

‘Rainbows’ and ‘Fata Morganas’:
A Critical Re-exploration of *Teaching for the Two-Sided Brain:*
A Guide to Right Brain/Left Brain Education

Richard R.P. Gabbrielli

Abstract

This paper offers a critical re-exploration of a classic yet somewhat overlooked teacher-training/teacher-development resource (*Teaching for the Two-Sided Mind: A Guide to Right Brain/Left Brain Education*) drawing from the philosophical constructs of ‘rainbows’ (pictures) and ‘fata morganas’ (mirrors) as utilized by Eco (1986). The discussion herein takes the position that this important volume continues to be of relevance to ELT professionals today and rightly deserves to be reevaluated given the passage of time since its publication in 1986. To this end, the inherent strengths and limitations of the book are carefully explored and considered. By way of conclusion, this paper argues that the narrative in *Teaching for the Two-Sided Mind: A Guide to Right Brain/Left Brain Education* should be reconsidered and reappraised within the ever-expanding spectrum of teacher-training/teacher-development resource materials available to the professional ELT classroom practitioner.

Key Words : Teacher training and development, ELT, life cycle, right brain/left brain education

Introduction

While metaphors may require an imaginative leap in their initial use ... many metaphors become so habitually employed that they are no longer perceived as being metaphors at all. (Chandler, 2007:127).

Eco (1986) presents us with the curious and rather intriguing images of ‘rainbows’ and ‘fata morganas’ as a unique rhetorical device in his philosophical approach to vivisection, deconstructing and elucidating the intricacies of human language as a unique signing and semiotic system. As metaphors derive from our physical, social and cultural experience (Vico, 1744/1968), for Eco (ibid), the ontological ‘rainbows’ are pictures for us to observe and think about, whereas the ontological ‘fata morganas’ are mirrors that reflect reality (and possible illusions). For Sunim (2017:43), mirrors also reflect, but do so “without judgment or identification.” Therefore, through engagement and reflection, the reader is invited to interact via these metaphors in synergistic

ways in order to gain a very unique perspective on the subject in question. In similar fashion, this paper employs these poignant and thought-provoking figures of speech in its critical re-exploration of both the 'pictures' and 'mirrors' between the pages of *Teaching for the Two-Sided Mind: A Guide to Right Brain/Left Brain Education* by Linda Verlee Williams. The rationale for doing this is because metaphors can be perceived as 'language in action' (Bolinger and Sears, 1981) and as powerful, cerebral, symbolic tools in human communication. As Ackerman reminds us (2004: 2014-215):

But metaphor isn't just decorative language ... we all use countless metaphors every day, unconsciously, to provide an important hinge between feelings and ideas.

By way of context, *Teaching for the Two-Sided Mind: A Guide to Right Brain/Left Brain Education* was acclaimed as a seminal publication for teachers in training and for experienced teachers alike in the early, nascent days of ELT (English language teaching/TEFL/TESOL/ TESL/TEO) – a time when the profession was arguably in search of a valid identity away from the apron strings of education, foreign language teaching, and other areas of academic and professional interest which helped to establish and shape its initial direction. Contextualized this way, the book quickly established itself as an early pioneer due to its direct relevance to classroom practitioners, providing a much-needed orientation and ground-breaking compass to those embarking on a career within the profession, and this volume continues to be so because of its scope and primary objective in dealing openly and sensitively with the art and science of thinking and its role in education, and by implication, ELT, in a manner that allows contemporary professional practitioners to draw inspiration from the wealth of information and reflective exercises between its covers.

Given the wealth of professional ELT teacher-training/teacher-development resources that are now available to help the practitioner, *Teaching for the Two-Sided Mind: A Guide to Right Brain/Left Brain Education* can be characterized intrinsically as a metacognitive guide, workout, and workbook, detailing the mechanisms and systems in the brain, about the educational implications of the different functions of each side of the brain, how we learn, our learning preferences, and how our brain allows us to make sense of the world inside us and around us. In practice, it is an applied guidebook about the art of learning and how teachers can approach the craft of nurturing and nourishing it more successfully in the classroom. This paper offers a critical reflection on the subject matter of this book, its aims and objectives, and its wider implications, all with particular reference to the concept of professional life cycle.

