

Regaining their attention: Stronger neural networks for majority world learners, accustomed to rote-memorisation¹

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Abstract

This chapter highlights the need for an active learning experience. Too often, students are forced to listen to lectures in a passive classroom environment. Yet a focus on neuroscience and knowledge as cognitive, affective, and behavioural will improve teachers' educational methodology. Interaction with and comparison between the Majority World and Western educational models also yield helpful results. While many Majority World students have been limited because of the use of rote-memorisation, they also come from cultures that strongly encourage an active learning experience. This often comes through practical and community-based behaviours. When we study the diverse teachings of Jesus, we realise that he was a Master Teacher who engaged the minds and hearts of his listeners. In addition to these topics, this chapter offers numerous practical suggestions for more effective teaching.

Keywords

neuroscience; andragogy; educational methodologies; majority world; Jesus as Teacher; rote-memorization; lecture

Even good teachers struggle to hold the attention of their students. Our minds are simply too active to remain focused for long periods of time, especially in a classroom setting. Cell phones and other screens exacerbate this pattern of short attention spans. In many classrooms, students remain passive while the teacher lectures. Teachers talk but do not listen, and

1 This chapter was originally presented in the program unit of "Postcolonial Pedagogy for Biblical Studies" at the Society of Biblical Literature International Meeting, Amsterdam, Netherlands, July 30, 2024.

students listen but do not talk.² However, students are not mere heads “to unlatch, open up, and pour content into.”³ Furthermore, students need “exploratory learning”⁴ to avoid passivity. Given this situation of short attention spans, teachers will have to be content with the possibility of *regaining* the attention of their students.⁵

The field of neuroscience gives us encouraging news. New brain cells are formed into adulthood. This is known as *neurogenesis* or *neuroplasticity* and is a process whereby the human brain continually reorganises itself throughout one’s lifetime.⁶ Specifically, the limbic system in the brain is “capable of producing new neurons”⁷ (nerve cells), that form pathways in the brain – by electrical impulses and the release of chemicals such as dopamine. These pathways consist, in part, of dendrites (“tentacles” or “branches”) that connect the neurons. Each neuron can have up to 10 thousand dendrite branches.⁸ These pathways become strong (and “wide”) when our brains are engaged in learning – especially when intellectual content (*cognitive*), emotional energy (*affective*), and lifestyle changes (*behavioural*) are combined.

In this chapter, I will note aspects of the educational history of the Majority World, as well as some educational tendencies of the West. I will also cover the learning process under the three categories of cognitive, affective, and behavioural, colloquially known as head, heart, and hands. In addition, I will investigate insights of neuroscience concerning brain activity during

2 Parker Palmer, in Muriel I. Elmer and Duane H. Elmer, *The Learning Cycle: Insights for Faithful Teaching from Neuroscience and the Social Sciences* (Downers Grove, IL: IVP Academic, 2020), 6.

3 Alemseged K. Alemu, *Predictive Factors for Transformative Learning within ACTEA-Related Theological Institutions in Ethiopia* (Carlisle, Cumbria, UK: Langham Global Library, 2022), 18.

4 Alemayehu Mekonnen, “Christian Leadership in Africa: Effectively Challenging Cultural Contexts,” in *African Missiology: Contributions of Contemporary Thought*, ed. Stephen Mutuku Sesi (Nairobi, Kenya: Uzima Publishing House, 2009), 82–83.

5 See David Goldman, “Teaching Adults: the Agonizing and the Ecstasy” *Engage* 6, no. 3 (Fall 2017): 3, in Elmer and Elmer, *Learning Cycle*, 44.

6 See e.g., Eric Jensen, *Enriching the Brain: How to Maximize Every Learner’s Potential* (San Francisco, CA: Jossey-Bass, 2006), 62–63; cf. David A. Sousa, *How the Brain Learns*, 5th ed. (Thousand Oaks, CA: Corwin, 2017), 5.

7 Alemu, *Predictive Factors*, 28.

8 Sousa, *How the Brain Learns*, 22.

the learning process. I will also present educational methodologies used by Jesus, the master teacher. Finally, I will offer practical suggestions for teachers.

Adult theological education (andragogy) in the Majority World

The majority world has been described as “the non-Western world” and includes Africa, Asia, the Middle East, Latin America, and Oceania.⁹ It is also termed the “Global South.” Today’s advances in neuroscience have validated several (informal) educational methodologies traditionally used in the Majority World. For example, the transmission of knowledge in many societies focused on the formation of one’s character.¹⁰ This combined the cognitive and behavioural (and to some extent, the affective), and thus, resulted in stronger neural networks. There has been a communal approach to learning. Regarding the sharing of homework, one Majority World student commented to his (surprised) professor, “Sir, for us to cheat is to withhold information from a brother who needs it.”¹¹ An individualist is viewed with suspicion, and some African languages describe such a person as selfish.¹² Education for many has been practical and hands-on, encouraging creativity and “life-skills.”¹³ The flow of teaching was “on-site” (and not necessarily in the classroom) and determined by the season of the year and the daily events in the lives of the students.¹⁴ Thus, strong neural pathways have been created in many Majority World societies through hands-on, communal learning of everyday tasks.

