

Digital andragogy: A 21st century approach to tertiary education

Rachel Sheffield

School of Education
Curtin University

Susan Ellen Blackley

School of Education
Curtin University

This paper revisits the term “andragogy” (adult education) and develops new ways of working in tertiary education based upon an analysis of the skills and dispositions of 21st century learners through the lens of adult education, and the affordances of readily-accessible digital technologies. These ways of working constitute what we term “digital andragogy”. In order to engage and retain students and revitalise tertiary education, lecturers need to take account of the profiles of their learners and seek to create learning spaces that best suit their needs and wants. We posit that tertiary learners should be encouraged and supported to transition from pedagogical practices experienced in their school years to tertiary education contexts for learning that are grounded in digital andragogy. Described in this paper is a proof-of-concept project that is currently being undertaken with 88 undergraduate students in a Bachelor of Education Primary course.

Keywords: digital andragogy, tertiary learners, digital affordances

Introduction

An increasing concern for educators in tertiary education is what they consider to be a lack of student engagement with course content (Biggs & Tang, 2007; Massingham & Herrington, 2006). Students approach their studies with a surface approach: enter the learning management system at the beginning of the semester, and then return to submit the assessments on the required due dates throughout the semester. They are more concerned in passing the units in the course and final certification, referred to as *surface learning* (Biggs & Tang, 2007) rather than their personal learning and the development of their professional identity (*deep learning*). Deep learning requires higher-order thinking, collaboration and conversation with peers, and reflection and feedback. In order for this to occur, learners need time to prepare, read widely, reflect, and communicate, and a disposition to do so.

Most of the current learners in tertiary institutions were exposed to *pedagogical* practices throughout their primary and secondary years of schooling (McGrath, 2009), and as a result may expect the same practices to be used by their lecturers in the tertiary context. When mature adult learners are confronted with pedagogical approaches in their tertiary studies, existing predispositions to surface learning may emerge. Whilst surface learning and pedagogical practices may require less energy than deep learning and andragogical practices on the part of both the student and teacher, we believe that neither is conducive to developing 21st century skills or profession-readiness.

Profile of 21st century tertiary learners

Survey data were collected from 1238 Bachelor of Education students over three years (2013 – 2015) to determine their use of and confidence with various digital technologies, and how they managed their studies and other life commitments. Whilst students engage with various digital technologies, it appears that their confidence and use extends only as far as their immediate needs: this includes the Internet, emails, social media (Facebook and twitter) and to a lesser extent YouTube. This finding is supported by Henderson, Selwyn, and Aston (2015, p. 10) who concluded that these are not the “creative, collaborative, participatory and hyper-connected practices” touted in the discourses of digital learning. We suspect that the high use of and confidence with email is in response to preferred communication means with the university, rather than a preferred way of contacting friends and family. Students are much less confident with the other nominated tools such as Dropbox, Wikis, Blogs, Keynote, and Vokis, and often do not use them. When they want to learn to use a new digital technology they do not look to the University or other formalised learning; they go to on-line tutorials, YouTube videos and the support and experience of others, either unknown on-line or known including

family and friends to help them. Digital technologies are used to acknowledge others and to form personal identities (Seely-Brown, 2004). Students demonstrate an approach to learning aligned with “what they need right now” (*personalised*) learning rather than the “just in case” (*directed*) learning of the past. We conclude that students want personalised flexible learning, and instantaneous, personally-directed feedback and communication.

In regards to how they engage with their studies, the survey and interview data indicated that the ability to move in and out of the university landscape quickly and easily, leaving digital bookmarks to know what they have done, what needs to be completed and when, rank highly. Tertiary students prefer to multi-task rather than complete tasks in a linear fashion. Students’ lives are complex having many facets, and they are reluctant to deprive themselves of social contact, relaxation or hours of paid work in favour of a deeper commitment to their studies. They have a spread of technological competences and therefore a range of abilities to manage these aspects of their university lives as opposed to their socially-mediated lives. There is also a somewhat misguided or naïve belief about the tech-savviness of these students. We make many assumptions about their ability to solve basic technical issues including file managing, selecting browsers, accessing materials, and effectively navigating learning management systems.

Digital andragogy

Traditional teaching (using pedagogical practices) in tertiary settings no longer provides the best fit for the learners and their lifestyles, and does not adequately align with how knowledge is accessed and constructed in our Web 2.0 world. This is the optimum time and place to embrace andragogical practices within a digitally expanded educational context: which we coin as “digital andragogy”. Our notion of digital andragogy draws on our profile of 21st century learners, the affordances of Web 2.0 technologies, and the desire to promote 21st Century Learning Skills. Silva (2009) states that “an emphasis on what students can do with knowledge, rather than what units of knowledge they have, is the essence of 21st century skills” (p. 630). Whilst in the literature there are varied descriptions and lists of what constitutes “21st Century Learning Skills”, there are four components that are consistent: Critical thinking, communication, collaboration, and creativity. Clearly these are not *new* skills, but perhaps the point is that they have new importance (Silva, 2009); they have been singled out as highly desirable assets for employability in our digital world.

