BETTER TEACHING AND MORE LEARNING IN MOBILE LEARNING COURSES: TOWARDS A MODEL OF PERSONABLE LEARNING

Vanessa Ament[1] and Richard Edwards[2]

Ball State University

[1]*BC 201F, Department of Telecommunications, Muncie, IN 47306, USA*

[2]*BC 220B, Division of Online and Strategic Learning, Muncie, IN 47306, USA*

ABSTRACT

In this reflection paper, we argue, contrary to many positive assessments of the use of new technologies, data analytics and artificial intelligence (AI) in mLearning, it is worthwhile to look again at the process and agency that comes from human teachers and that live teaching acts should be prioritized in the creation of mLearning courses. The mLearning community should re-evaluate how teachers are part of the "most irreplaceable aspect of education: inspiration." (Schrager and Wang, 2017). We will review existing trends in 21st century education that marginalize the role of the teacher and propose a new model that introduces the need for personable mobile learning to place teachers back into their primary role within communities of learners. If mLearning is going to be a dominant trend in 21st century education, it must resist technological determinism and a belief that learners on their own are to be primarily in control of their educational experiences. A model of personable learning restores teaching to its rightful place—as a both powerful source of connection among learners and at the center of any learning experience.

KEYWORDS

Personalized Learning, Teacher Presence, Constructivism, Pedagogy

1. THE PROBLEM WITH PERSONALIZED LEARNING

Someday, bots could be integral to college. They could be your tutor, advisor, grader—essentially, the bulk of teachers' work. Students already are taking lectures online and consuming personalized software instead of reading textbooks. It's not a stretch to imagine the university of the future as a series of private dorm rooms, filled with students chatting with programs all day long. (That teacher bot may have even been built by a bot who was built by a bot.) (Schrager and Wang, 2017).

As evidenced by the above quote, trends in 21st century learning, coupled with advances in mobile technology, are moving towards what is being commonly called "personalized learning." Students are shifting from older forms of knowledge delivery (such as printed textbooks) and embracing newer forms such as computer bots, software programs, and artificial intelligence. As the quote further suggests, the "teacher" in mLearning will increasingly be a non-human teaching program, algorithm or "bot." In this reflection paper, we argue, that contrary to many positive assessments of the use of new technologies, analytics, and artificial intelligence (AI) in mLearning, it is worthwhile to look again at the process and agency that comes from human teachers. In our reflection, we want the mLearning community to reevaluate how teachers must remain the "most irreplaceable aspect of education: inspiration." (Schrager and Wang, 2017). We review three prevalent methods and approaches in 21st century education and demonstrate how they marginalize the role of the teacher in the educational process. Against these trends in mLearning, we propose a new model that advocates for personable learning environments that place human teachers back into a primary role among communities of learners.

The growing ubiquity of mobile technologies offers promises of new educational approaches, often coupled with the power of data analytics. Several teaching and learning methods and approaches have been advanced in educational circles that are closely linked to mLearning. Among the three most prominent are (1) personalized learning; (2) connectivism; (3) learning analytics. Each of these approaches have their adherents among researchers, teachers, and administrators, yet each potentially has limitations and problems when utilized as a core or pervasive methodology in 21st century education.

1.1 The Shift from Teacher-Centered to Student-Centered Learning

The rise of personalized learning as a method seems to be an ideal fit for mLearning. The personal, intimate, and interactive nature of handheld or wearable technologies maps to the kind of learning experience promised by proponents of personalized learning. According to a report by Hanover research:

The shift from teacher- and curriculum-centered learning to student-centered learning has long been underway in the U.S. school system, with roots in the theories of John Dewey, Lev Vygotsky, and Jean Piaget. Personalized learning, on the other hand, has only more recently developed prominence in the K-12 education community. Now, a recent (and presumably ongoing) Department of Education spotlight on personalized learning has firmly established the approach as a pillar of high-quality 21st century learning. (Hanover Research, 2012)

Personalized learning has had a long and complex history. For our purposes here, even in its many manifestations, personalized learning tends to be broadly contrasted with older, more established teacher-centered pedagogies (Wink, 2011). The promise behind personalized learning (as advanced by such organizations as the U.S. Department of Education) is that it will improve individual learning performances and outcomes through adaptive pathways, data-driven assessments, and artificial intelligence (AI), while shifting the economics of the learning paradigm from hiring and compensating teachers and towards non-human technological solutions. In almost all cases, personalized learning approaches require investments into new kinds of adaptive or flexible learning technologies and/or environments to achieve its goals. However, personalized learning necessarily advances the notion of a self-centered learner, often with no connection to other learners. In many cases, personalized learning can remove the need for a live human teacher altogether. Personalized learning raises concerns on how educational experiences will be led, organized, and conducted in mLearning, especially as key educational tasks previously handled by qualified and trained instructors—such as control over the curriculum or the lesson plan—shift primarily to the learner.