However, in some Majority World contexts, learning occurred through rote memorisation. Simple imitation and regurgitation of content were

9 Keon-Sang An, *An Ethiopian Reading of the Bible: Biblical Interpretation of the Ethiopian Orthodox Tewahido Church* (Cambridge: James Clarke & Co, 2016), 7.

10 Elizabeth Mburu, *African Hermeneutics* (Carlisle, Cumbria, UK: HippoBooks (ACTS Nigeria), 2019), 45.

11 James E. Plueddemann, *Teaching Across Cultures* (Downers Grove, IL: IVP Academic, 2018), 64.

12 Jomo Kenyatta, in Mburu, *African Hermeneutics*, 37.

13 Ruhama Gezahegn (Ethiopian professor) in discussion with the author, November 2023.

14 Robert C. Blaschke, *Quest for Power* (Ontario, Canada: Guardian Books, 2001), 115–116.

commonplace.¹⁵ Classroom activities reflected a top-down, teacher-centred reality with rote-learning as the primary methodology.¹⁶ In Ethiopia, “great emphasis” was placed on “the memorisation of content.”¹⁷ There has been an uncritical acceptance of the teacher as the “expert” to whom passive listening was required. In Sri Lanka, “The guru, that is, the teacher, is the one who teaches and knows the subject. The responsibility of the *golayas*, the *students*, is studying – basically memorising what the *guru* has taught.”¹⁸ Similarly, as one Majority World author reminds us, there existed an erroneous assumption that the West “did the talking,” and the rest of the world “the listening.”¹⁹ If a student demonstrated analysis of the content, it was seen as a confrontation with the teacher.²⁰ In some contexts, celebrity leaders and preachers have been imitated, without the requisite critical reflection needed to evaluate their teachings.²¹ Thus, an inordinate fixation on rote-memorisation and an unhealthy focus on charismatic or authoritative figures have lessened the impact of the learning process on some Majority World students.

Western influence in theological education

A Western approach to education has overly emphasised the cognitive aspect in the learning process, to the detriment of a more holistic emphasis. For the most part, there has been “unidirectional transmission” of a specific body of knowledge.²² Ferdinando writes of a “dominantly cognitive approach”

15 Mekonnen, “Christian Leadership in Africa,” 82.

16 Lal Senanayake, “The Imperative of Cultural Integration in Advanced Theological Studies: Perspectives from the Majority World,” in *Challenging Tradition: Innovation in Advanced Theological Education*, ed. Perry Shaw and Havilah Dharamraj (Carlisle, Cumbria, UK: Langham Global Library, 2018), 111–112.

17 Alemu, *Predictive Factors*, 14.

18 Senanayake, “Imperative of Cultural Integration,” 112.

19 An, *Ethiopian Reading*, 2.

20 Alemseged K. Alemu (Ethiopian professor) in discussion with the author, November 2023.

21 Senanayake, “Imperative of Cultural Integration,” 119.

22 Deborah H.C. Gin and Mark Chung Hearn, “Why You Do What You Do: The Power in Knowing and Naming Pedagogies,” *Teaching Theology and Religion* 22, no. 1 (Jan 2019): 32.

in tertiary education, exported by the West.”²³ This cognitive approach caused a surprising reaction in one Majority World learner, who, upon reading famous authors N.T. Wright and R.C. Sproul exclaimed, “They are so impersonal!”²⁴ The common practice of long lectures is another negative characteristic of Western education. In addition, the most common aim of education has been to “pass a decontextualized standardized test.”²⁵ This has fostered an individualistic mentality, with the potential of an unhealthy competition between students.²⁶ This individualism is even more pronounced today, with learners sitting “isolated and alone, each engrossed by an impersonal computer screen.”²⁷ As a result of this one-sided focus on cognitive matters, as well as an individualistic orientation, Western educational influence on the Majority World has not been entirely positive.

Knowledge in cognitive, affective and behavioural spheres

Cognitive

Many practitioners have highlighted the following three areas of learning: cognitive, affective, and behavioural. There is, indeed, a legitimacy to a cognitive focus, given that the storage of facts is needed in multiple life situations. Intellectual knowledge is required for different fields, as well as for normal functioning in society.²⁸ Rigorous academic study that calls for meaningful memorisation will always be necessary throughout the world, regardless of culture.²⁹ However, this cognitive emphasis cannot be performed in isolation. As mentioned earlier, students are not “mere heads.” Human beings are much more complex than a storage unit of data. In fact,

23 Keith Ferdinando, “Jesus the Theological Educator,” *Themelios* 38, no. 3 (2013): 371.

24 Ruhama Gezahegn (Ethiopian professor) in discussion with the author, November 2023.

25 Plueddemann, *Teaching Across Cultures*, 87.

26 Earle and Dorothy Bowen, “Contextualising Teaching Methods in Africa,” *Mission Nexus*, July 1, 1989, <https://missionexus.org/contextualizing-teaching-methods-in-africa/>.

