For the past four decades, considerable research has been dedicated to one question: How do students learn? Much progress has been made in understanding brain functioning, which has given us a clearer picture of how learning occurs. Another area of intense research has been learning styles. While a large number of theoretical constructs have been proposed and tested, much confusion still persists.

The many attempts to understand this complex subject resemble the story of the blind Hindustani men and the elephant. Just as each man felt one small part of the elephant and shared his perception of what an elephant was like, just so learning-style proponents are trying to understand the total learning process by focusing on very limited areas in a complex maze of possibilities. No one researcher is absolutely correct or completely wrong. Kernels of truth are revealed by each exploration, but no single study presents a complete picture.

This article will discuss issues related to learning styles so teachers both understand what is known about the learning process as well as what still remains a mystery.

An Elusive Definition
Much confusion has resulted as researchers attempted to define the various learning styles.
styles. Rayner and Riding have traced the evolution of the research. In the 1940s, researchers studied cognitive elements such as seeing things as a whole or in detail (wholistic versus analytic); concrete versus abstract; relating to words or to pictures (verbal versus visual); and field independence versus field dependence. Other research studied whether people handled ideas in a random or sequential manner; the rate at which an individual makes decisions (impulsivity versus reflectivity); convergent versus divergent thinking; wholistic versus serialist thinking; and intuitive versus analytic reasoning.

Four decades later, Dunn, Dunn, and Price attempted to build a more comprehensive model that included 23 elements in five basic strands (the environmental, emotional, sociological, physiological and psychological processing preferences). Certain learning “preferences” related closely to personality styles, so researchers developed models relating to personality factors, drawing upon the extrovert-introvert and sensing-intuitive definitions of the Myers-Briggs Type Indicator. Proponents of this approach categorized learners as extroverts (those who relate naturally to the external world and people) or introverts (those who enjoy internalizing and reflecting). They concluded that, in information processing, people either use input from their five senses (sensing) or perceive patterns gathered through experience (intuition).

Still other researchers considered learning style as a process or a sequence. David Kolb developed a simple 12-question instrument to assess learning style. His theory suggests a sequence that begins with concrete experience, moves to reflective observation and abstract conceptualization, and finally to active experimentation. For a complete learning experience, students must complete all four stages. However, many students will never progress beyond the first stage without proper guidance and encouragement.

This theory was further developed into a framework that used four combinations of the above dimensions, resulting in four quadrants to encompass variations in learning style:

1. Accommodator—combines active experimentation and concrete experience.
2. Diverger—combines concrete experience and reflective observation.
3. Assimilator—combines reflective observation and abstract conceptualization.

Kolb’s model has been used extensively in the United States during the past two decades. It influenced Honey and Mumford’s Learning Styles Questionnaire, which deals with management of the workplace. The LSQ classifies workers into four types of learners—activists, theorists, pragmatists, and reflectors.
Despite the intense, ongoing search to clearly define learning styles, there are many jigsaw pieces that do not seem to readily fit together to form an integrated picture.

U.S. university revealed that more than 75 percent of the faculty were IN (introverted/intuitive), in contrast with the majority of the students, who were ES (extraverted/sensing). Also, Raschick et al cited research conducted by Kruzich, Friesen, and Van Soest in 1986, which found that students scored highest in concrete experience, while faculty scored highest in abstract conceptualization (using Kolb’s Learning Style Inventory). Faculty often create classroom environments that are rewarding to them personally but prove to be extremely frustrating for students.

Rita Dunn, a strong proponent of matching teacher and student styles, thinks that learning styles will become an integral part of lesson planning and classroom instruction within the next decade. In their experiments with learning styles, Dunn, Dunn, and Price have helped set up special schools where teachers use resources and methods that best match each child’s learning preference. Students are taught to recognize and rely on their personal learning-style strengths and to teach themselves and others using those strengths. These researchers report significantly higher test scores and/or grade-point averages for students whose teachers changed from traditional teaching to learning-style teaching at all levels from elementary through college. However, this claim is questioned by Vicki Snider, who cautions against being overly enthusiastic about matching specific instructional methods to certain learning styles. Her study into learning styles reveals that matching teacher and learner styles has produced inconclusive results.

The question is this: Should we design courses and educational environments that cater to students’ individual learning styles, or should we create environments that require them to learn in ways that are different from their existing strengths in order to help them develop the cognitive skills to handle different types of learning materials?

Teachers must exercise caution in trying to create an ideal learning environment. In catering to each individual style, rather than helping students to be aware that they must operate in different styles, depending on the nature of the subject, we may be limiting their potential for learning.

While learners may function well in a controlled environment, such
“hothousing” may prove detrimental in the context of their total lives. The stark truth is that once they leave the classroom, young people cannot expect to spend the rest of their lives in sterile environments that have been shaped to suit their learning styles. Students may learn more effectively if they become alert to how they perceive and process the material to be learned. If teachers regularly vary their teaching and discuss what each student finds most compelling and challenging, they can help students become more aware of how to learn most effectively.

