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[Book Review] Transactional Distance and Adaptive Learning, Planning for the Future of Higher Education by F. Saba and R.L. Shearer (2018), Routledge

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would be "A guide to reporting on academic data in K-12". As scholarship, it is not of significant relevance to the interactive multimedia readership of JIME despite a justifiable appetite for more significant insights into analytics.

Review 5: Transactional Distance and Adaptive Learning, Planning for the Future of Higher Education (F. Saba and R.L. Shearer)

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Review of: Saba, F and Shearer, R.L. (2018) *Transactional Distance and Adaptive Learning, Planning for the Future of Higher Education.* London: Routledge. 212 pages. ISBN: 978-1-138-30233-4, ISBN: 9780203731819

The radical changes now underway in the world of higher education that are being partly brought about by the rapid evolution and take up of educational and communication technologies is the context of this book. The movement, from standardised methods of teaching, fixed in static geographical locations, to more individualised, mobile learning is observable across higher education in many countries. These newer teaching and learning methods mean opportunities for a more dynamic experience, focused on and attuned to individual learners. The question now is whether, and how, to move from marginal incremental changes to something far wider and significantly deeper.

In this book, the authors look at this significant development, and at this particular question, using two particular perspectives: (1) the theory of transactional distance, which may be seen as a pedagogical theory specifically formed from systematic analysis of teaching and learning using technology; and (2) the expansion of adaptive learning, by which they mean using learning diagnostics to adjust what and how is taught and learnt.

Transactional distance theory was developed at the time of the expansion of distance education. It emerged to underpin the development of those different and particular skills that are necessary in order to teach at a distance, primarily using print based material. However, in transactional distance theory, *distance* refers not only to teacher and student being in separate physical spaces but to the *distance* between what the teacher teaches and what the learner learns. While this kind of cognitive *distance* is a common conundrum for all teachers and learners, distance education demands special skills which have been linked with the development of online teaching.

An adaptive learning system consists of several key features, most prominently an iterative, dynamic pedagogy, and sufficient learner autonomy to keep students engaged and motivated towards their goals. This is contrasted here with teaching programs that are pre-set, fixed and often repetitive. The development of adaptive learning application software has opened up a range of new opportunities and learning designers, developers and evaluators are now involved in the development of adaptable content, navigation and presentation. An adaptive learning system, it is argued here, will enable teachers to work more effectively with what they identify as the principles of effective teaching: 'encourage contacts between students and faculty, develop reciprocity and cooperation among students, use active learning techniques, give prompt feedback to students, emphasise the important of the time students spend of learning tasks, communicate high expectations from learners, and respect talents and ways of learning among learners.' (Sabi and Shearer 2018 page 40).

The authors provide a detailed examination of the position of transactional distance and adaptive learning in the fast changing world of information and communication technologies (ICT) in Higher Education. They ask whether an adaptive learning system that supports the existing systems of a university could and should play a much more significant role, enabling teaching and learning to become more adaptable to the needs and speeds of each student, leading to higher retention and completion rates. Within the issue of ICT in Higher Education lie a series of difficult questions, many of which are discussed here. The reader's ability to continue to consider these questions is supported with an Appendix wherein the reader can find a review of selected literature. There are thorough and extensive reference lists provided with each chapter.

This book makes an interesting read for those people needing to do some urgent thinking about the emerging and ongoing impacts of ICT on their teaching in Higher Education. There are many insightful and penetrating observations and argument here. Moreover, readers are provided with a series of fictional, lively, very readable, sometimes quite amusing, case studies and case analyses that help think about the issues as they might play out in the real world. For example, the case study in chapter 10, echoes some of the dystopian and utopian views of the future that you can sometimes hear in universities today, such as entirely data driven curricula, or lecturers liberated by ICT from a life repeating similar sets of lectures in large impersonal lecture halls. Conversely, in Chapter 9, the case study is written around a student revolt connected with new technologies, such as frustration with out of date and inefficient platforms not being quickly replaced by the university.