27 Ferdinando, “Jesus the Theological Educator,” 373.

28 Elmer and Elmer, *Learning Cycle*, 29.

29 Plueddemann, *Teaching Across Cultures*, 10.

if practitioners of theological education focus primarily on the cognitive “without addressing character, attitudes, ambitions and priorities,” the result will tend to produce Pharisees.”³⁰ Although a cognitive emphasis is crucial – especially given the New Testament focus on sound doctrine – it needs to be supplemented with other aspects of the learning process.

Affective

The role of emotions in the learning process has not received the attention it deserves. Most people do not intuitively connect emotions with intellectual growth. Some models in the past “tended to separate the *cognitive* (thought, reason, logic), *affective* (emotion and feelings) and psychomotor (*behaviour*) aspects of learning as though they happen independently of each other rather than in dynamic interaction.”³¹ However, emotions and cognitive processes “are much more interdependent than previously understood, each acting in concert with the other in the decision-making process.”³² Specifically, new or revisited information enters our thinking, thus activating the cognitive part of our brain. This new information often promotes a positive emotion that causes us to ponder it more deeply. Then, we will find ourselves thinking about what would happen if we tried to live out the truth of this new or revisited information.³³

Specifically related to neuroscience, some observers previously believed that emotions were concentrated in only one area of the brain. However, emotions, feelings and sensations are not concentrated in some type of centre but are distributed into *seven* different areas of the brain.³⁴ Emotions produce chemicals that physiologically fire the synapses between neurons – thus creating neural pathways.³⁵ *We remember intense emotions.* This is true for negative as well as positive emotions. Emotions such as

30 Ferdinando, “Jesus the Theological Educator,” 364.

31 Elmer and Elmer, *Learning Cycle*, 6–7.

32 Edward W. Taylor, “Transformative Learning Theory: A Neurobiological Perspective of the Role of Emotions and Unconscious Ways of Knowing,” *International Journal of Lifelong Education* 20, no. 3 (May–June 2001): 231.

33 See Elmer and Elmer, *Learning Cycle*, 7.

34 Eric Jensen, *Teaching with the Brain in Mind*, rev. 2nd ed. (Alexandria, VA: ASCD, 2005), 70, emphasis added.

35 Rita Smilkstein, *We’re Born to Learn*, 82, in Elmer and Elmer, *Learning Cycle*, 64.

“stress and fear cause the brain to be flooded with cortisol, a chemical that seriously impedes the ability of the hippocampus to retain new or call up old information.”³⁶ It is axiomatic that “we don’t forget the hot stove or the scare or the kiss or the wedding day.”³⁷ We remember the good times and the bad! Our minds play the scene over and over – especially if it was a traumatic or euphoric event. We emotionally treasure the good memories – thus strengthening the neural pathways; or emotionally regret or grieve the bad memories – reinforcing their neural presence in our brains. Positively speaking, when students are emotionally encouraged, endorphins are activated in the brain, “which generate positive feelings and stimulate the frontal lobes where thinking takes place.”³⁸

How can teachers encourage this emotional side to the learning process? For one, they can foment curiosity by using illustrations to challenge students. One such challenge emboldens students to search for knowledge as a treasure. A teacher could give the illustration of numerous \$100 bills hidden in various books in the library. It is obvious that students would exhibit extreme motivation and be emotionally engaged in opening several books.³⁹ Emotions often drive our activities. Teachers can also demonstrate the *value* of class content. As a result, students may be more encouraged and engaged and will not just passively receive intellectual content.⁴⁰ Successful teachers show a contagious passion and enthusiasm for class content.⁴¹ In sum, emotions are not separated from cognitive processes and are indispensable to the learning process.

36 D. Davis, “A Brain-Friendly Environment for Learning,” 6, in Perry Shaw, *Transforming Theological Education: A Practical Handbook for Integrated Learning*, 2nd ed. (Carlisle, Cumbria, UK: Langham Global Library, 2022), 176–177.

37 Elmer and Elmer, *Learning Cycle*, 59.

38 L. Nilson, Teaching at Its Best, 5, in Shaw, *Transforming Theological Education*, 158.

39 Steven A. Hardy, “Theology of Theological Education” (lecture, Evangelical Theological College, Addis Ababa, Ethiopia, January 17, 2020).

40 Shaw, *Transforming Theological Education*, 157.

41 Elmer and Elmer, *Learning Cycle*, 48; cf. Shaw, *Transforming Theological Education*, 324.

Behavioural

The behavioural sphere of learning is crucial for the educational progression of the student. We note the advantage of the Majority World where “knowledge is conceived of more broadly than that which is based on scientific method and studied in a formal setting.”⁴² Many in the Majority World focus on *practical* knowledge. This idea coincides with the Hebrew concept of knowing that is not limited to the cognitive sphere. For example, the Hebrew verb *yada* is used in Genesis 4 for Adam and Eve in sexual intimacy.⁴³ In addition, biblical understanding of knowledge “is closely tied to the act of obedience.”⁴⁴ Learning needs to go “beyond the cognitive level to the point where the student can incorporate it in his or her ministry and daily life.”⁴⁵ Nonetheless, again, we still incorporate the cognitive, for we base our behaviour on Scripture, as “it is impossible to live the distinctively Christian life without consistently developing character that is shaped by one’s beliefs concerning Christian doctrine.”⁴⁶ We are to challenge students to master the broad corpus of theological knowledge, while acknowledging that Jesus called us to “to make disciples by ‘teaching them ... everything’ (a cognitively oriented message), but [also] by ‘teaching them to *obey* everything’ (an obedience-oriented message).”⁴⁷