In the Information Age, facts become outdated all too quickly, which only emphasizes the need for a commitment to lifelong learning. To achieve this goal, “helping students learn how to learn may be the most important lesson faculty can teach.” Therefore, getting students to take responsibility for their own learning, with teachers acting as facilitators, is likely to be the most beneficial approach in the long run.

Since the U.S. Department of Labor has identified the ability to know how to learn as the most fundamental skill for the 21st century, McClanaghan points out that self-awareness and self-monitoring are the essential skills for tomorrow’s workers and the organizations that will fuel the global economy.

Teachers seeking to assess learning styles should know that lack of reliability is a serious problem for many of the instruments on the market, such as Price, Dunn, and Dunn’s Productivity Environmental Preference Survey (PEPS) and Biggs’ Study Process Questionnaire (SPQ). The PEPS scale reliabilities do not support their developers’ claims for stable learning style elements resistant to change. The SPQ scale reliabilities, though higher, provide only modest evidence of long-term consistency among the three types of study approaches—“surface, deep and achieving.”

Furthermore, most of the learning-style instruments are time-consuming, difficult to score, and impractical for classroom use. Burns, Johnson, and Gable cite Curry, who warned about “rushing prematurely into print and marketing with very early and preliminary indications of factor loadings based on one data set.” Rayner and Riding wrote that commentators have questioned “the proliferation of style constructs and measures . . . while offering little or no psychometric rigour.”

In light of the questionable value of most learning-style instruments, educators should be careful about categorizing learners and prescribing teaching/learning methods based solely on such tests.

Lederman and Niess note that the volumes of research on learning styles have had little impact in the public school setting. In fact, over the years, there has been a decline in the interest in learning styles and preferences as shown in the indexes of the first, second, and third Handbooks of Research on Teaching. They propose instead that students be helped to “develop adaptive skills” rather than teachers having to change their instructional style to
match students’ learning preferences. 

This proposal gains further support from the fact that as students advance and grow, their learning styles change. Kirchoff, who worked with high achievers, concluded that modality strength is not fixed but temporal; it changes over time “with high academic achievers demonstrating an integration of modalities at an earlier age.”

However, although learning-style measurements are far from perfect, they still can help to increase awareness and understanding as individual students approach a learning situation. They can be used as a springboard for exploration of other learning styles, as students may need assistance to develop a repertoire of styles to deal with different kinds of knowledge.

“Empowering students to adapt is a more proactive and potentially effective instructional approach; . . . learning strategies and metacognition are viable areas to consider . . . Learning with style is critically more important than learning styles.”

Conclusion

In using learning-style instruments in the classroom, keep in mind the following principles:

1. Because of the inconsistency of research results, resist categorizing learners by gender, ethnicity, socioeconomic levels, or race. Do not assume that these groups will have similar learning styles. Be especially wary of drawing conclusions based on a single study.

2. Remember that diagnostic tools are imperfect—they provide only an educated guess about each student’s learning preference at a specific time. Therefore, use them with caution, since students’ learning styles can change during the maturation process. As students gain more insight into how they learn, they should become more adept at using varying styles to deal with different types of knowledge in a variety of situations.

3. Use your knowledge of learning styles to help individual students and to develop a variety of teaching methodologies and approaches.

4. Become a classroom facilitator and mentor, offering insights into the learning process that help students become more aware of their own learning styles and gradually take ownership for learning. Do all you can to encourage students to embrace the goal of lifelong learning.

5. Finally, nurture a healthy respect for diversity and try to view each student holistically. If a child is not progressing despite your best attempts to understand his or her learning style and adapt the content, then perhaps you need to investigate other areas. Has the child suffered some brain damage at birth or during childhood? Is he or she developmentally ready for the schoolwork? Is the child buckling under the strain of home problems, such as marital distress, parental anxiety or depression, or tension between parent and child? Often, other concerns will have to be resolved before the child can master the assigned material.

Much remains to be discovered about the human brain and how it makes the connections that result in learning. Teachers must seek to keep abreast of the research and to teach in ways that most effectively foster learning. This may call for a paradigm shift; it may call for trying new strategies; it may mean falling flat on our faces time and time again before we can cry, “Eureka.” Nonetheless, we must perseverse in our quest to mentor students as they try to make sense of new and exciting concepts.

Comprehending how students learn is a gigantic task that resembles the blind Hindustani men trying to understand an elephant. Although we may feel confounded by the large body of inconclusive research and frustrated as we attempt to achieve the right formulas for learning, we can be secure in the fact that God will be our guide. He has promised us wisdom, knowledge, and skill if we make diligent efforts in the classroom. Ellen White wrote: “God can give you skill in all your learning. He can help you to adapt yourselves to the line of study you shall take up. Place yourselves in right relation to God. Make this your first interest . . . .” This promise will be especially precious for the teacher who struggles to individualize learning in order to reach each student. 