Teaching for the Two-Sided Mind: A Guide to Right Brain/Left Brain Education:
Life Cycle and its Implications

Although not expressed explicitly in *Teaching for the Two-Sided Mind: A Guide to Right Brain/Left Brain Education*, the notion of life cycle is embedded within the evolving discussion

related to teacher development and reflective practice. For the purpose of clarity, life cycle (incorporating stages, phases, seasons, and rhythms) is understood herein as a (natural) process that follows a sequential order. Conceptually, life cycle can also be defined as a metaphorical structured path, or from a biological perspective, observed as the developmental stages in a person's life (from birth to death). In a similar way, within Human Resource Management (HRM), the employee life cycle has become a construct that measures the stages in a person's professional life from beginning to end. These stages often underscore the importance of: attention, recruitment, onboarding, development, actualization, and exit.

Key studies on life cycle have been conducted by Huberman (1989, 1993), and Fessler (1985), which emphasize the following complex and intricate themes which are manifested in a series of phases through the cycle period:

- Growth
- Challenges
- Transformation

Within this framework, *Teaching for the Two-Sided Mind: A Guide to Right Brain/Left Brain Education* cast and positioned itself from the very outset as a revolutionary teacher-training/teacher-development resource book with the aim of assisting practitioners on various levels at whatever phase of the career they may find themselves.

Teaching for the Two-Sided Mind: A Guide to Right Brain/Left Brain Education:
Anatomy and Physiology

Teaching for the Two-Sided Mind: A Guide to Right Brain/Left Brain Education is divided into 10 chapters (with a four-page Preface, an annotated Bibliography and an Index):

1. Learning With the Whole Brain

The Two-Sided Mind and Education

This chapter deals with logical, linear thinking, insight and creative discovery. The chapter examines processing styles and how teachers can balance teaching and learning techniques so as to make sure that the right hemisphere is not neglected at the expense of the left hemisphere.

2. Scientific Theory and Education in Practice

Differences between the Hemispheres

A Model of Specialization

Implications for Education

Learning Styles and the Hemispheres

Teaching Techniques for the Right Hemisphere

This chapter discusses verbal and spatial thinking and highlights the communication channels between the two hemispheres. It also sets out a landscape of the topics that are discussed further in subsequent chapters.

3. How do You Think?

- Strategies and Modes of Thinking
- Teaching Students Process Awareness
- Solutions to Exercises

This chapter stresses our awareness of how we solve problems and the various frameworks and strategies we use to do so. Exercises include using visualization to create and manipulate mental images to solve problems.

4. Metaphor

- Advantages of Metaphorical Teaching
- Using Metaphor in the Classroom

This chapter explores how the holistic, metaphorical mode of teaching can encourage learners to make 'connections' and understand the patterns and general principles that give meaning to the learning of factual information.

5. Visual Thinking

- Training Perception
- Graphic Representation
- Visualization

This chapter investigates the role of visual thinking in the classroom and focusses on three aspects: The gathering and interpreting of information which she calls 'seeing,' the graphic representation of information to clarify thinking processes, and the importance of visualization in order to generate and manipulate visual stimuli.

6. Fantasy

- Experiencing Fantasy
- Observation Fantasies
- Identification Fantasies
- Fantasy as a Basis for Self-Expression
- Evaluating the Products of Fantasy
- Using Fantasy in the Classroom
- Further Applications

This chapter considers the role of fantasy as a creative means to offering new perspectives and as an opportunity to remember information at a deeper level beyond short-term surface learning. The chapter underscores how relaxation, alertness and a receptiveness to inner imagery are the essential elements in how we experience fantasy.