A holistic methodological approach is needed. As Senanayake writes: “people need to use their whole being – body, mind, and spirit – for learning to be considered valid and complete.”⁴⁸ Shaw reminds us that the process of learning and understanding is complex, and “the physical, emotional, relational, cognitive, moral and spiritual aspects of the human person

42 S. Merriam et al., *Learning in Adulthood*, 179, in Senanayake, “Imperative of Cultural Integration,” 123.

43 Plueddemann, *Teaching Across Cultures*, 2, note 3.

44 Alemu, *Predictive Factors*, 15.

45 Elizabeth Mburu, “From the Classroom to the Pulpit: Navigating the Challenges,” in *African Contextual Realities*, ed. Rodney L. Reed (Carlisle, Cumbria, UK: Langham Global Library, 2018), chap. 13, Kindle.

46 Eric W. Zeller, “Toward a Theology of Global Theological Education: Primary Ministry in the Pastoral Epistles,” Paper presented at the annual meeting for the Evangelical Theological Society, San Antonio, TX (November 15–17, 2016), 8.

47 Shaw, *Transforming Theological Education*, 277.

48 Senanayake, “Imperative of Cultural Integration,” 123.

are closely intertwined.”⁴⁹ We should be cognizant of the three areas of learning: cognitive, affective and behavioural.

Jesus as master teacher

In the four Gospels, Jesus is described as “Teacher” forty-five times and “Rabbi” nearly fifteen times.⁵⁰ His teaching was “unexpected and often confusing ... [compelling] struggle” in the minds of his listeners.⁵¹ He “provoked reactions,” both hostile and positive.⁵² He taught in a context of the erroneous teaching of the experts of the Law. Therefore, to disrupt and dislodge these misguided teachings, he used statements that pushed people to think, to be disturbed, and to figure out what was correct.⁵³ Focusing on the “kingdom of God” – his most common theme – also highlights Jesus as Master teacher. This phrase was an ambiguous, even provocative term given in the first-century powder keg context of Roman occupation amidst a Jewish desire for another Phineas or Judas Maccabeus. It suggested numerous possibilities. Was the kingdom of God a political or a spiritual reality, or both? When would it arrive? Was it only a future reality?⁵⁴ In addition, Jesus’ approach often incorporated questions. In total, there are over 125 questions by Jesus in the Gospels.⁵⁵

Research has shown that cognitive dissonance is a powerful concept in human development and growth.⁵⁶ An intellectual struggle is often a starting point that leads to clarification.⁵⁷ Some observers claim that serious instructors foster perplexity in their students.⁵⁸ Jesus frequently caused

49 Shaw, *Transforming Theological Education*, 156.

50 Robert H. Stein, *The Method and Message of Jesus’ Teaching*, rev. ed. (Louisville, KY; London: Westminster John Knox Press, 1994), 1.

51 Plueddemann, *Teaching Across Cultures*, 91.

52 Ferdinando, “Jesus the Theological Educator,” 360.

53 Elmer and Elmer, *Learning Cycle*, 98.

54 See Stein, *Method and Message*, 65.

55 Stein, 23–25.

56 Elmer and Elmer, *Learning Cycle*, 91.

57 Plueddemann, *Teaching Across Cultures*, 96.

58 K. Issler and G. Habermas, *How We Learn*, 60, in Shaw, *Transforming Theological Education*, 248. Anecdotaly, for years I have presented an apparent Bible contradiction

cognitive dissonance with his hearers. His conversation with Nicodemus started with the ambiguous phrase “born again,” and this aroused curiosity and perplexity and “stimulated [Nicodemus] to ask leading questions.”⁵⁹

Jesus and diverse teaching methods

Jesus modelled other compelling educational methodologies. He used “overstatement” to capture the attention of his listeners. The resulting exaggeration “forcefully brought home the point he was attempting to make.”⁶⁰ He called his hearers to “hate” their father and mother (Luke 14:26), as well as to “take out” the lustful eye (Matt 5:29).⁶¹ Jesus also used hyperbole. One example includes Matthew 7:5: “first take the plank out of your own eye, and then you will see clearly to remove the speck from your brother’s eye.”⁶² Another educational methodology centred on the use of puns, especially with homonyms. For instance, he accused the religious leaders of straining out “a gnat but swallowing a camel” (Matt 23:24). The word for gnat in Aramaic is *galma*, and the word for camel is *gamla*. Jesus thus said, “You blind guides, you strain out a *galma* but swallow a *gamla*!”⁶³ Jesus used stylistic devices like repetition, rhythm, alliteration, assonance and symmetry.⁶⁴ He used similes, metaphors, proverbs, paradoxes, a fortiori statements, irony, figurative actions, and poetry. This poetry is in the form of synonymous, antithetical, as well as synthetic parallelism.⁶⁵

Perhaps the use of parables is Jesus’ most well-known educational methodology. These “teased and tantalised” and were “deliberately

at the beginning of class and have taken the attitude of a skeptical atheist while describing it. Then, often by slow, incremental steps, plausible answers are given to the resolution of the apparent contradiction. One such example centers on the issue of “Abiathar” or “Ahimelek” as high priest during the time of David’s men eating the bread. See Mark 2:26 in light of 1 Sam 21:1, 6.