1.2 The Limitations of Connectivism

With the rise of MOOCs and online learning in the last ten years, approaches such as connectivism have gained traction in education circles. Connectivism, as defined by George Siemens, directly seeks to address new cultures of learning that are opening up due to online networked realities and social media. As Siemens states, he believes that connectivism moves beyond the limitations of behaviorism, cognitivism and constructivism: "Connectivism is the integration of principles explored by chaos, network, and complexity and self-organization theories. Learning is a process that occurs within nebulous environments of shifting core elements – not entirely under the control of the individual." (2004) As part of his view of connectivism, Siemens states view of what is limiting in most learning theories: A central tenet of most learning theories is that learning occurs inside a person. Even social constructivist views, which hold that learning is a socially enacted process, promotes the principality of the individual (and her/his physical presence – i.e. brain-based) in learning. These theories do not address learning that occurs outside of people (i.e. learning that is stored and manipulated by technology). They also fail to describe how learning happens within organizations. Learning theories are concerned with the actual process of learning, not with the value of what is being learned. In a networked world, the very manner of information that we acquire is worth exploring. (2004).

However, his critiques of earlier learning theories underplay the importance of critical thinking. Siemens never directly addresses how learners are supposed to acquire the critical thinking skills necessary to benefit from the abundance of information nodes made through interconnected networks of users. While his theory seems to privilege the power of connections, he fails to understand how collaboration and symbiosis between individuals in the network operate in terms of learning or socially constructed acts of knowledge. Through his technologically determinist viewpoint, Siemens posits that "the pipe is more important than the content within the pipe." (2004) However, neither the pipe nor the content is decisive in the act of learning; rather, the broader relationships between individuals and teachers are. Moreover, a focus on the pipe can create an effect of the "echo chamber," as learners select certain parts of "the pipe" but without a qualified guide or mentor, they will not necessarily be exposed to new ideas nor challenged to encounter new concepts. The role of teachers and peer learning in a collective sense counterbalances this tendency.

1.3 The Problem with Learning Analytics

The present moment in mobile learning also concerns itself with learning analytics. Mobile learning technologies seem ideally suited towards generating, storing, and evaluating data analytics around acts of learning. As we increase our ability to capture quantitative data during mobile learning, the accumulation of big data promises more accurate measurement of learning outcomes to create more sophisticated adaptive learning environments (Alhadad, 2015). However, while offering new ways to measure both teaching and learning, such data-driven approaches must proceed along the premise that teaching and learning can be accurately measured and quantitatively verified. As we consider such problems in mLearning, there is a role for analytics and big data. Yet these efforts should not come at the expense of what is immeasurable: the ability of a human teacher and a group of peer learners to provoke each other to pursue their critical and creative thinking. In this sense, learning analytics may have a more limited role to play in teacher-centered approaches to mLearning.

2. MAKING LEARNING PERSONABLE: THE CASE FOR A BETTER MODEL OF TEACHING AND LEARNING IN MLEARNING

Education is a process of mutual and continuous adaptation of both the teacher and student. Education is a collaborative process with participants engaged in genuine activity. (Vygotsky, quoted in Wink, 2011)

Given the prevalence today of certain pedagogical approaches in 21st century education such as discovery learning, project-based learning, socio-constructivist learning and self-directed learning (Crompton, 2013), it is likely that there are more roles in the creation of mLearning courses for instructional designers, UX experts, game designers, solutions architects, or software developers than for actual teachers. With a reliance on the new technology capabilities of mLearning, many personal learning environments remove the instructor almost entirely from direct interaction with the learner. If an instructor does have a pedagogical function, it tends to be in the construction and implementation of an adaptive lesson plan, and the curation of learning materials. Furthermore, in many mobile learning applications, the central role of the instructor is neither as a "sage on the stage" nor as a "guide on the side" (Morrison, 2014) as much as a subject matter expert who is expected to have minimal teaching presence for a community of learners. Even when mobile courses deploy a Community of Inquiry model (Swan, et. al., 2009), the active presence of a live and engaged teacher still tends to be underdeveloped in mLearning theories and thus infrequently utilized in practice. The reason seems not to be a limitation of technology or bandwidth. Rather it appears to be a systemic issue that has arisen as part of the anywhere/anytime mythos that underpins many approaches to mLearning, and in this regard, has much in common with informal mLearning practices that have de-emphasized the centrality of a live instructor (Udell, 2012)

