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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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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 transac-
tional distance and explain how these principles relate
to the different components that make up higher edu-
cational 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 telecom-
munications systems that have now becoming fused
with a great deal of teaching and learning in Higher
Education. They describe how these are working, or per-
haps 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 pro-
viding 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 lec-
turers, 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 exam-
ple the need to provide effective security to protect net-
works 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, pro-
ject based learning and situated learning which contex-
tualises 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 cru-
cial level at which there is a great deal of teacher/learner
engagement. Decisions need to be made that conceptual-
ize, create and deliver courses and the argument is made
here that the time has passed when students only pas-
vively 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 evolv-
ing set of issues, each reader of this book might have ques-
tions 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 revolu-
tion are already underway and overall, with a few caveats,
this is a book that regards the arrival of the digitised uni-
versity 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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