59 Plueddemann, *Teaching Across Cultures*, 103.

60 Stein, *Method and Message*, 8.

61 This latter statement is a deliberate overstatement, and obviously not literal, as the blind can still think and lust. See Stein, *Method and Message*, 9.

62 Throughout this chapter, I am quoting from *New International Version* (Grand Rapids, MI: Zondervan, 1984).

63 Stein, *Method and Message*, 13.

64 Ferdinando, “Jesus the Theological Educator,” 365.

65 See Stein, *Method and Message*, 14–22, 26–29.

enigmatic, puzzling, and for many readers essentially opaque.”⁶⁶ For one Majority World leader, the parables of Jesus are preferred in contrast to the doctrinal letters of Paul, for they have a forceful emotional impact on her, such that the educational process was more fluid and caused her to feel like she wasn’t in a classroom setting.⁶⁷ Parables forced Jesus’ listeners “to make a mental and spiritual effort to penetrate the surface and grasp the deeper levels of meaning.”⁶⁸ In many ways, Jesus combined the cognitive, affective and behavioural spheres. He provoked emotional reactions, caused cognitive dissonance, asked penetrating questions, challenged their lifestyles, and used a variety of other diverse teaching methodologies to regain and hold the attention of his audience.

Practical suggestions for effective teaching

In today’s climate, we need to understand Scripture, but also “deeply” understand (*cognitive*) the culture where we are teaching.⁶⁹ In other words, our biblical teaching needs to be contextualised, even to the extent of considering social, economic, political, and theological aspects (*behavioural*).⁷⁰ Our attitudes (*affective*) need to exhibit a deep humility as we learn the culture where we are teaching. This practical knowledge is important, given “the numerous and profound cultural factors [that] impact the way our students engage in their studies.”⁷¹ Understanding culture is challenging, not least because “culture hides more than it reveals,

66 Ferdinando, “Jesus the Theological Educator,” 367.

67 Ruhama Gezahegn (Ethiopian professor) in discussion with the author, November 2023.

68 Ferdinando, “Jesus the Theological Educator,” 36.

69 Zeller, “Toward a Theology,” 22. Bluntly speaking, Western professors need to be admonished to be quiet and learn from others (see Diane Stinton, “Koinonia (Fellowship) around the Mwaki (Fireplace): Reflections on Twenty-First Century Global Theological Education,” in *Majority World Theologies: Theologizing from Africa, Asia, Latin America, and the Ends of the Earth*, ed. Allen Yeh and Tite Tiénou (Littleton, CO: William Carey Library, 2018), 63–64).

70 Mburu, “Classroom to the Pulpit,” chap. 13, Kindle.

71 Senanayake, “Imperative of Cultural Integration,” 109.

and strangely enough what it hides, it hides most effectively from its own participants.”⁷²

Teachers also need to love and understand their students. As one observer notes, “Love, understanding, and respect must be the bedrock of any effective teacher in any location ... Students don’t always remember what the teacher says, but they do remember what the teacher loves.”⁷³ Interactions with students, inside and outside of class, are highly influential to the students’ perceived transformative learning experience.⁷⁴ The impact of emotions on the learning process is evident with this idea.

Skilled teachers (metaphorically) guide students on a pilgrimage. This contrasts with a factory metaphor where a teacher considers the student a mere product that conforms to the teacher’s directives. It also contrasts with teachers as gardeners who acquiesce to a student-centred learning – where the context of the student is overemphasised, and hands-off contact is presupposed so that the student can grow by themselves. The pilgrimage metaphor exhibits a balance between the cognitive, affective and behavioural. Sufficient attention is given to class content (*cognitive*), the expertise of the teacher (*cognitive*), the context of the student (*behavioural*), and the emotionally encouraging (*affective*) journey of a pilgrimage.⁷⁵

Saying “no” to lectures

“When are you going to stop lecturing?” This ambiguous question could come from a student listening to a teacher who continues to drone on and on, or from an educational theorist challenging the centuries-old hegemony that the lecture model has held.⁷⁶ Generally speaking, lectures were required in earlier times when books were not as available, and

72 Anthropologist Edward T. Hall, *The Silent Language* (Greenwich, CT: Fawcett, 1959), 39, in Plueddemann, *Teaching Across Cultures*, 42.

73 Jessica A. Udall, “The Need for Contextualized Missiological Training Resources for Use in the Majority World,” Paper presented at the Southeast regional Evangelical Missiological Society, Columbia International University (March 18, 2017), 8.

