about a specific kind of poisonous plant in Africa. I could tell you its name, spell the Latin, describe it by color and appearance, and write a lovely poem about it.



However, all those facts won't help me if I can't identify that it is growing where I am about to walk. An African might not know anything about its Latin name, might never have read about it or written about it, but may be nature smart. This person knows where the plant grows, what typically grows around it, what time of the year it is bearing fruit, and how it smells when it is flowering. He also knows the difference between the plant's poisonous fruit and the medicinal root, which is similar to many other medicinal roots.

Which kind of smart is more valuable? Culture makes a difference as well as what you need to do with the information. If I need to spell it on a test and know the meaning of its Latin root, it may be important to be word smart. However, if I need to avoid stepping on it, I would value the naturalistic intelligence of the African man mentioned above.

KOLB'S LEARNING STYLE MODEL

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Unfortunately, many types of learning styles begin with different assumptions concerning personality theory, neuroscience, and temperament. For instance, the ancient Greek physician Hippocrates established categories for the temperament: sanguine (pleasure-seeking and sociable), choleric (ambitious and leader-like), melancholic (introverted and thoughtful), and phlegmatic (relaxed and quiet). One approach takes seriously the process of learning from our experiential world and then develops a comprehensive model of learning as well as a framework for learning styles. Dean Blevins and Mark Maddix summarize this theory in their book, *Discovering Discipleship* (2010, pp. 104-105, 156-57).

David Kolb's approach (1984) also provides several approaches to learning styles. Kolb theorized people did not negotiate his cycle of learning (CE/RO/AC/AE) equally. Cycle moves clockwise from *CE* (Concrete Experience) to *RO* (Reflective Observation) to *AC* (Abstract Conceptualization) to *AE* (Active Experimentation). These four learning processes begin with *concrete experience* (*CE*). As a person experiences life they reflect on these experiences, which he calls *reflective observation* (*RO*). After reflecting on an experience, these reflections begin to develop into concepts and judgments, which he calls *abstract conceptualization* (*AC*). These concepts or ideas that have been formulated from reflection result in doing or acting, which he refers to as *active experimentation* (*AE*).

Process of knowledge also includes dialectical intersections between gaining ("prehending") experience and transforming experience into knowledge.

CE—**AC continuum:** "prehending" experience through perception (apprehension) or insight (comprehension)

RO–AE continuum: "transforming" experience through internal organization ("intention") or external manipulation ("extension")

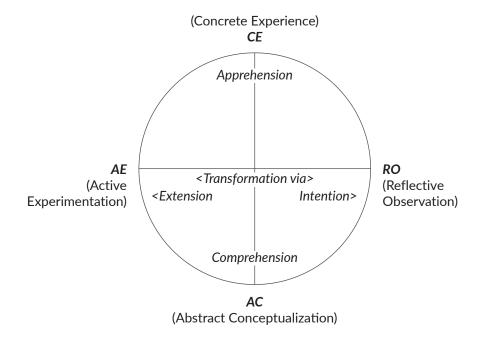
The four quadrants that exist within the intersections of Kolb's prehension and transformation of knowledge reveal a vast array of learning preferences and approaches to life. Kolb's original descriptions noted that some people tend to favor a particular quadrant, resulting in different learning styles and views of the world that dictate specific interests (professions) and perspectives in understanding how reality works.

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- Diverging (CE/RO): Focus on openness to different or "divergent" experiences.
- Assimilating (AC/RO): Focus on taking diverse material and incorporating into thought.
- Converging (AC/AE): Tendency to engage in specific knowledge around a subject.
- Accommodating (CE/AE): Tendency to seek applicability of ideas through adaptation.

Bernice McCarthy (1980) adapted Kolb's experiential learning model as well as the work of Carl Jung into four learning styles. These four learning styles include the Imaginative Learner (Why learn this?), Analytic learner (What is this?), the Common Sense learner (How does it work?), and the Dynamic learner (What can this become?). Marlene LeFever (2002) popularized McCarthy's model for Christian audiences, incorporating McCarthy's terminology (15-16, 19-21) and formalizing Kolb's approach to experiential learning as a curricular plan (25-28). LeFever acknowledges that faithful teaching requires a variety of teaching methods in order for people to learn best. She argues that we teach the way we learn; thus, we may miss connecting with those who have learn differently.







How does this information work in a teaching/learning setting? Let's begin with the four types of learners in this classification scheme. Using the story of Noah, we can walk through four different ways of connecting children to biblical truths drawn from the story.

Diverging (concrete, reflective). A characteristic question of this learning type is "Why?" Diverging learners respond well to explanations of how course material relates to their experience, their interests, and their futures. To be effective with Diverging students, the instructor should function as a *motivator*.

As a teacher attempting to reach a Diverging child with the story of Noah, you might say: "Have you ever had to decide if you should do what you were told? We are learning about Noah today to help us understand why it is so important to do what God tells us to do."

Assimilating (abstract, reflective). A characteristic question of this learning type is "What?" Assimilating learners respond to information presented in an organized, logical fashion and benefit if they have time for reflection. To be effective, the instructor should function as an *expert*.

As a teacher attempting to reach an Assimilating child with the story of Noah, you might say: "I wonder what kind of animals Noah had on the ark, and what it smelled like after about a week. What do you think might have been some of the problems Noah and his family faced?" The teacher then might be able to function as the expert on human experiences of being cooped up. Or ask the question, "What do you think gopher wood is like?" if you're more of an expert on carpentry!

Converging (abstract, active). A characteristic question of this learning type is "How?" Converging learners respond to having opportunities to work actively on well-defined tasks and to learn by trial-and-error in an environment that allows them to fail safely. To be effective, the instructor should function as a coach, providing guided practice and feedback.