7. Multisensory Learning

Sensory Learning in the Early Primary Grades

Sensory-Motor Integration

Kinesthetic and Tactile Learning

Kinesthetic learning in Academic Subjects

Kinesthetic Perception in Physical Learning

Smell and Taste

Nonverbal Auditory Learning (Music)

This chapter looks at our five senses and the ways in which learners utilize them to create, reflect and express human experiences in the classroom. The chapter also talks about the historically western separation of mind and body which is regarded as detrimental to cognitive functioning.

8. Direct Experience

Laboratory Experiments

Field Trips

Real Objects and Primary Source material

Simulation

Role Playing

This chapter proposes an experiential, holistic, direct-interaction approach to learning that stimulates personal involvement in the learning process. Practical classroom examples given range from the introduction of real objects, primary source materials, to simulations, role play, field trips and experiments.

9. How to Start

Planning for Change

Starting Now

Intangibles

Rediscovering Your Subject

Personal growth

Working Together

Support Groups

This chapter offers a series of ‘pictures’ and ‘mirrors’ to help teachers reflect on their teaching style, thought processes, and the support networks that can make their teaching (more) successful. The thrust of this chapter is the construct of ‘rediscovery’ and the development of teachers’ daily practice.

10. Conclusion

In this concluding chapter, Williams argues that both ‘willingness’ and ‘ability’ are the all-important keys necessary to becoming successful learners in the classroom. On the last page, Williams leaves us with something positive and inspiring to think about (ibid: 196). She says, “The banquet we spread becomes a potluck feast to which both students and teachers contribute and from which both draw nourishment.”

Teaching for the Two-Sided Mind: A Guide to Right Brain/Left Brain Education:
‘Rainbows’ (Pictures) and ‘Fata Morganas’ (Mirrors)

With reference to Eco’s ontological metaphors of ‘rainbows’ and ‘fata morganas,’ the scope of this section is to portray *Teaching for the Two-Sided Mind: A Guide to Right Brain/Left Brain Education* as a metaphorical vehicle of pictures (thought-provoking tasks about learning based in the reality of the classroom) and mirrors (reflective tasks for the development/further development of individual practice).

Within the much broader context of the brain-friendly revolution movement advocated by Fletcher (2000) and others, notable whole-brain and humanistic approaches to learning and teaching, and highly-influential research into multiple intelligences and learner preferences, *Teaching for the Two-Sided Mind: A Guide to Right Brain/Left Brain Education* concerns itself with an all-inclusive approach to teaching and learning based on different learning modalities, even though Williams leans towards right-brain learning throughout the book. The book was published in 1983 (reprinted in 1986), and it is now dated as far as the science concerning brain function is concerned. Specifically, neuroscience (and neurolinguistics in particular) has since debunked the polarized right-brain/left-brain learning model figure 1 below) as an oversimplification (a detailed discussion of neurolinguistics is offered below):

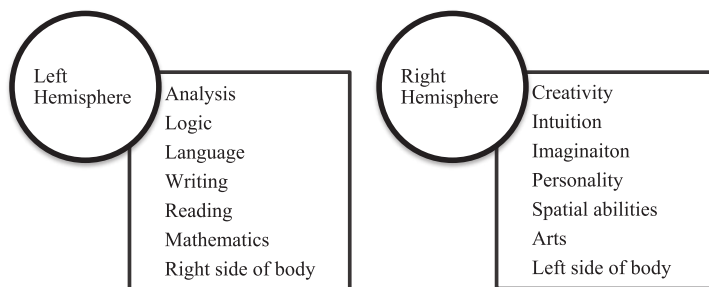


Figure 1: Polarized right brain/left brain learning model

Neurolinguistics has, in fact, approached the mechanisms involved in language learning from a scientific perspective (figure 2):

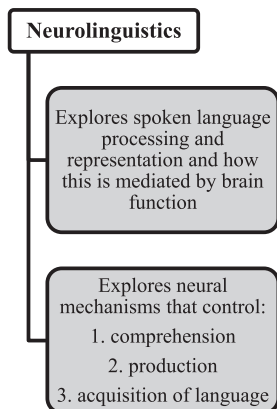


Figure 2: A model of neurolinguistics (adapted from Ingram, 2007, and Caplan, 2001)

According to Ingram (2007), and Caplan (2001) the central questions that neurolinguistics addresses are:

- What biological factors make human communication possible?
- How do we process and understand language?
- How does the brain deal with communication problems?

