

Assessment Isn't Rocket Science – It's Brain Science!: A Response to "Speaking of Children: Testing One, Two, Three" by Kathy Dawson

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Education has long utilized assessment and evaluation tools to monitor the intellectual and academic development of students, as Professor Dawson points out in her article. Church leaders are encouraged to evaluate activities and events through a variety of means, primarily focused on the learners' perceptions of value and meaning they associate with their learning experience. There are problems associated with incorporating assessment tools into the life of the church, some of which Professor Dawson raised herself. However, leaders often may be left wondering about the value and effectiveness of classes, programs, sermons, retreats and other faith experiences the church offers. So how can we reconcile the need for and problematic nature of assessments in the context of the church?

Perhaps the primary challenge to assessing learning in the church is the often-intangible nature of much that is taught – concepts like faith, love and justice. One way to consider the assessment of intangible learning in the realm of faith is to take into account the impact of the learning on the learners' thinking and behavior outside the church and their ability to connect their learning with occurrences in their everyday life. We can consider this connection much like the concept of homework that is assigned to be done outside of the school setting. If we view the information and learning that is gained in worship, classes, retreats, mission trips and other educational experiences in the church as knowledge and skill building, then what occurs during the rest of the week as participants go out into the world could be seen as spiritual "practice," provided the information sticks with the participants and is deemed relevant and important enough to remember. After all, isn't that what we really want – for those in our congregations to take what they experience in the church and embody it outside the church? How can

we ensure this kind of transfer is happening in the lives of our congregation members? Is there a way to “teach to the task” of transference such that it does not become “teaching to the test”?

In the course of my doctoral work at Columbia Seminary, my research has focused on the intersection of neuroscience with the church, particularly in the field of learning and memory. Science has much to tell us about how people learn and remember, and neuroscience can certainly inform the way we create faith-formation experiences in the life of the church, if we are concerned with creating “sticky” experiences.ⁱ This intersection of neuroscience and the church begins from two premises: that everything we do in the church teaches, from our worship to our mission trips, from the appearance of the bulletin to the art on our walls; and that our aim is to transform individuals to think and act transformatively in the world. With this aim in mind, let us turn to examining how brain science can help us assess our effectiveness in creating transformative, educative experiences in the church.

The assessment of learning in any context draws upon the ability of the learner to recall and remember. We have all likely had the experience of cramming for a test only to find that shortly after the test (or sometimes during the test), we find ourselves unable to recall most of the information we worked so hard to remember. This is a function of the nature of our short-term memory, much like a temporary file on your computer, which holds information until it determines it is no longer needed and then deletes the file if the information is not reused. Another kind of memory is called working memory. Think of working memory like the desktop on your computer, where new information is held and processed until you determine where it will be filed permanently. Then there is long-term memory. This is the information that “sticks” with the learner, and neuroscience is telling us that it may “stick” for a number of reasons.ⁱⁱ Long-term memory is most certainly the kind of memory we want to encourage as we educate for transformation.

Here are four “Tips for Creating Memorable Learning in the Church” that I am currently testing in my own ministry, in the hopes of developing long-term memory: 1) utilize visual images and emotional connection, 2) repeat information with increasing depth, 3) engage new information with prior information and 4) demonstrate relevance and importance to the learner.

Experts tell us that visual memory is key for development of long-term memory.ⁱⁱⁱ The more a learner is emotionally connected to the material, the longer the information is likely to stick around as well. Repetition for the sake of repetition does not necessarily result in long-term memory. However, information that is repeated at timed intervals and with increasing depth has been shown to impact memory.^{iv} Imagine a slinky that spirals inward, continually moving deeper and deeper. This is the image I believe William E. Doll sets forth in his concept of recursive curriculum as a post-modern alternative to traditional methods of curriculum development.^v

As Professor Dawson points out in her article, the aims of education help, in part, to determine the assessment tools and help the teacher match the learning needed with the individual. This is the task of assessing prior knowledge and can be a challenge for educators in general and for the church education setting in particular, given time and other constraints. Evaluations of prior knowledge assess previously gained information that has been moved to long-term memory, the lack of information or missing information and incorrect information that has been stored in memory. Experts in education and neuroscience tell us that the best way to learn something new is to make connections to what we already know.^{vi} Volunteer teachers can develop an overall awareness of the proficiency and gaps in the participants’ learning through the use of classroom activities that review material before beginning new material. Class leaders can then be equipped to choose from among the activities provided in a curriculum resource, or be taught to create their own activities that will best reinforce or correct previous memory and learning as well as enhance new learning.^{vii} The awareness of teachers that classroom

material builds upon itself to create a foundation of knowledge is a step toward enhancing learning and memory.