In cases where teaching presence has diminished (or disappeared altogether) in mLearning, the prioritization of the learner has reached new heights in the age of tablets, smartphones, wearables, and big data. Many research studies, pedagogical theories, and instructional design approaches related to mLearning focus almost exclusively on the crucial role of the learner. It is quite common to read about learner-centered pedagogies in mLearning (Shrunk, 2012; Crompton, 2013; Heick, 2017) that positions a self-directed learner in a flexible learning environment as a needed correction against the teacher-centered or curriculum-centered pedagogies that emerged in the 20th century.

2.1 The Symbiotic Relationship of Teachers and Learners in mLearning

Rather than positioning mLearning and the rise of the learner as a shift away from a mass educational model of the 20th century, we propose that mLearning pedagogies reconsider how teachers and learners alike will benefit from symbiotic relationships. Through a symbiosis that shapes both teacher and learner, comprehensive knowledge can be created, nurtured, and transmitted. Rather than identifying either the learner or the teacher as a center of the learning enterprise, we propose that it is more useful to think of teachers and learners together, holistically, as part of a dynamic set of relationships. Together, they can generate interactions, spur communications, and produce artifacts that hone critical and creative thinking

skills, and deeper knowledge. Whether face-to-face or in mobile environments, acts of learning should not be seen as isolated and isolating events, but rather part of both the individual and collective development of a learner in a meaningful and situated context. In this sense, the more that a teacher can have an authentic, empathetic, and engaged relationship with a student, or a community of students, in mLearning, the more likely such a learning environment will be experienced as personable.

2.2 Defining Personable Learning

We advocate for a model of *personable learning* and for more teacher/learner connections, or TLC. As an acronym, TLC also can mean "tender loving care," and this additional layer of meaning works well with the concept of personable learning that we seek to advance. An ethos, based in caring for one's students, should be present in a personable learning environment as the presence of the teacher can imbue a mobile learning environment with "purpose, structure, and leadership" (Wink, 2011; Tharp and Gaillimore 1989) that directs the cognitive and social connections with and among the students. These teacher/learner connections can take many forms and utilize a wide array of current available communication possibilities in mLearning that support synchronous and complex interactions via video, chat, or social media. These connections, under the supervision of a teacher, can also be peer-to-peer and/or communities of inquiry where many learners engage to explore creative or critical ideas.

The more TLCs that are created, the more the mobile learning environment will be *personable.* In this regard, our concept of personable learning is much more than an offshoot or a different manifestation of personalized learning. Personable learning is an inversion of the latter approach in its heightened focus on being teacher-centered rather than learner-centered. A model of personable mobile learning proposes a critical role for the agency of the teacher, who sustains an intentional process of continual connections and symbiosis, built upon and sustained by mutual and frequent engagements between a qualified teacher and an engaged student. These engagements should focus on being empowering, relational, dialogical, and equalitarian. Furthermore, personable mobile learning recognizes that learning occurs when knowledge is co-constructed interdependently among teachers and learners, and that such relationships and interdependences inject a humanistic "warmth" and human "touch" into the mobile learning environment—thus allowing mobile, digital environments to be more equal to the traditional face-to-face classroom in terms of teaching presence and social interactions.

3. CONCLUSION: PERSONABLE LEARNING AS AN AUTHENTIC PEDAGOGICAL RELATIONSHIP IN MLEARNING

Transformative pedagogy requires a classroom that allows a democratic setting where everyone feels a responsibility to contribute. (hooks, 1994).

Personable learning is more about multiple entry points into the learning experience than end points or measurable learning outcomes. Personable learning emphasizes the processes by which teachers and students interact with each other more than the presentation of content or the pursuit of pre-ordained results. At this point in the development of mLearning applications and platforms, authentic pedagogical relationships are possible through video conferencing, interactive chats, message boards, and social media (among other instructional media choices.) The authors have begun to experiment with personable learning in their design, teaching, and assessment of outcomes of innovative mLearning courses taught through Ball State University, Instructure's Canvas Network, and Turner Classic Movies (TCM); particularly the use of peer-to-peer engagements in Canvas, Twitter social media interactions, live events hosted on Shindig.com's interactive video chat platform, and TCM.com's moderated message boards.