Throughout the book, while there are detailed discussions of pertinent issues, there are times when the authors are providing details specifically from the U.S. Higher Education sector. For example, in their Preface they assert that there is a 'general understanding that higher education is in decline and experiencing a state of crisis' (page xxv), which is probably not a widely held view outside of the U.S. Along similar lines, Chapter 10, with a focus on the management systems in Higher Education, is contextualised using US educational history.

The theory of transactional learning has been around for some time (and the Foreword is written by one of its originators, Michael Grahame Moore). The book opens with a detailed description and explanation of this three dimensional theory (the three dimensions being the structural variables i.e. the curriculum and learning design of a course/module, the dialogue i.e. the specific interactions intended to bring about learning and the variables that affect the learner (most notably the learner's capacity for autonomy and self-direction). Theoretical frameworks like

this, developed in relation to distance education, have a great deal to offer beyond this original focus, as digital education has become mainstream.

The opening chapters of Saba's and Shearer's book explore the principle concepts of the theory of transactional distance and explain how these principles relate to the different components that make up higher educational institutions (hardware, software, telecommunications, instructional, curricular, management, and their societal and global contexts).

These are then followed by a series of chapters focused, at first, on the hardware, software and telecommunications systems that have now becoming fused with a great deal of teaching and learning in Higher Education. They describe how these are working, or perhaps not yet working, to realise their potential and to make real improvements. Examples of the changes that can be made are given, so, for example, students being provided with real time assessments, or being offered adaptations to enable working at different paces, or providing a greater capacity to ask and answer questions or enabling lecturer and student co-creation of course content. With the communication technologies we have now, it is also now possible, perhaps even expected, for students to choose how and when to interact with lecturers, with other students and with their faculties and universities as a whole.

In Chapter 6, the authors provide an overview of how hardware and software systems are rapidly innovating and developing. They describe an expanding range of online teaching technologies and applications. They then go on to discuss some of the thorny issues and difficult practical and philosophical questions that have arisen, for example the need to provide effective security to protect networks and data from cyber-attacks (and to which might be added plagiarism issues and other concerns about online assessment).

Chapters 7 and 8 examine the instructional systems and design models which shape the teaching and learning that defines the nature of a course. These chapters look at the models which have flourished in the past few decades, namely case based learning, problem based learning, project based learning and situated learning which contextualises various learning tasks. Moving from more static, linear education models like those, to more dynamic methods of teaching and learning are, say the authors, at the heart of the essential move from industrial to post-industrial education systems.

The final chapters look at the different structural levels that operate within universities, particularly their curricular systems (and again for non U.S. readers, there is a focus on their credit hour system). This is the crucial level at which there is a great deal of teacher/learner engagement. Decisions need to be made that conceptualize, create and deliver courses and the argument is made here that the time has passed when students only passively observe this process. They can be involved in how their courses are identified, selected, shaped, taught and learnt. Many of these arguments are pulled together in the final chapter.

Inevitably perhaps, with such a complex and fast evolving set of issues, each reader of this book might have questions that are not as thoroughly debated and discussed as they might wish. It is not uncommon in universities today to hear nagging doubts that while there is a great deal to be gained by ramping up the use of ICT, it would be a mistake to proceed without reflecting on the strengths of existing teaching methods which may be drawing on the creative and effective elements that are embedded in social and collective learning.

The subtitle of Saba's and Shearer's book is *Planning for the Future of Higher Education* and there is no sense here that universities cannot, or will not reinvent themselves in the post digital revolution world. The changes to higher education that will be brought about by the digital revolution are already underway and overall, with a few caveats, this is a book that regards the arrival of the digitised university optimistically.

Note
[1] I declare an interest here, as a digital distance educator for the Open University.

Competing Interests
The authors have no competing interests to declare.

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