In *Teaching for the Two-Sided Mind: A Guide to Right Brain/Left Brain Education*, while Williams compares the left hemisphere of the brain to a 'computer' and the right to a 'kaleidoscope,' she does concede in her book that the two hemispheres do act in a complementary way and that more research would yield a fuller and more comprehensive picture of how the brain works in learning. Since this disclaimer was made, the field of neurolinguistics (coined in 1971 by Harry Whitaker to fuse the fields of neurology and linguistics together to explore how language – especially spoken - is processed, represented and controlled by the brain) has offered new and breathtaking insights into what biological factors make human communication possible, how we process and understand language, and how the brain's 'plasticity' deals with communication problems. In ELT, the application of neurolinguistics (how the limbic system in the brain functions as a semiotic/communication system) offers new pathways to enhance social interaction and behavior in the classroom and to promote subconscious acquisition – as seen with the emergence of CLIL (content and language integrated learning).

Setting aside the above mentioned shortcomings, *Teaching for the Two-Sided Mind: A Guide to Right Brain/Left Brain Education* can still be considered to be a reliable and useful resource book for teachers. It has arguably stood the test of time well and continues to offer valuable tips

and sound advice decades later precisely because it was written by a classroom teacher and not a (neuro) scientist. Above all else, it is a book that speaks volumes to teachers about teaching and learning from the perspective of the learner and the learning environment. The question posed and pondered throughout is still a taxing and complex one today – how do we get learners excited about learning and maximize their learning potential? This is still a worthy conundrum to ponder and resolve especially if we accept that in multifarious learning contexts all around the world, different learning styles (and classroom life baggage, extraneous variables) and educational restrictions (sociocultural, institutional, national, etc.) continue to pose significant challenges to teachers in diverse educational contexts. Therefore, the creative, holistic teaching approach that Williams puts forward (anchored in her own classroom experience) can be viewed as an important reminder to all teachers of their unique place, role and function as educators – how the remit of stimulating and igniting learning, fostering motivation, and providing meaningful and personally successful learning opportunities defines who we are as teachers. Importantly, Williams states in her preface that, “The techniques in this book deal with how material is taught, not what is taught. Therefore, they are applicable to any subject and any grade level” (ibid: xii). The book is consequently designed to be a flexible, useful resource, professional tool and guide that resonates with anyone invested in the teaching profession. This mission statement later came to be underscored by Richards (1990) who proposed the idea of self-monitoring in teacher development and the notion of the teacher as self-observer. Equally, Richards and Lockhart (1994), and Woodward (1994) put forward a taxonomy of language learning activities with a detailed discussion of their rationale for learning outcomes.

From the viewpoint of the reader, *Teaching for the Two-Sided Mind: A Guide to Right Brain/Left Brain Education* is written in a very clear, logical and accessible style that invites them to fully engage with the material. It also paints a colorful, vivid landscape with information, facts and classroom-based thought experiments, all the while keeping teachers invested, engrossed, and professionally on their toes. With a successful balance of theory (pictures) and practice (mirrors), the book inspires the classroom practitioner to step out of their comfort zone and ask those characteristically head-scratching questions about building bridges between teaching and learning. For example, one particular standout exercise invites the teacher to do the following (ibid: 93):

For the next two weeks keep track of your use of graphic representation. Begin with your blackboard, overhead projector transparencies, or whatever else you write or draw for students to see. At the end of each lesson, look at your blackboard or transparencies as the visual record of that lesson. Do they communicate the material you wanted to teach? Is the most important information represented in some way? If not, in your next lesson plans, include explicit plans for noting key words or concepts on the board and for representing major points and ideas in a visual form.