Our definition of *digital andragogy*, distilled by from our investigation and analysis, is “the practice of educators to equip and encourage adult learners to choose and use the affordances of accessible digital technologies to personalise their learning and facilitate their interactions with peers and tutors”. However to achieve this, we contend that particular ways of working need to be made explicit for *both* the educator and the learner. Table 1 provides details of these ways of working.

Table 1: Ways of Working for Successful Digital Andragogy

Educator actions	Learner actions
Navigation through the unit is scaffolded by “chunking” content and tasks.	Self-directed navigation through the content and tasks is undertaken.
The immediate application of learning is made obvious.	Internal motivation is developed and personal progress monitored.
Tasks and activities are designed to require collaborative team work.	Collaboration with peers occurs in teams with complementary skill sets.
Creative and innovative solutions and practices are modelled.	Past experience and prior learning is drawn upon.
Opportunities for creative development and reflection are provided.	Contextual creativity is developed.
Engagement with a variety of modes and mediums of communication.	Engagement with a variety of modes and mediums of communication.

Enacting digital andragogy

To enact digital andragogy successfully, we suggest that the following principles are addressed by the unit designer:

- The learners are made very aware of the rationale for the non-pedagogical approach, and the expected ways of working (Table 1).
- The learning modules are chunks of information/skills/strategies that encourage learner collaboration and reflection to construct meaning and connections to prior knowledge.
- The assessment tasks serve three purposes, not just determination of grades. The tasks are assessment *of* learning, *for* learning, and *as* learning.
- Task (formative and summative) feedback is prompt, personal, and provided in different formats (written, video, and sound bite).

The one-year proof-of-concept (POC) project that the authors are conducting is piloting a digital andragogical approach in two related and consecutive units in the Bachelor of Education (Primary) at Curtin University undertaken by the same student cohort (N = 88, 10 male, 78 female). Pre- and post-unit implementation data have been collected for Semester 1, 2015 (anonymous online survey and semi-structured email interviews). The Learning Management System being used (Canvas by Instructure™) has been interrogated to investigate site analytics that will also contribute to a picture of the effectiveness of this approach to tertiary education.

Briefly the characteristics of the digital andragogical approach taken in the POC are:

- 5 mandatory Masterclasses as opposed to the traditional 12 tutorial sessions. Students can choose which timetabled Masterclass they attend.
- the remaining 7 timetabled tutorials are for drop-in sessions: students may work in groups or receive individual attention from the tutor who is present for the whole time or choose not to attend and manage their work elsewhere.
- unit content has been chunked into manageable portions & learning is demonstrated by the submission of weekly tasks. These are commented on and feedback provided by the tutor within one week, and they are not part of the summative assessment.
- the LMS being used has important functionality: students can choose multiple ways in which they are notified of announcements, grades, and feedback: ranging from their university student email to Facebook and SMS messages to their phones; they also choose the frequency of the messages (from as soon as sent to once a week), the LMS also has an app for easy access.
- the tutors have digitised information as much as possible using GoAnimations (© 2005 GoAnimate), Vokis (© 2015 Oddcast Inc), Kahoots (© Kahoot! 2014), and video clips.

Findings

The participant response rate was 96.6%, and in this concise paper we shall present the major post-unit implementation findings. Table 2 shows the level of agreement with the importance of various aspects of unit delivery.

Table 2: Post-unit implementation survey data (Question 4: How important are the following to you?)

Unit delivery aspect	% strongly agree/agree
Having access to my tutor	96
Being able to access my unit online	92
Being able to access my unit progression (know what I have done and what to do next)	89
Being able to attend any workshop in the week I want to	73
Attending workshops on campus	72.5
Accessing recorded materials (lectures)	56
Receiving notifications in multiple ways (SMS, Facebook, email)	55
Using my phone to access unit information through the app	47
Contributing to peer conversation (eg. Discussion board)	34

Upon completion of the unit, students reflecting on whether or not the importance placed upon these functions of the LMS and mode of unit delivery had changed revealed that 51% indicated that it was more important for them to be able to access their unit progression, closely followed by 49% indicating that having access to their tutor was more important. Interestingly the lowest scoring aspect from this survey item as shown in Table 1 (contributing to peer conversion) revealed that 62.5% stated that there was no change in their opinion and 8% stated that this aspect was now less important.