As a teacher attempting to reach a Converging child with the story of Noah, you might say: "There are so many kinds of animals in the world! Let's try to figure out how big the ark really was!" You can actually pace off the size of the ark. How amazing is that?! How did God know that's how much space His plan would require? (What an awesome opportunity to encourage theological reflection at an early age. There is not a single right answer, but there may be many truths that are consistent with Scripture.)

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Accommodating (concrete, active). A characteristic question of this learning type is "What if?" Accommodating learners like applying course material in new situations to solve real problems. To be effective, the instructor should stay out of the way, maximizing opportunities for the students to discover things for themselves.

As a teacher attempting to reach an Accommodating child with the story of Noah, you might say: "I have marked a space on the floor where we can try to put two of every kind of animal. Let's see what happens." The children might try stacking animals on top of each other (What would happen if animals were stacked on top of each other for weeks?) They might try putting the lions next to the gazelles (What would happen if the lions and the gazelles were in the same area of the boat?) After the exercise, you could point out to the children that God knew about all those difficulties, and He gave Noah a plan that would allow him to do what God asked him to do. God anticipated every problem, and He had a solution.

Our preferences can change based on our experiences. Immediate, or concrete, experiences (activities) provide opportunities for observation and reflection. These observations and reflections are *assimilated* or *accommodated* into abstract concepts (ideas) that can be actively tested in turn, creating new experiences to observe and reflect on.

The fact that we have preferences or styles does NOT mean that we can't learn—or teach—outside of our preferences. We are adept at learning in a variety of ways. As we learn more about our personal preferences, we are able to be flexible and modify learning activities to suit our style. For example, most highly auditory learners will adapt their reading activities from visual to auditory by reading aloud in their heads. Highly kinesthetic learners may move their lips as they read or pace the floor as they memorize.

It is important to recognize and honor the differences God has created within us. It is only by fully appreciating how truly different we are that we can effectively act as the Body of Christ. We do a disservice to our great and mighty Creator by ministering as though all people learn and think in the same manner. Our God who has infinite depth and who defines creative expression has charged us to reflect Him to the world around us. We can do that only as we allow for, teach for, and minister to the richness of our created natures. Read Ephesians 4:11-13.

Another theological principle we can refer to is the Incarnation. Christ became as we are so He could communicate God's love to broken and fallen humanity. He did not consider it beneath himself to sacrifice His privileges in order to "speak our language." We should be willing to lay aside our preferences for the sake of communicating God's love.

APPLICATION

NOTES	1.	Review a plan for a children's lesson. How many principles of learning does the lesson use in its design?
	2.	Discuss with parents Gardner's "multiple intelligences." How do they see these intelligences manifested in their children?
	3.	Take one recent situation in ministry and explore it like a case study for Kolb's cycle of learning. Did you accurately grasp the situation? Was there time to reflect on the issues? How did you develop big ideas or principles from the event (or apply them from a different resource). Were you able to apply changes and see their outcomes? What difference did the changed

applications make?

EXAM



- 1. Providing feedback is optional in teaching.
 - A. True
 - B. False
- 2. We should set expectations at or a little lower than learner capability.
 - A. True
 - B. False
- 3. Learning occurs best when:
 - A. Personal reflection and application are involved.
 - B. Teachers focus on one approach alone to instill the message.
 - C. Information engages at a deep level of need within the learner.
 - D. A and C
 - E. All of the above.
- 4. Learning fails when:
 - A. Learners use models to help with understanding.
 - B. Learners listen passively.
 - C. Learners need to repeat a lesson for reinforcement.
 - D. A and C.
 - E. All of the above.
- 5. Preferences for learning include:
 - A. Our patterns of relationships.
 - B. The environmental setting, including level of noise, lighting, and temperature.
 - C. How we physically engage our auditory, visual, tactile, and kinesthetic senses.
 - D. A and C.
 - E. All of the above.
- 6. Our motivations may vary (intrinsic vs. extrinsic) but we will always prefer detailed over "big picture" learning.
 - A. True
 - B. False

 NOTES
 7. Matching: Match the appropriate term to the right description.

 _________ Appreciation of classification and patterns in the world.

 _________ Ability to understand oneself.

 ________ Probably valued more in school.

- A. Linguistic
- B. Logical-Mathematical
- C. Spatial
- D. Bodily
- E. Musical
- F. Interpersonal
- G. Intrapersonal
- H. Naturalist
- 8. Learning includes our ability to grasp experience and transform it into knowledge.
 - A. True
 - B. False

DISCUSSION GUIDE FOR MENTOR AND PARTICIPANT

NOTES	Be prepared to discuss the following with your mentor.	
+	1. Review the principles for learning and discuss which ones seem strong in children's ministry in your context and which ones appear weak. Why?	
	2. Think through the five areas of preferences (environmental, social, physical, emotional, and psychological). How do these preferences appear in your ministry? Can you think of examples?	
	3. Regarding multiple intelligences, does your ministry tend to validate children with just certain intelligences? If you were to create a ministry that affirms all of the intelligences, what would you need to change?	
	4. How does Kolb's cycle of experiential learning help us learn from our own efforts in ministry? Can you think of an example?	
	Review your answers with your mentor, then respond to the following:	
	How many responses focus on supporting children (particularly in areas where they are not yet fully self-reliant), and how many answers focus on empowering children?	
	Which of these answers support the goal of living Christlike relationships? Why?	
	What do we need to add to our list to make our approach more comprehensive, more faithful? Which do we need to incorporate into the role of the children's leader as one	

who both supports and empowers Christlike relationships with children?