



Medical Radiation Sciences Narrative

Summiting success: Navigating the educational landscape

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About the author

Zanelle Kruger's professional career began in 2008 when she pursued a National Diploma in Diagnostic Radiography and graduated top of her class with a distinction. In 2012 she completed a course in mammography and graduated top of her class with a distinction. She completed a Bachelors Honours in diagnostic radiography in 2013 and graduated top of her class with a distinction. After completing the Postgraduate Certificate in Higher Education (PGCHE) in 2016 she soon realised that she is extremely passionate about research and graduated with her Master's in higher education in 2021. She worked as a night shift theatre radiographer to support her ambitions. Since 2013, she has lectured part-time at two different institutions. Embracing challenges, she established a private radiographic practice at Cullinan Diamond Mine in 2019. In January 2024, she transitioned to academia full-time and is now enjoying the new challenge as a novice writer.

The evolving landscape of radiography education

Radiography education is ever-changing. The educational landscape is marked by constant technological shifts and formidable challenges, for example hybrid learning platforms and integration of artificial intelligence. The demand for adapt-

able clinical and academic professionals has never been more pressing. In a field where, traditional teaching methods fall short, it's important for students to be critical thinkers who can seamlessly navigate the rapidly changing terrain is paramount. Welcome to the forefront of radiography education, where innovation meets necessity, and where I've crafted a metaphorical compass to guide academics and students through this dynamic educational landscape – my educational practice metaphor.

According to Postman, noted for his work "The End of Education, poets aren't the only ones who employ metaphors; biologists, physicists, linguists, and individuals from various fields also utilise them when expressing insights about the world [1]. Educational phenomena can be complex and metaphors serve as a tool for interpreting unfamiliar concepts, events, or situations by likening them to more familiar ones [2]. The metaphor for my own educational practice and teaching philosophy was developed during my enrolment for a Postgraduate Certificate in Higher Education (PGCHE) at the University of Pretoria. The program focused on the development of lecturers by reflecting and developing, in a scholarly way, a deep understanding of one's learning and teaching practices. Fig. 1 is a visual depiction of my educational practice metaphor; a mountain landscape. Join me as we embark on a journey towards summiting success, where each step forward is a testament to resilience and adaptability.

The mountain landscape represents the learning journeys of my students as well as my own. There are multiple routes that can be taken to reach the summit; this is how I view learning. Each route can be divided into sub-routes that can then be divided further into even smaller sub-routes – each of them connecting with one another. I believe that my role as a lecturer is to engage students in what is to be learnt and how it can be learnt, and engage them in mastering an array of competencies relevant to radiography practice. By creating opportunities for self-empowerment, students are allowed to take different

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Fig. 1. Metaphor for my educational practice. Image credit [3]; [Photographer: David Wilkinson].

directions as they explore different routes in constructing new meaning through principles of self-regulated learning.

For example, during a class session on computed tomography (CT) coronary heart imaging, I observed diverse approaches among students as they navigated through various routes and sub-routes. One group immersed themselves in the content by conducting research on the topic, demonstrating a preference for a logical, fact-based approach. Conversely, the second group meticulously planned their task, subsequently presenting their findings in a well-organized, sequential manner. Another cohort of students opted for collaborative work, engaging in simulated patient positioning within a group setting. Meanwhile, a fourth group exhibited curiosity, expressing interest in the “new” interactive, 21st century hi-tech Health Sciences Library, and its potential for utilizing advanced technology providing virtual spaces and digital 3-dimensional models of the arteries of the heart, as well as exploring available anatomical resources. This observation underscores the diverse pathways students take to achieve the ultimate learning outcome.

It is important for the lecturer to realise no two students will take the same journey; they may even explore routes where I have not been. Metaphorically, a lecturer supports student learning in such a way that all the connections between the different routes taken to reach the summit are not known. The lecturer must design learning opportunities to create self-regulated Whole Brain® students [4]. The Whole Brain® model, developed by Ned Hermann, a pioneer in the study of brain dominance and creativity, is a framework that categorizes thinking preferences and styles into four quadrants. Quadrant A (upper or cerebral left brain), known as the rational self, is described as the analytical quadrant where the thinking processes are associated with logical, analytical, fact-based and quantitative processes. Quadrant B (lower or limbic left brain), known as the

safekeeping self, is described as the practical quadrant, where the thinking processes are associated with organised, sequential, planned and detailed processes. Quadrant C (lower or limbic right brain), known as the feeling self, is described as the relational quadrant, where the thinking processes are associated with interpersonal, feeling-based, kinaesthetic and emotional processes. Quadrant D (upper or cerebral right brain), known as the experimental self, is associated with holistic, intuitive, integrating and creative processes [4-6]. Each quadrant represents different modes of thinking. The Whole Brain model® suggests that each individual has a unique thinking profile, with a varying degree of preference for each quadrant. Understanding these preferences can help individuals enhance their problem-solving, communication and decision-making skills, both individually and within teams [4].

Just as a mountain offers various routes of differing difficulty, Modified Bloom’s Taxonomy [7] categorizes levels of thinking skills, ranging from basic remembering to advanced creating, with a focus on creativity and real-world problem-solving. At the base of the mountain, wide and flat routes represent the initial stages of making a journey toward the summit. While these routes involve lower-order thinking, they are crucial steps toward reaching the peak. As students’ progress along narrower and more challenging routes, higher-order cognitive learning becomes increasingly important. Ascending higher on the mountain signifies the attainment of greater heights, self-discovery, and the ability to think critically. This higher order thinking skills is essential in this ever-changing field of radiology.

During the journey to the summit of the mountain, the guide serves as a lecturer, ensuring the optimal learning experience. The lecturer plans various learning opportunities, implement strategies, act, observe, and reflect on the process. Students are challenged to take new routes with a view to

take control of their own learning through continuous self-development. A landscape with different routes changes continuously. Bushes and branches can close a pathway; it is like the ever-changing world in which we live. Moreover, there are many distractions, such as pollution, global warming, fires, droughts, and natural disasters that may obstruct the landscape and necessitate taking different routes to reach the summit. As a lecturer, I see myself as the guide through this ever-changing landscape, helping students navigate through obstacles and distractions to reach their educational summit. I strive to create opportunities and remove barriers, ensuring that each student can find their way to success despite the challenges they face.

It is important that the lecturer and students alike should not allow these distractions to limit their development. The awareness of these distractions should rather enhance the learning process by motivating one to embark on the quest to find suitable ways to reach the summit.

By embracing the challenges of guiding students through an ever-changing educational terrain, I demonstrate my commitment to fostering critical thinking and scholarly inquiry. This

commitment enables us to master competencies in radiography and construct new insights, empowering each student to reach their educational summit. Together, we navigate distractions and remove barriers, embracing resilience and adaptability on our quest for knowledge and growth.

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