In another exemplary exercise, she encourages teachers to do the following (ibid: 104):

Write a paragraph or two describing your teaching style. Now take a blank sheet of paper and sketch your teaching style in whatever manner suggests itself to you. You may use images to create a picture, or you may construct a map or diagram. You may use words as labels.

While each chapter is definitely worth reading for its easy-to-follow narrative, constructive advice and practical exercises, chapters 4 and 6 really stand out for me – the intriguing role of metaphor and fantasy in learning. Metaphor, Williams claims, is about intuition and making connections. She states that, "(It) is probably the most powerful of the right-hemisphere techniques because it makes explicit the process by which learning occurs" (ibid: 59). Her approach to teaching and learning in this chapter hinges on the overarching premise that learners should make use of what they already know (not *tabula rasa*) in order to gain insight as opposed to being passively exposed to prescriptive, predetermined and compartmentalized learning conditions promoted in standard learning resources. Williams also contends that the metaphorical mode of teaching is inherently holistic, overlapping, emphasizing making connections, as opposed to the traditional approach to teaching which she regards as a methodology that separates and compartmentalizes knowledge into distinct, unrelated categories to be learned, represented in figures 3 and 4:

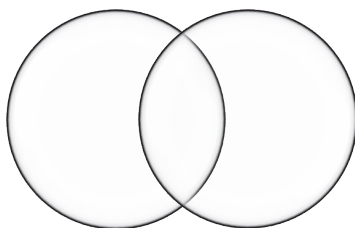


Figure 3: Metaphorical approach (adapted from Williams, 1986)

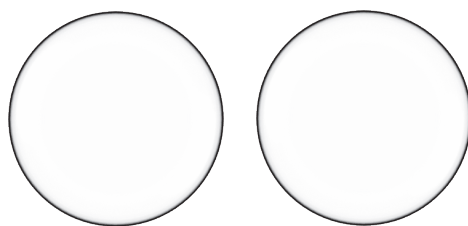


Figure 4: Traditional approach (adapted from Williams, 1986)

On the subject of fantasy, Williams argues that: "Fantasizing is something that everybody does but relatively few people *use*" (ibid: 116). In this chapter, fantasy is defined as a 'door' to our own inner worlds where our imagination creates its own realities without limitations. She contends that fantasy should be honed as a tool in the classroom (referencing its effectiveness

in relation to how Albert Einstein used his flights of fantasy productively to make his various discoveries). Some of the creative activities she offers in this chapter predate the guided-meditation activities now commonly found in various ELT materials and resources for teachers – most notably, Berman and Brown (2000) offer an extensive discussion on the topic and include a wealth of practical activities for teachers. Significantly, all the teaching activities in this chapter are designed to help learners develop and use imagination as a skill and then help them apply it beyond the classroom walls to situations in real life. In this respect, fantasy, as a tool, can be described as a real-world life-training technique. As an example of identification fantasy, she offers the following activity for learners and teachers to try in the classroom (Ibid: 122):

(Eyes closed) Imagine that you are a seed... Feel your round seed-body sleeping in the dry soil... Now the rain starts and the soil around you becomes wet... Feel yourself drink in the moisture... You are beginning to grow... Feel your body growing inside your seed shell... You are developing a root... Feel it grow and press against your shell-skin... The skin splits, feel your root push out into the dark, moist soil... You're still growing... Now your tightly curled leaves push upward... Feel your seed body stretch out as your root grows out through the soil and your seed leaves push upward... Look around you... Listen to the sounds... Smell the odors... Feel the earth around you... The tip of your seed leaves is just below the surface of the soil... Feel yourself break through... Look around at this new world... Listen to its sounds... Feel the sun and air... Smell the new smells... Feel yourself stretch up toward the sun... Let your seed leaves open... And when you feel ready, bring your mind back to this room and open your eyes.

After this activity, Williams suggests that everyone involved should take time to review and understand the inner experience in order to learn more about their own thinking processes through becoming aware of which parts of the exercise were easier and more difficult.

