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3. Media Psychology and the Online Learning Experience "Neurons that fire together wire together"

Bernard Luskin

Abstract

Learning can be defined as a relatively permanent change in behavior due to experience (Dewey). Understanding the physiology and the neuroscience of learning is a contribution to science. Psychology provides an understanding of the true nature of personal development and transformation and is essential in realizing human potential. Technology innovations continuously infuse changes in teaching and learning. This has been especially true since the COVID-19 pandemic has stimulated technology use. My purpose is to share insights into the changes and new developments in learning psychology, translate them into positive learning opportunities, and relate them to online and distance learning.

Keywords

distance learning; online learning; personal development

Zooming into the Future

ZOOMinars are now expected as a teaching-learning tool. Zoom, Microsoft Team, and WebEx, as examples, have been increasingly used because of the unexpected demands of COVID-19 in our schools, colleges, and companies. To the newer to learning, I interviewed Dr. Edward Valeau, Valeau Enterprises and Education Expert, USA, Adam Leipzig, CEO of MediaU.com., USA; Dr. Bob Wright, CEO, USA; Dr. Judith Wright, Chief Academic Officer, USA; Dr. Michael Zwell, Chancellor of Wright Graduate University for the Transformation of Human Potential, the USA and Dr. Toni Luskin, Media Psychologist, USA. We analyzed Neuropsychology, Online, and Distance Learning.

We focused on understanding the detailed mechanics that enable the experiences that translate learning in the brain into personal experiences and memories that are registered in the mind. Marshall McLuhan is noted for explaining, The medium is the massage and the message is the message. (McLuhan) Online learning has now taken its place as a learning modality and the COVID-19 pandemic has expanded and imbedded online learning worldwide. Long Beach City College, Miami Dade College, Coastline, and

Orange Coast College, all United States community colleges, are examples of best practices.

Applying Hebb's rule

In 1949, Donald Hebb offered a straightforward physiological metaphor describing the learning connections in a neural network. Hebb's rule says that neurons in the brain that fire together, wire together, forming a neural network in the brain. John Dewey urged that education is more than preparation for life. Dewey opined that education is life itself. The American Psychological Association defines psychology as the study of the mind and behavior. The actual physical manifestations in learning occur through a neural network of dendrites and synapsis in the brain, manifesting learning experiences that register in the mind. Each experience comprises a sensory response, translated through the mind's interpretation of symbols translated through language into the understanding of the experience in the mind. Learning requires a relatively permanent change in behavior as a result of experience.

Synesthesia, Semiotics, and Semantics

Synesthesia is the phenomenon of experiencing multiple sensations, including color, taste, and feel. Human senses include hearing, seeing, feeling, touching, and smelling. Translating and remembering these physical sensations affect behavior. Physically, each sense is separate. We hear with ears; see with our eyes, smell, touch, feel and taste through our skin. Perception, including sensory couplings, happen to everyone all the time. Richard Cytowic points out that everyone experiences some level of synesthesia. Synesthesia involves the physical and perceptual interpretations of these senses. (Cytowic) Now, through the FMRI (functional magnetic resonance imaging), monitoring, seeing, measuring, and understanding how perception occurs is measurable and can be documented. We now know more about learning, media, and psychology than ever before. My learning model is expressed through Luskin's 3's model. They are (1) Synesthesia, (2) Semiotics, and (3) Semantics, combined into sensations in the brain and registered in memory as an experience in the mind.

As learners, we have become human-centered and screen-deep. We are learning a great deal through our computers, iPads, iPhones, Apple Watch type wrist devices, cable, satellite webinars, and all forms of social media. Advances in science, psychology, technology and new teacher education from COVID-19 have permanently changed our education, teaching, and learning world. Understanding current developments and trends are critical for teachers, counselors, administrators, staff, and students. While the fundamentals of life and learning are constant, how we get our information and engage in new experiences is changing.

Now, artificial intelligence, "AI," is the new area of computer science advancing the development of software applications that simulate thinking,

discover meaning, and make decisions through complex and dynamic data. Pundits point to an endless suite of innovations made possible by AI, including self-driving cars, robots, facial recognition technologies, big-data analysis, and more. Advanced AI systems also compose text, audio, and images to such a high standard that observers have difficulty determining the difference between human and computer-generated output. Learning psychology is the way to understand and participate in these advances that are changing the future.

Learning Psychology

The fields of Neuropsychology, Learning Psychology, and Technology, plus new ways of sharing knowledge anywhere, anytime, are uniquely advancing. Today, we are learning how to learn in new and empowering ways. This includes classroom, blended, fully online, and DIY (Do It Yourself) learning. The point is you can learn in any way that is comfortable for you. Learning psychology translates through the brain's neural network into the images and language of the mind and online learning. If you believe that John Dewey was right that education is life, then one of your most valuable skills must be the *transformational art of living*.

