AKADÉMIAI KIADÓ

BOOK REVIEW

Davis, N. (2018). *Digital technologies and change in education: The arena framework.* New York: Routledge

Reviewed by **Beata Dan**[*]

Niki Davis is Professor of e-Learning and Director of the e-Learning Lab at the University of Canterbury in New Zealand, previously a professor in teacher education in the US and the UK. She was a founder editor of ITTE's Technology, Pedagogy and Education Journal.

Using technology blending for teaching and learning is a complex issue. Niki Davis encourages the reader to interpret this book in term of intellectual journeys. The author, using the Arena Framework as a theoretical tool, draws attention to how technology can enable educators all over the world to be more creative and how to connect teaching with virtual platforms. The Arena's conceptualization is based on human ecology; Davis correlates the adoption of digital tools and the expansion of educational systems as one of coevolution.

The *keystone species* in this theoretical framework is the teacher, as the most important part of the structural construction, but throughout the analyses, stories and case studies, the Arena framework tries to map *the educational ecosystem* in a global context. As a metaphor, the Arena is a complex structure by the complexity of the interacting *layers of ecosystems* that this theoretical analysis contains. Speaking about the Arena, the author playfully depicts teachers back in Roman times: *"where the enslaved heroes and heroines (teachers) wrangled publicly with captured wild animals (learners) in the hope of winning freedom from the emperor (politician) and his captains (bureaucrats) for both themselves and those whom they struggled to control. "(p. 162)*

The author narrates the story of her intellectual journey through case studies and research evidence in which she has been involved, migrating to a new country twice while also collaborating with educators, researchers and scholars worldwide (beginning the journey in the 1990s in UK, in 2000 January moving to Iowa State University and from 2008 to New Zealand). Davis Arena's framework has developed over the years, and this framework became immensely valuable in understanding the local, regional, national and global forces that impact on EdTech.

The seven chapters of the book are divided into main parts describing the conceptualization and reflecting on the evolution of new processes in education, applying the Arena as a terminology of the *"field of play"*, a classroom with certain teaching and learning methods. Davis starts her book with an overview in which she highlights the fact that the stories in this book draw out core ideas from a wide range of factors in Australasia, Europe, the United Kingdom and the United States, as well as factors where fewer educational funds can be found.

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In the second chapter entitled *The Arena Framework and a Story*, the author assigns the foundation for the whole book presenting the theory that is the focus of her publication, guiding the reader in a rapidly changing world.

The Arena is a theoretical framework, which allows the readers to plot the features that influence how and why people use digital technologies within an educational system. Davis narrates a story within this chapter about a fictional university, Davis University set in the Midwest of the United States. The central characters of this story use digital tools such as Cloud-based software called Padlet and an administrative innovation, the open source LMS called Moodle. Davis emphasis the global coevolution of Moodle and education. In her perspective, Moodle HQ is an essential service, a for-profit business that carefully blends nonprofit open sources community development. In this chapter, the author provides a holistic description and explanation about educational ecosystems introducing the Arena framework. Still, she highlights the idea that rapid evolution with e-learning in a context in which external shocks take the ecosystem out of the balance is more interesting for research.

In the next chapter, Davis arises the following question *Can Digital Tools Enhance Quality in Learning?* She tries to answer it in a relatively positive manner. By adding a fourth T to Taylor's Ts (Taylor, 1980); that of transformer, so *Tutor, Tool, Tutee, Transformer*. Educators all over the world use digital tools, including a smartphone, a spreadsheet on a laptop, or virtual classrooms. In "technology constructed childhoods" (Fleer, 2011), digital tools are omnipresent. Education cannot hide from them, and they continue to evolve into an increasingly wide range of tools.

Digital citizenship has seven key concepts, the first one is empathy because empathy is crucial to understand human interactions and behaviour, but a good digital citizen has to understand how the internet works, how to use data, has to practice digital literacy and wellness and to acknowledge the digital divide as well as to secure digital devices. Davis describes an exemplary practice of digital citizenship in Aotearoa New Zealand, with indigenous people Te Wānanga o Raukawa, a Māori tribal community college.

The fourth chapter, entitled *Organization-wide Changes with Digital Technologies in Education*, analyses the industrial-age systems *"characterized by standardized, time-based, teacher-centred routines managed in a top-down bureaucratic manner"* (65) comparing with information-age systems. The focus of these analyses is on the process of changing educational structures, presenting the author's practice-based research and development in the field of e-learning by case-studies and sharing good practices.

Change in education on an organizational level is multidirectional, and a bell curve illustration suits best this process in which the majority of organizations cluster in the centre of the curve. Digital technologies caused a change in education and misled to a technocentric perspective on the organizational level, which attracted the name of eMaturity. Davis highlights that promoting the eMaturity matrix is problematic because it can become self-fulfilling.

In the next part of the book, the author analyses the contrast between the two professional development model CBT (computer-based training conducted online) and the organic model. As the reader finds out, CBT is the least successful model launched in 1999 in the UK, providing training to teachers through mass-produced distance learning. The organic one was the most successful model because of its people-centred approach.

Depersonalization is one of the main problems related to online teaching, educators in today's schools find virtual teaching difficult and stressful, and as we know, stress results in teacher burnout. Teachers at risk for burnout came to see their work as futile and meaningless (Farber, 1998). Still,

there are many misconceptions about online teaching. The author presents Aotearoa, New Zealand, where K-12 schooling appears to be a good example for a sustainable part of online teaching. Te Kura was the only school offering a full-time distance program to K-12 students from the 1920s. The educators involved in this innovative process are early adopters using digital tools and services, including an online professional development community Virtual Learning Network Community (VLNC). We can find out that New Zealand's evolution of online teaching is very different from that in the United States due to for-profit organization and the public dissatisfaction with the poor quality of K-12 schools in international compression of academic achievement. In the United States, the Virtual High School (VHS) was established in 1996 as part of a federally funded research project to enhance STEM (science, technology, engineering, mathematics) teaching (Erlbaum, McIntyre, & Smith, 2002; Zucker & Kozma, 2003). By 2015, VHS had developed over 200 original courses, and during that year, 10,525 VHS students took one or more online courses (17,273 course enrolments).

The author explains the complexity of change in her understanding through the Arena framework because this conceptualization *"embraces the notion of ecosystems, which are a well-known form of complex systems"* (p. 128). She suggests that as educators in today's world we have to change our perception, and we should express appreciation to complexity. Online teaching can be interpreted in terms of messes and difficulties, but teachers should be aware that there are different perspectives too. Adopting a complex worldview mapped in the Arena framework and using this in education should be challenging for many stakeholders in education, but Davis hopes that she can help us in this regard by sharing her own intellectual journey toward complexity thinking. She encourages her readers to use the Penrose stairs analogy as a tool that should help to confront the misconceptions related to online-learning.

Taking into consideration the aspect of digital equity and digital citizenship, the author conceptualized her journey to the Arena and beyond from a global perspective. Focusing on education on seeing the stakeholders as unique individuals and tailoring digital tools in response is a big challenge for educators or over the world. Niki Davis admits that it is not about what disciplinary we are adapting to an online platform but about how we are able to take others with us.

This resource is recommended for educators working within online-platforms. The author writes from the user's perceptive and experienced leader of technology devices both from the academic practice's point-of-view and enthusiastic researcher. The reader will find a sign of true passion. The author's analysis of the future-focused schools and presenting her practice-based research should be helpful and practical as ever.

REFERENCES

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