Through communication technologies and high-speed data connections, the best parts of the teaching act can be sustained in mobile learning classrooms. A master teacher can model particular behaviors as lively as in a face-to-face classroom. As bell hooks aptly argues:" ...most professors must practice being vulnerable in the classroom, being wholly present in mind, body, and spirit." (hooks, 1994). Paolo Freire articulates: "the pursuit of full humanity, however, cannot be carried out in isolation or individualism, but only in fellowship and solidarity." (Freire, 2006) This element of "mind, body, and spirit" or "full humanity" is not something that is reducible to a quantifiable outcome or measured by learning analytics. As evidenced by learning

theories such as constructivism, teaching is not something that we should delegate to algorithms and data science. If mLearning is going to be a dominant trend in 21st century education, educators, designers, and learners all must resist technological determinism and a belief that learning can be controlled or predicted. In the end, a model of personable learning seeks to restore teaching to its rightful place at the center of any learning experience.

REFERENCES

Burden, K. and Kearney, M., 2006. Conceptualizing Authentic Mobile Learning. D. Churchill et al. (eds.), *Mobile Learning Design,* Lecture Notes in Educational Technology, DOI 10.1007/978-981-10-0027-0_2

Crompton, H., 2013. A Historical Overview of M-Learning: Toward Learner-Centered Education. *The Handbook of Mobile Education*, pp 80-107.

Dewey, J., 1916. *Democracy and education: an introduction to the philosophy of education*, New York: Macmillan.

Freire, P., 2006. *Pedagogy of the Oppressed*. Trans. Myra Bergman Ramos. New York: Continuum

Hanover Research, 2012. Best Practices in Personalized Learning Environments. Retrieved from http://www.hanoverresearch.com/media/Best-Practices-in-Personalized-Learning-Environments.pdf

Heick, T., 2017. 9 Indicators of Authentic Mobile Learning Retrieved from https://www.teachthought.com/learning-models/9-characteristics-shift-learning-tablets/

hooks, b., 1994. *Teaching to Transgress: Education as the Practice of Freedom.* New York: Routledge

lhadad, S. et al., 2015. The Predictive Learning Analytics Revolution: Leveraging Learning Data for Student Success. *Educause*. Retrieved from https://library.educause.edu/resources/2015/10/the-predictive-learning-analytics-revolution-leveraging-learning-data-for-student-success

Liu, C.H. and Matthews, R., 2005. Vygotsky's philosophy: Constructivism and its criticisms examined. *International Education Journal*, 6(3), pp 386-399

Morrison, C.D., 2014. From 'Sage on the Stage' to 'Guide on the Side': A Good Start. *International Journal for the Scholarship of Teaching and Learning*: Vol. 8: No. 1, Article 4. https://doi.org/10.20429/ijsotl.2014.080104

Nicholas, H. & Walta, C., 2016. Sustaining learning with mobile devices through educational design for teaching presence. *Sustaining Mobile Learning: Theory, Research and Practice*. pp 149-172.

Parsons, D., Thomas, H., and Wishart, J., 2016. Exploring Mobile Affordances in the Digital Classroom *12th International Conference Mobile Learning 2016*, pp 43-50

Richey, R.C., et al., 2011 *The Instructional Design Knowledge Base: Theory, Research, and Practice*. New York: Routledge

Schrager, A. and Wang, A.X., 2017. Imagine how great universities could be without all those human teachers. *Quartz*

Schunk, D.H., 2012. *Learning Theories: An Educational Perspective*. Boston: Pearson

Siemens, G., 2004. Connectivism: A Learning Theory for the Digital Age. *Elearnspace*. Retrieved from http://www.elearnspace.org/Articles/connectivism.htm

Swan, K., Garrison, D, and Richardson, J., 2009. A constructivist approach to online learning: The community of inquiry framework. *Information technology and constructivism in higher education: Progressive learning frameworks*. pp 43-57. 10.4018/978-1-60566-654-9.ch004.

Tharp, R. & Gallimore, R., 1989. *Rousing Minds to Life: Teaching, Learning, and Schooling in Social Context*. American Educator.

Udell, C., 2012. *Learning Everywhere: How Mobile Content Strategies Are Transforming Training*. Alexandria, VA: Rockbench Publishing

Wang, L. and Ma, Q., 2017. Community of Practice: Building a Mobile Learning Community in a Higher Education Institution to Promote Effective Teaching and Learning. S.C. Kong et al. (eds.), *Emerging Practices in Scholarship of Learning and Teaching in a Digital Era*, DOI 10.1007/978-981-10-3344-5_2, 19-38

Wink, J., 2011. *Critical Pedagogy: Notes from the Real World*. Fourth Edition. Boston: Pearson