Pre-empting the core questions put forward by Ingram (2007), and Caplan (2001) in relation to the biochemical and neurological processes that allow human language and communication to occur, *Teaching for the Two-Sided Mind: A Guide to Right Brain/Left Brain Education* addresses the central issues at a time before advances in research in neuroscience could offer key insights into how learning takes place in the brain. Importantly, though, the book argues for a supportive, relaxed, safe environment in order for learning to take place, and this *modus operandi* can be equated with the multidimensional functions of psyche posited by Jung (1933) that allow people to make connections and associations automatically and subconsciously in arenas of communication:

- Sensing
- Thinking
- Feeling
- Intuiting

Teaching for the Two-Sided Mind: A Guide to Right Brain/Left Brain Education also appears to have predated the five functions of language (and paralanguage) described by

O'Toole (2008) that are deemed necessary in the classroom (figure 5):

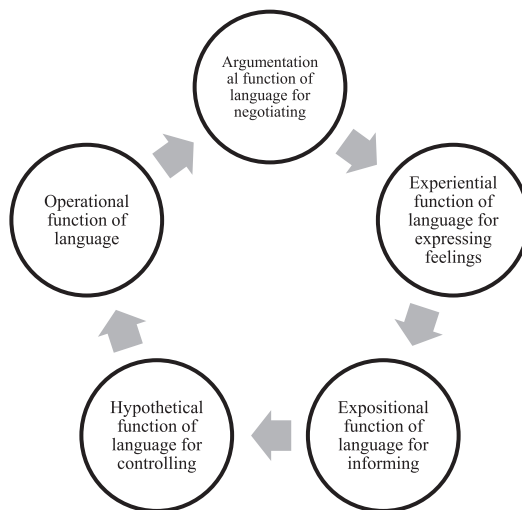


Figure 5: Five functions of language (O'Toole, 2008)

In light of the above discussion on language and communication, especially within the classroom context, *Teaching for the Two-Sided Mind: A Guide to Right Brain/Left Brain Education* can be said to approach the concept of language as a dynamic form of action that encourages learners and teachers to transmit their identity and develop mutual understanding in the 'crucible' of the classroom (van Lier, 2004). This action particularly offers teachers the opportunity to become more acutely aware of the diverse elements and variables that create, develop, and sustain optimum classroom-learning environments that lead to more successful and personally meaningful learning outcomes. Importantly, this action ultimately serves to frame teaching as a source of very powerful, positive emotions (Richards, 2021) and contributes holistically to the collective process of world building within and beyond the classroom walls.

Final Thoughts and Concluding Remarks

Metaphor is one of the brain's favorite ways of understanding the this and that of our surroundings, and reminds us that we discover the world by engaging it and seeing what happens next. The art of the brain is to find what seemingly unrelated things may have in common, and be able to apply that insight to something else it urgently needs to unpuzzle. It thrives on analogy. (Ackerman, 2004: 217).

In synthesis, this paper has underscored the idea that *Teaching for the Two-Sided Mind: A Guide to Right Brain/Left Brain Education* can still be viewed as a respectable and relevant volume today and worth its place on any classroom practitioner's bookshelf alongside the

teacher-training/teacher-development giants of ELT. Despite its age, it continues to be of immense value to those looking to validate or rethink their teaching philosophy or seeking to develop learning/teaching resources from different angles and perspectives. Of particular note, the book showcases activities, exercises, and theoretical underpinnings that it helped to popularize in the formative years of ELT in the 1980s and early 1990s. In sum, on a practical level, Williams' book reflects an authentic classroom narrative stemming from a wealth of personal experience in the field. On a theoretical level, it also adheres to the philosophical ideas of 'integritas' (wholeness) and 'consonantia' (harmony) – encapsulating the integration between body and spirit, and between self and other. Most notably, Noë (2010:7), in considering the nature and function of consciousness, elucidates the complexities of the above terms and concludes succinctly that:

To understand consciousness in humans and animals, we must look not inward, into the recesses of our insides; rather, we need to look at the ways in which each of us, as a whole animal, carries on the processes of living in and with and in response to the world around us. The subject of experience is not a bit of your body. You are not your brain. The brain, rather, is part of what you are.