Following are 12 best practices, informed by the interviews and my years of research and practice in psychology and education, coupled with contemporary research in online teaching and learning. My experience and intentional treatment of the course development as a research project were significant factors in creating and teaching this course successfully online.

12 Online Best Practices in Community College Leadership and Administration are offered as examples derived from the interviews and my experience

1. The Cohort Model works well in specific circumstances. It enables students to know each other and progress together. The Cohort Model creates a community of shared interest and community of practice. Research shows that students do best when they know each other.
2. "Active" Learning. Active learning mixes spurts of discussion, collaboration, video and audio clips, hands-on exercises with text, and brief video lectures. All approached the entire experience as an active learning online course.
3. Lessons Organized Topically in Modules. Keeping each student engaged is a major objective. Designing communications in 10 to 15-minute "chunks" is important. Also, varying the format and choices in student response options offers enable typed, spoken or video responses in the Canvas learning environment. Attention is a limited resource and the variety and options available invigorate the students' learning process.
4. Clear assignments and deadlines are essential. Straightforward communication of what is expected and the timelines for completion are important.

5. Being physically and mentally present makes a difference. Ideally, faculty members online are the "guide on the side." Faculty members are coaches. Being mentally present, paying attention, and fully engaging with the students are the most important practices the teacher can embrace. Research shows that the "sage on the stage" is best when blended as the "guide on the side." An effective guide on the side makes a measurable, positive difference in student engagement, attention, learning, and satisfaction. Perfecting the "guide on side" techniques is one of the more prominent features and necessary for effective progress in online courses. While the content may be the same, the methodology in online and face-to-face classroom classes is significantly different. The messages remain the same while the content's message is quite different.
6. Instructor presence is critical. All those interviewed agreed that active faculty presence is critical to student success in a virtual class environment. Today's online courses are rigorous, demanding and require attention and engagement.
7. Respond selectively and effectively. Thoughtful personal responses have a positive effect. They humanize the online learning experience for both the faculty and the students.
8. Multiple means of engagement enhance the connection of the learner to the course objectives and facilitate the learning experience. To do this, in the past, I have leveraged a variety of available tools, including typed responses, VoiceThread, Personalized Video Clips and more.
9. Scheduled weekly sessions work. Providing an asynchronous content research and learning pattern, paired with synchronous sessions for cohort discussions, were successful. Students reported positively on their experiences. Classes may meet in a Zoom Session, as a class, for 90 minutes once each week throughout the course.
10. Easy access and frequent contact with faculty members make a big difference. "Removing the desk," i.e., making it easy to contact faculty is very important to student success.
11. Easy-to-follow course design is important. For example, in the past, I have divided many topics and assigned them, for presentation purposes, among individual students. Each student then researched, posted, and led a discussion on two topics scheduled over eight weeks. Each week was topically separated. Selected students posted their assigned Topic Talking Points on Sunday evening, and then all students read each topic and commented on the online discussion board on Monday, Tuesday, and Wednesday. A 90-minute Zoom Session may be effectively scheduled each Wednesday evening for 3 to 5 topic presentations. Post the Zoom Session on Wednesdays, each student exchanged after-action comments during the rest of the week. The following Sunday, 3-5 new topics were posted and the format was repeated. Feedback from students was very positive. This description

describes what has been termed in this article as the "flipped-class." There are many variations to this strategy.

12. Talking Points, Elevator Speech and Nutshell Essay methods are effective techniques. As noted earlier, Nutshell Essays, Talking Points, Elevator Speech, or whatever one chooses to call them, are the subject of each week's study as described in 11 above. This format works in courses such as leadership, administration and management, chemistry, mathematics, psychology and many more where topics and fundamentals can be specifically identified and shared.

Concluding Comment

Best practices in teaching and learning include a stream of defining moments and epiphanies that may be effectively offered online. Teaching includes inspiring one's students. One critical key to success in online courses is having easy access to faculty. A principal objective is to create conditions that allow students to flourish and where the environment is as personalized as possible. Almost every education system in the world is now being reformed. Perfecting successful online courses and program offerings is a big part of this process of change and reform that is the future of education.

This article reviews the nature of learning, argues for the importance and value of online learning, and gives my research's twelve best practices as examples of successful initiatives. I hope that research on best practices will continue widely. Results must be increasingly shared to foster continuous improvement. My view is that our future in education is changing and bright. Online, distance, and blended learning will continue to expand across the planet successfully. By working together and sharing our experiences, we can continue to progress by sharing our best practices and asking ourselves: *"What needs to change and What needs to remain the same?"*

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