The fourth tip is perhaps the easiest to overlook – relevance and importance to the learner. In school classrooms, students often ask a teacher why they need to know a particular concept, such as math or grammar. This is the student’s attempt to seek relevancy. The teacher’s ability to answer the student and to communicate relevance and importance is crucial in influencing learning. In the church setting, perhaps we should ask two questions before we begin to teach, preach or lead a discussion: Why is this material important to me and to the learners? How can I use this information today in my life? If we cannot answer these questions for ourselves, it may be very difficult to communicate the importance to others and the likelihood of the information being discarded from short-term memory is increased.

Assessment tools of any kind must never be used to categorize, single out or pigeon-hole a child or to rate the quality of an individual’s faith development. This is, of course, the danger inherent in assessments in general, but in the realm of faith any attempts at assessment must first and foremost lift up the individual and encourage their faith.

Education has determined methods to teach to enhance memory in order to assess learning – why not the church? Doing so means understanding how memory is created, what enhances the development of long-term memory and how to access and utilize memory. These are all new frontiers for the church, but a frontier that holds excitement and promise for impacting our congregations and our world.

Questions for Discussion

1. What is your church already doing to enhance the transference of learning inside your walls to the lives of members outside your walls? Consider all activities that take the information from one activity and revisit it in another context, such as sermon discussion groups, blogs, lectionary preaching/teaching, etc.
2. Ask five individuals in your church what “stuck” from last week’s worship experience. Was it the words? The visuals? The music? The people? Did the learning change the thinking and/or behavior of those individuals during the week? If so, how?
3. Given the “Tips for Creating Memorable Learning in the Church” outlined in the article, what can your church do to increase the likelihood of participants’ long-term memory and recall through the week?
4. When you consider assessing the prior knowledge of your congregation in relationship to worship or Christian education, what challenges do you see? How are the challenges of this kind of assessment unique to the church and what can be done to overcome these challenges?

Notes

ⁱ The concept of “stickiness” is adapted from *Made to Stick* by Chip and Dan Heath. The authors dissect the anatomy of ideas and assess why some ideas thrive in the context of business. Their work is highly relevant for the context of the church and would be worthwhile reading and study for those interested in increasing the “stickiness” of their ministry.

ⁱⁱ Information on types of memory can be found in any number of neuroscience resources, including *Brain Rules* by John Medina, *Learning & Memory* by Marilee Sprenger (Alexandria, VA: Association for Supervision and Curriculum Development, 1999) and an outstanding website, thebrain.mcgill.ca, from the Canadian Institute of Neurosciences, which provides a breadth of basic educational information about the brain.

ⁱⁱⁱ See John Medina’s 10th Brain Rule concerning vision, which can be accessed at www.brainrules.net/vision.

^{iv} See John Medina’s 5th & 6th Brain Rules concerning repetition, which can be accessed at www.brainrules.net.

^v William E. Doll identifies four criteria for a post-modern curriculum: richness, recursion, relations and rigor. His article is entitled, “The Four R’s – an Alternative to the Tyler Rationale,” found in *The Curriculum Studies Reader, 2nd Edition*. New York: RoutledgeFalmer, 2004, 255-256.

^{vi} Educators such as Eric Jensen, Patricia Wolfe, Wally Wood and others suggest that ideally prior assessment of knowledge is most effective when done 7-10 days in advance of the new knowledge in order for the teacher to study the results of the assessment and prepare the curriculum accordingly.

^{vii} An excellent resource to aid volunteers in understanding the connection between brain research and faith development is Barbara Bruce’s book, *Our Spiritual Brain*, (Nashville, TN: Abingdon Press, 2002) which offers practical application and activities for the church classroom setting.

For further reading:

Heath, Chip, and Dan Heath, *Made to Stick: Why Some Ideas Survive and Others Die* (New York: Random House, 2007).

Hogue, David. *Remembering the Future, Imagining the Past: Story, Ritual, and the Human Brain* (Cleveland, Ohio: Pilgrim Press, 2003).

Medina, John. *Brain Rules: 12 Principles for Surviving and Thriving at Work, Home, and School* (Seattle, Wash.: Pear Press, 2008).