The mandatory weekly tasks (scaffolded chunking of unit content and reflection) were contentiously viewed; approximately two-thirds of the cohort valued them and understood the connection to their learning, whilst the remaining third considered them an imposition. From the survey responses, 87.7% indicated that the strongly agreed or agreed with the statement “The weekly tasks were related to my forthcoming practicum and future professional identity”, and the second highest scoring response was 79.5% agreement with the statement “The weekly tasks scaffolded my progress through the unit”. The purpose of the Masterclasses was to provide more flexibility for student engagement in the unit. Table 3 shows the high level of success of this mode.

Table 3: Survey responses reflecting upon the Masterclasses

Statement	% strongly agree/agree
The focus of each Masterclass was clear and relevant	98.6
The Masterclasses were engaging and student-focused	94.5
The Masterclasses allowed me to collaborate with my peers in real time	93
The 5 Masterclasses in combination with drop-in sessions supported my learning and life-style commitments	90.5
The schedule of the Masterclasses allowed me to make choices about my attendance	87.8
The unit delivery worked better for me than the traditional 12 weeks attendance approach	83.8

There were many positive quotes from students about the digital andragogical approach to the unit delivery that seem to support the ways of working identified in Table 1. Some representative quotes are:

The notifications were great and also the ability to upload the weekly tasks and get feedback was good. The Masterclasses were GREAT, quality over quantity!

This has been a very successful learning experience. Having achievable weekly tasks and readings to complete was something I found extremely useful, along with the accessible syllabus and module resources.

I found it really effective having both the Masterclasses which were quite intensive but also having the time to sort of consolidate that learning and speak with you[rself]” which was a sentiment reflected by the majority of the interviewees.

I thought it was good that we had weekly activities because it keeps you thinking about the unit and you don’t just forget about it for a few weeks until you come back for the next assignment” which related to the chunking of the unit content.

Conclusions

The survey data was drawn from on-campus as well as fully online students in this particular unit. Overall, satisfaction was high with the on-campus students and much less so with the online students. The primary reason for this was access to the Masterclasses; despite being recorded live during workshops using iLecture, feedback from the online students was that they felt excluded, could not hear the on-campus student responses, and had considerable “void periods” whilst the on-campus students were discussing or individually reflecting in the flipped classroom. The other main complaint was in regards to having to use both the Blackboard site (to submit assessment and receive summative assessment grades) and the Canvas site for unit implementation. We suspect that the

issue is one of time; typically the online students have work and family commitments, so having to use two LMSs and simultaneously become familiar with a new one, was viewed as time wasted.

In regards to unit delivery using a digital andragogical approach, the steps we undertook in this project matched the ways of working outlined in Table 1. For the second professional studies unit that the on-campus students undertake in semester 2, some minor modifications have been made but the same methodology is being employed. The modifications include changing the cut-off time for weekly tasks, adjusting the course time and local time for submission on Canvas, and not recording the Masterclasses in real time, rather using *Camtasia Studio* (© 1995 - 2015, TechSmith Corporation) software to video and audio record the slide presentations (screen captured) with the tutor's voiceover. This can then be saved and uploaded as an mp4 file for Regional online students to access as they require, and on-campus students to revise Masterclasses.

The increasing use of digital spaces in tertiary education needs to be accompanied by negotiations between educators and learners to ensure engagement and deep learning; we believe this can be achieved by embracing digital andragogy.

References

- Biggs, J., & Tang, C. (2007). *Teaching for Quality Learning at University* (3rd ed.). Berkshire, UK: McGraw-Hill.
- Henderson, M., Selwyn, N., & Aston, R. (2015). What works and why? Student perceptions of 'useful' digital technology in university teaching and learning. *Studies in Higher Education*, 1-13. DOI:10.1080/03075079.2015.1007946. <http://newmediaresearch.educ.monash.edu.au/Inm/new-article-what-works-and-why-student-perceptions-of-useful-digital-technology-in-university-teaching-and-learning/>
- Massingham, P., & Herrington, T. (2006). Does Attendance Matter? An Examination of Student Attitudes, Participation, Performance and Attendance. *Journal of University Teaching & Learning Practice*, 3(2), 82-103. Retrieved 20 April, 2015 from <http://ro.uow.edu.au/cgi/viewcontent.cgi?article=1046&context=jutlp>
- McGrath, V. (2009). Reviewing the Evidence on How Adult Students Learn: An Examination of Knowles' Model of Andragogy. *The Irish Journal of Adult and Community Education*, 99-110. <http://eric.ed.gov/?id=EJ860562>
- Seely-Brown, J. (2004). *Growing up digital: How the web changes work, education, and the way people learn*. Retrieved 21 April, 2015 from http://www.johnseelybrown.com/Growing_up_digital.pdf
- Silva, E. (2009). Measuring Skills for 21st - Century Learning. *The Phi Delta Kappan*, 90(9), 630-634. Retrieved 18 April, 2015 from <http://pdk.sagepub.com/content/90/9/630.full.pdf+html>

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