74 Alemu, *Predictive Factors*, 79.

75 See Plueddemann, *Teaching Across Cultures*, 15.

76 In the case of Ethiopia, the lecture method continues to be reported by students as “the most frequent” educational method (Alemu, *Predictive Factors*, 74).

lectures were the only avenue for people to acquire information.⁷⁷ While the complete elimination of lectures is not possible (for a variety of factors), there needs to be a serious re-thinking about the length of our lectures. Neuroscientists using brain imaging machines (an FMRI, “Functional Magnetic Resonance Imaging”), note that “brain activity was highest during the 1st 10 to 12 minutes of a learning session, then plateaued, but then dropped quickly around the 17–18 minute mark.”⁷⁸ In other words, around the 15-minute mark, we are in danger of losing our students. Research has shown that “learners retain in six weeks perhaps 5 percent of what is learned through traditional teaching strategies [like lecture], and in two years the recall is inconsequential.”⁷⁹

What is a way forward? One suggestion is the use of “mini lectures” of 3 to 15 minutes, sprinkled with illustrations, passion and surprise, followed by a learning task that requires students to think or to act upon the content.⁸⁰ Also, neural networks can be strengthened through critical reflection, repetition, discussion, and rehearsal of material.⁸¹ Additionally, a teacher can pause during a lecture, survey the room and ask a specific student: “Do you agree with what I just said?” or “What would you have said had you been there?” or “Could you summarise briefly what has just been shared?”⁸² A teacher can call on a student and say that 5 minutes later, the student will be asked to give feedback on a specific question. This gives the student time to think and work out an answer, as well as challenging other students to pay attention to evaluate the response of their fellow student.⁸³ There could also be a “two-minute learning task”: Students turn to their neighbour and share an important insight or truth from the topic. Each student would talk for one minute.⁸⁴

77 Elmer and Elmer, *Learning Cycle*, 54.

78 Elmer and Elmer, *Learning Cycle*, 43.

79 Shaw, *Transforming Theological Education*, 240–241.

80 Elmer and Elmer, *Learning Cycle*, 39, 47.

81 Taylor, “Transformative Learning Theory,” 220; cf. Elmer and Elmer, *Learning Cycle*, 28; Gin and Hearn, “Why You Do What You Do,” 33.

82 Elmer and Elmer, *Learning Cycle*, 47, 28.

83 See Plueddemann, *Teaching Across Cultures*, 114.

84 See Elmer and Elmer, *Learning Cycle*, 46.

Writing encourages slow, methodical reflection. In class, students could be tasked with writing down what struck them as a key idea, and then sharing what was written.⁸⁵ There could be a “memo to myself” exercise.⁸⁶ The use of post-it notes or small notecards is beneficial, for it requires all students to engage in a brief summarising exercise, as well as allowing the teacher to quickly consolidate and share the content of the students’ brief summaries. Repetition is important, and the usefulness of the lecture method is determined by the extent to which it actively engages the students in the learning process.⁸⁷

Further creativity and suggestions for effective teaching

A corollary topic, related to repetition, is allowing students to redo their writing assignments. Giving helpful feedback will emotionally affirm students and give them confidence. This feedback should be in the context of a good student-teacher relationship. An already-existing rapport with students will assist in the acceptance of constructive criticism.⁸⁸ A redoing of their work opens possibilities to be active learners. Very few students will achieve the expected learning outcome on the first attempt.⁸⁹ Personally, I have assigned a two-page exegetical paper in my Exegesis class on a particular passage in Ephesians, which I carefully read and offer numerous suggestions. Then, the students take my suggestions and complete a 4-page assignment on the same passage, redoing and resubmitting their original 2-page paper as part of the 4-page assignment. A similar practice involves the reading (and marking) of their own papers: “In groups of three to six, students each read their own papers silently and physically underline a section that is particularly salient as a way to reinforce their own learning. The papers are then rotated around the group so that groupmates can read just the highlighted portion.”⁹⁰

85 See E. Gravett, in Shaw, *Transforming Theological Education*, 248.

86 Elmer and Elmer, *Learning Cycle*, 79.

87 Alemu, *Predictive Factors*, 74.

88 See Mark A. Olander, *Teaching Creatively and Effectively* (Nairobi: Tropical Springs Kenya, 2014), 11.

89 Senanayake, “Imperative of Cultural Integration,” 124.

90 Gin and Hearn, “Why You Do What You Do,” 39.

Aristotle emphasised individual freedom, creativity and curiosity. Interestingly, the word “school” comes from the Greek meaning *leisure* or *the freedom to indulge in debate*.⁹¹ Thus, creative teachers “provide an environment that encourages and rewards students’ own expressions of creativity.”⁹² In many Western educational contexts, students learn to “acquire knowledge”, to “function independently”, and to be a “productive member of society.” However, in Majority World contexts such as Sri Lanka, a person must “study culture in the form of poetry, art and music, social ritual, history, political theory, and ecological concerns” to be a full member of that society.⁹³ This learning process involves creativity and engages more than intellectual content. Songs, stories, visual arts and dramatic arts often combine the intellectual, affective and behavioural. This creativity component is important for many Africans, since the arts are an important part of their daily experience.⁹⁴ Instead of developing a 10-week course on the doctrine of God, for example, could we approach the students and ask them about their current problems, circumstances or recent events, and see how the doctrine of God would address these?⁹⁵ Students could be given the opportunity for various “modes of expression” and “multiple ways to express their comprehension and mastery ... [with] oral presentations, videos, newspaper articles, photo essays, radio documentaries, community research, and web publications.”⁹⁶ In addition, we all know how music powerfully enflames our emotions. Finding ways to connect the content of the class with music to promote emotional engagement is a further avenue to explore. For myself, Tchaikovsky’s Symphony No. 2 in C Minor (Op. 17, “Little Russian”: IV. Finale. Moderato assai – Allegro vivo), represents depth and richness and provides intense emotional reverberations. Using famous pieces of art can also be an avenue for exploratory learning. I have used in a classroom setting (with much benefit) “Wanderer above a

91 Richard Nesbitt, *The Geography of Thought* (London: Free Press, 2004), 4, in Plueddemann, *Teaching Across Cultures*, 51.