Specifically, in *Teaching for the Two-Sided Mind: A Guide to Right Brain/Left Brain Education*, wholeness and harmony are expressed as:

- the physical dimensions, demands, challenges, and requirements of the act of teaching which is mediated through the body's senses;
- the metacognitive journey involved in the art of teaching, and the multifaceted role of the perceptive, reflective, and developing practitioner;
- the profession of teaching as a humanistic, cooperative venture created, enacted and developed by learners and teachers in unison;
- the cognitive/neurological processes involved in learning and individual learning preferences and styles, and the socio-psychological dimensions of sharing meaning and learning experiences in the classroom as a non-threatening learning arena (community of learners).

Finally, Williams leaves the teacher with the following guiding mantra (anchored in the metaphorical 'rainbows' and 'fata morganas') for both personal and professional success in the profession (ibid: 182):

Go at your own pace.
 Do what you enjoy.
 Give yourself every chance for success.
 Start with your strengths.

References

- Ackerman, D. (2007). *An Alchemy of Mind: The Marvel and Mystery of the Brain*. New York: Scribner.
- Berman, M. and Brown, D. (2000). *The Power of Metaphor: Story Telling and Guided Journeys for Teachers, Trainers & Therapists*. Carmarthen: Crown House Publishing Limited.
- Bolinger, D. and Sears, D.A. (1981). *Aspects of Language*. New York: Harcourt Brace Jovanovich, Inc.
- Caplan, D. (2001). Neurolinguistics. In Aronoff, M. and Rees-Miller, J. (Eds.) *The Handbook of Linguistics*. Oxford: Blackwell, 582-607.
- Chandler, D. (2007). *Semiotics*. Abingdon: Routledge.
- Eco, U. (1986). *Semiotics and the Philosophy of Language*. Bloomington: Indiana University Press.
- Fletcher, M. (2000). *Teaching for Success: The Brain-Friendly Revolution in Action!* Kent: English Experience.
- Gabbrielli, R. (2016). Neurolinguistics and ELT: Making brain-friendly and teacher-friendly connections. *Modern English Teacher (MET Journal)*, 24 (4) October, 76-78.
- Gabbrielli, R. (2004). A left and right hemisphere approach to developing writing skills. *The ETJ Journal*, 5 (2) Fall, 7-9.
- Ingram, J.C.L. (2007). *Neurolinguistics: An Introduction to Spoken Language Processing and its Disorders*. Cambridge: Cambridge University Press.
- Jung, C. G. (1933). *Modern Man in Search of a Soul*. New York. Harcourt Brace.
- Noë, A. (2010). *Out of Our Heads: Why You Are Not Your Brain, and Other Lessons from the Biology of Consciousness*. New York: Hill and Wang.
- O'Toole, J. (2008). Process, dialogue and performance: the dramatic art of English teaching. In Andersen, M., Hughes, J., and Manuel, J. (eds.) *Drama and English Teaching: Imagination, Action and Engagement*. Victoria: Oxford University Press, 13-31.
- Richards, J.C. (2021). Emotions in Language Teaching. *Modern English Teacher (MET Journal)*, 30 (3) July, 4-8.
- Richards, J.C. (1990). *The Language Teaching Matrix*. Cambridge: Cambridge University Press.
- Richards, J.C. and Lockhart, C. (1994). *Reflective Teaching in Second Language Classrooms*. Cambridge: Cambridge University Press.
- Sunim, H. (2017). *The Things You Can See Only When You Slow Down*. London: Penguin.
- Van Lier, L. (2004). *The Ecology and Semiotics of Language Learning: A Sociocultural Perspective*. Boston: Kluwer Academic Publishers.
- Vico, G. (1744/1968). *The New Science*. Ithaca: Cornell University Press.
- Williams, L.V. (1986). *Teaching for the Two-Sided Mind: A Guide to Right Brain/Left Brain Education*. New York: Simon & Schuster.
- Woodward, T. (1992). *Ways of Training*. Harlow: Longman.