Sally Lam-Phoon, Ph.D., is the Director for Education and Women’s Ministries as well as Shepherdess Coordinator in the Southeast Asia Union Mission of Seventh-day Adventists in Singapore. In her work, she acts as a consultant to schools in Malaysia, Singapore, Thailand, Cambodia, and Laos as they face the challenges of change. Dr. Lam-Phoon’s academic preparation has been in the area of teacher training and adult education; she holds a doctorate in Curriculum and Instruction. She has 25 years’ experience in teaching and school administration at the secondary and college levels in Malaysia, Singapore, the U.S., and Hong Kong, and has served as academic dean at colleges in Singapore and Hong Kong.

NOTES AND REFERENCES


2. Extroversion-Introversion: These terms used in the Myers-Briggs Type Indicator (MBTI) refer to opposite ways of relating to people and activities. Extroverts prefer to draw their energy from their external environment, interacting with others and taking action. They are sociable and expressive, working through ideas by discussing them. Introverts, on the other hand, are drawn to their inner world of ideas and experiences. They prefer to draw energy from self-reflection either in private or in interaction with a few close friends.

Sensing-Intuition (as used in the MBTI) describes how people prefer to gather information.
People who are “sensing” employ their senses to observe what is going on around them. They focus on what is real and tend to be factual, concrete, and observant about specifics. They take time to arrive at conclusions, attempting to understand ideas and theories through practical applications. Conversely, those who are “intuitive” prefer to focus on the big picture, seeing patterns and possibilities. Such people rely on their “sixth sense,” and are often imaginative and verbally creative, drawing conclusions by following their hunches (Isabel Briggs Myers, Introduction to Type [Palo Alto, Calif.: Consulting Psychologists Press, Inc., 1998], p. 6).


5. Ibid.

6. Rayner and Riding.


9. Ibid.


12. Ibid.


15. Ibid., p. 485.


17. Ibid.


20. Rayner and Riding.

21. Ibid.


23. Burns, Johnson, and Gable, p. 277.

Editorial

Continued from page 3

and salesman, Joseph Trombetta took over subscription management for us in 1998. Dedicated and efficient, Joe enters a mountain of data each year, processes changes of address, prepares and mails printouts for renewals, and has become an ace at dealing with our very complex invoicing system. Despite his initial qualms, he has become an expert at using the computer program—even without a user’s manual! Joe works closely with Amy Waller, who wrote the program and makes frequent updates to ensure that all tasks relating to subscription management and billing are performed accurately and in compliance with the complex rules of the U.S. Postal System.

A number of other people’s contributions should also be noted: all of the employees of Southwestern ColorGraphics, but particularly those in the mailing department; Enrique Becerra, who does such an excellent job of producing the international editions of the JOURNAL; the magazine’s advisory board (with current chair Andrea Luxton); my former secretaries Alma DeBoer and Ruby Phalen (both now retired); and last but not least, Dr. Lewis Larson, now deceased, who for a decade not only served as subscription manager, but also championed the publication with eloquent letters to any organization that dared to reduce the number of copies ordered!

A big thanks to these talented and dedicated people!—B.J.R.

ALVN Continued from page 41

through this course to get a feel of what online teaching is about. Of course, it would not be for everyone, but the experience is worth the challenge.”

• “I enjoy learning, and this is something I’ve never done before. Also, I’d rather go out and embrace the future rather than have it come after me.”

ALVN continues to make an impact on the technology use of instructors at all levels of education. If you haven’t yet experienced one of these courses, visit http://www.avln.org/learning to see our schedule and sign up for a course that meets your needs.

A Common Course Management System (CMS)

ALVN has recognized a need for a common Course Management System (CMS) for some time. Currently, Adventist institutions are using Blackboard, WebCT, Moodle, and others. In the summer of 2004, a subcommittee of the Adventist Distance Education Consortium (ADEC), recommended Desire2Learn (D2L) as a potential platform that could meet the needs of all institutions. Currently, discussions are occurring on many different levels about this possibility. Ultimately, we must ask, “What would a common CMS do for Adventist students and teachers?” If you would like to be part of this discussion, send an e-mail message to collaborate@AVLN or to one of the column editors.

Marilyn R. Eggers is an AVLN board member and an Associate Professor in the Curriculum and Instruction Department at La Sierra University in Riverside, California. She develops and teaches online courses, promotes the effective integration of technology into teaching and learning, and encourages collaboration in all areas of education. You can reach her by e-mail at meggers@lasierra.edu.

Shirley Freed is Chair of the Leadership and Educational Administration Department at Andrews University in Berrien Springs, Michigan. She is currently President of AVLN and one of the organization’s originators, and teaches all of her courses online. You can reach her by e-mail at freed@andrews.edu.