92 Shaw, *Transforming Theological Education*, 324.

93 Senanayake, “Imperative of Cultural Integration,” 120.

94 Mburu, *African Hermeneutics*, 59.

95 This would remain a valuable exercise, as long as Scripture remained authoritative. See Blaschke, *Quest for Power*, 131–132.

96 Senanayake, “Imperative of Cultural Integration,” 124.

Sea of Fog” by Casper David Friedrich as well as “Las Meninas” by Diego Velázquez. Obviously, the use of local examples in each cultural context would be beneficial.

I mentioned earlier the use of questions by Jesus. I have also suggested that many teachers spend an inordinate amount of time “talking at people, instead of engaging them. One easy way to fix that habit is to add more questions” into our teaching.⁹⁷ As Hoffeld writes, questions hijack the brain. They take over what the brain is concentrating on. He even suggests that the seemingly innocuous question of “what colour is your house?” requires complete (though momentary) concentration. In other words, we don’t have to tell our brains to think about this question – the hijacking comes automatically.⁹⁸ It is important to emphasise the need for “open questions” that stimulate thinking. Such questions can produce cognitive dissonance. Exploration of potential answers to the open question, with alternate opinions proposed, will force evaluation and possibly an emotional response, and will ultimately increase learning potential.⁹⁹ “Closed” questions, on the other hand, only require a yes or no answer and are to be avoided, as well as asking for a “show of hands” in response to a question. This latter example will not promote individual critical thinking skills. Other types of questions include analysis questions, synthesis questions and evaluative questions. One writer proposes another type: “Questions for the author.” Specifically: “if the author of today’s reading were present today, what would you ask him/her?”¹⁰⁰ There are also affective questions: “What was the most important/exciting thing you read/heard in this week’s readings/lectures?” and behavioural questions: “What would you have done? Why do you think this is the best choice? How would you put this into practice in your own context?”¹⁰¹ The regular use of questions in our educational methodology will be an effective way to regain the attention of our students.

97 David Hoffeld, “Want to Know What Your Brain Does When It Hears a Question?” The Science of Work, Fast Company, Feb 21, 2017, [https:// www.fastcompany.com/3068341/want-to-know-what-your-brain-does-when-it-hears-a-question](https://www.fastcompany.com/3068341/want-to-know-what-your-brain-does-when-it-hears-a-question).

98 See David Hoffeld, in Elmer and Elmer, *Learning Cycle*, 40.

99 Elmer and Elmer, *Learning Cycle*, 96–97.

100 See Shaw, *Transforming Theological Education*, 270–273.

101 Shaw, 276–277.

Another approach is role-play. The teacher could create scenarios or case studies. A role-play would reflect real-life scenarios and an appropriate response.¹⁰² One specific example: “a teacher who is compassionate and a teacher who was insensitive towards the students.”¹⁰³ This would illustrate positive and negative aspects of the learning process. Another, more detailed role-play suggested by Plueddemann concerns a Christian perspective on politics. Students are asked on a scale of 1 to 9 to represent how much government they thought was proper and necessary. The number 1 would represent “no government” and 9 a government with complete control. Then, two islands are drawn. Island A is filled with honest, hardworking and loving people. Island B is filled with dishonest, greedy and selfish people. What kind of government would be needed for each island? What would happen if the two islands merged? From this scenario, the teacher progresses to a Scriptural study of Romans 13:1–7 and 1 Peter 2:13–17.¹⁰⁴ Other ideas: a role-play where a student hears about someone who copied his thesis, or a role-play about books that have gone missing. The questions could then be asked: “What character quality is revealed in these scenarios? “What would you do?”¹⁰⁵ Another idea concerns situations where students have to solve or explain a cultural dilemma.¹⁰⁶

Utilising games and competitive elements is an additional way to encourage active learning.¹⁰⁷ I have used versions of “Family Feud” as well as the childhood game of “Memory.” These games always occur between two teams, and not only exhibit frequent repetition of material, but also a fiercely competitive (and emotionally engaging) classroom interaction. I have also asked for volunteers to come to the front of the class and answer what appears to be a simple question, but turns out to be complex. For example, to the question of “Is Jesus equal or inferior to God the Father?” most students quickly answer “equal” and cite verses such as John 1:1 or John 10:30. I then cite Scriptures such as “the head of Christ is God” (1 Cor

102 Gin and Hearn, “Why You Do What You Do,” 32.

103 See Olander, *Teaching Creatively*, 22–23.

104 See Plueddemann, *Teaching Across Cultures*, 125–126.

105 Olander, *Teaching Creatively*, 40.

106 Elmer and Elmer, *Learning Cycle*, 79.

107 Gin and Hearn, “Why You Do What You Do,” 36.

11:3) or “the Father is greater than I” (Jn 14:28; cf. 1 Cor 15:28). This type of interaction is emotionally stimulating for the entire class.

Small discussion groups are another way to engage students. The quality of discussion topics must be given the utmost attention. Shaw also believes that groups should only include two or three members, so that “every person [will have] the opportunity to express an opinion, and it is far more difficult to remain silent and uninvolved. In groups of five or more, certain individuals will tend to monopolise the discussion, and one or more members can remain uninvolved observers.”¹⁰⁸

While admittedly impractical, teachers might consider how to incorporate physical exercise into their syllabi. We now recognise that physical exercise increases brain performance, for

physical activity increases the number of capillaries in the brain, thus facilitating blood transport. It also increases the amount of oxygen in the blood, which the brain needs for fuel. The concentration of oxygen affects the brain’s ability to carry out its tasks. Studies confirm that higher concentrations of oxygen in the blood significantly enhance cognitive performance in healthy young adults.¹⁰⁹

This exercise would reinforce the connection between the behavioural and the intellectual. Could we attempt the radical (though again, impractical) assigning of homework that involves physical exercise – solely for the result of increased brain performance?

Another practical suggestion: an effective teacher will consistently repeat several “big ideas.” These should be given in a “simple and memorable form – preferably as a short declarative sentence.”¹¹⁰ I have repeatedly mentioned the need to focus on “sound doctrine” in my classes. Shaw writes:

... in my own corpus of teaching I have developed a series of key themes that run through my teaching, to which I find myself

108 Shaw, *Transforming Theological Education*, 249.

109 Sousa, *How the Brain Learns*, 232–233. See also the research on the connection between nutrition and intellectual capability in Jensen, *Enriching the Brain*, 74–75.

110 Shaw, *Transforming Theological Education*, 171.

returning over and over again: ‘Education is about learning, not teaching’; ‘Holistic learning embraces the affective, behavioural and cognitive domains (the ABC of learning)’; ‘Less is more’ (when we teach less content but go deeper in reflection on that content, more learning takes place); ‘We live between redemption and consummation’; ‘The journey of fifty miles begins with one step.’¹¹¹

Finally, sharing stories and illustrations is an important part of a creative methodology. Stories engage all parts of the brain, and complex neuronal networks are formed.¹¹² Specific stories almost always grab our attention. For example, note “The monkey and the fish”:

A typhoon had temporarily stranded a monkey on an island. In a secure, protected place, while waiting for the raging waters to recede, he spotted a fish swimming against the current. It seemed obvious to the monkey that the fish was struggling and in need of assistance. Being of a kind heart, the monkey resolved to help the fish. A tree precariously dangled over the very spot where the fish seemed to be struggling. At considerable risk to himself, the monkey moved far out on a limb, reached down and snatched the fish from the threatening waters. Immediately scurrying back to the safety of his shelter, he carefully laid the fish on dry ground. For a few moments, the fish showed excitement, but soon settled into a peaceful rest. Joy and satisfaction swelled inside the monkey. He had successfully helped another creature.¹¹³

One final suggestion relates to the planning aspect of teaching. According to Shaw, effective teachers “devote as much time (or more) to preparing the lesson methodology as they do the lesson content.”¹¹⁴ This will come as a surprise to many. Most teachers spend nearly all their time preparing the content, with a serious lack of focus on a particular methodology. However,

111 Shaw, 170.

112 James E. Zull, *The Art of Changing the Brain* (Sterling, VA: Routledge, 2002), 228, in Elmer and Elmer, *Learning Cycle*, 69–70.

113 Origin unknown, see Elmer and Elmer, *Learning Cycle*, 70–71.

114 Shaw, *Transforming Theological Education*, 268, emphasis added.

the best teachers will have fluency in a wide range of pedagogies and will take the necessary time to adequately prepare.¹¹⁵

Conclusion

We have discussed the need to regain the attention of our students through the creation of strong neural networks in the brain. We have also covered the educational history of the Majority World, with its focus on character formation and hands-on learning, though within the context of rote-memorisation. Negative educational tendencies of the West included an overdependence on cognitive matters and the predominant methodology of lecture. We have studied the learning process under the three categories of cognitive, affective, and behavioural, and have seen that all three are crucial. Jesus, as a master teacher, caused disequilibrium by using numerous educational methodologies to capture the attention of his hearers. As teachers, we need to seriously reconsider *how* we lecture. We need to encourage active learning and avoid passivity in the classroom. We can regularly ask ourselves a series of questions so that we regain the attention of our students and become creative and effective teachers. Will we regularly reassess our teaching methodology? Will we allow our students to remain passive? Will we reflect a lack of awareness (like the monkey) as to the needs/context of our students? Or will we passionately convey relevant and stimulating content that enflames the emotions and inspires students to live out the Christian faith?

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115 Gin and Hearn, “Why You Do What You Do,” 44.

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