

Soka Education and Digital Education Technologies: Massively Open Online Courses

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1.0 Introduction

This essay looks at the strengths and weaknesses of the new tools available for teachers and students in digital education technologies. The growing educational technology industry declares its solution to student-centered learning, but is criticized for stifling teacher creativity and mechanizing the learning process. The emphasis on student-centered learning, which runs through both Tsunesaburo Makiguchi (1871-1944) and Daisaku Ikeda's (1928-) writings, is reviewed to help understand where the newly emerging Massively Open Online Courses are and aren't student-centered. Reflection is required both by those interested in applying digital technologies to existing problems, but also those who are unwilling to consider the possibility of improvements through change to existing systems. Considering the shifts in pedagogy which come with greater technology influenced in the learning process, this essay articulates that the benefits gained from implementing technology are crucial for our modern educational institutions, but should be carefully implemented without disrupting existing healthy systems.

2.0 Digital Technology, Education, and Soka

This essay broadly defines technology as "the processes by which an organization transforms inputs of labor, capital, materials, and information into products and services of greater value".² In this definition, technology has been consistently and effectively used by educators and educational institutions for centuries. Everything from books to telephone systems would fall into this category. This essay looks at the applications of emerging digital technologies to the education sector in the 21st century. The technologies of interest are those which utilize computers and the World Wide Web by responding to modern demands. Specifically, we will be talking about the impact of Massively Open Online Courses, further referred to as MOOCs.

Education refers to the process of learning, both with and without institutional support. As Makiguchi states:

¹ I would like to sincerely thank the SESRP and Soka University of America for making it possible the discussion on Soka Education and technology possible. I would like to also offer my appreciation to Daisaku Ikeda, Josei Toda and Tsunesaburo Makiguchi for paving the way for Soka Education in the present day. Additionally, I would like to offer thanks those individuals who assisted me in encouragement, guidance, research, writing, and review.

² Christensen, Clayton M., Michael B. Horn, and Curtis W. Johnson. 2008. *Disrupting class: how disruptive innovation will change the way the world learns*. New York: McGraw-Hill. pg. 11.

“The aim of education is not to transfer knowledge; it is to guide the learning process, to enable the acquisition of [the methods of] research. It is not the piecemeal merchandizing of information; it is to enable the acquisition of the methods for learning on one's own; it is the provision of keys to unlock the vault of knowledge.”³

In this sense, education is defined not by the building or student's demographic, but that of all learning to enrich a student. We will look specifically at the colleges in the United States, but consider the implications for international and K-12 schools. The United States is particularly appropriate for this discussion because its own schools suffer from budget cuts, unprepared students, low-levels of student motivation, and growing class sizes.⁴ In this discussion, MOOCs will be examined in the context of issues in the United States schools.

Soka Education is an philosophy established by Makiguchi's experience as a school teacher and administrator. Makiguchi established his educational philosophy based on his firm belief that the purpose of education should be for the happiness of the learner. In this sense, Makiguchi clearly saw happiness as the ability for individuals to live in harmony with society. He wrote, "Individual well-being entails cooperative and contributive existence within society."⁵ Makiguchi's belief was that education was the drive to help empower and encourage students to lead a contributive life. Rather than prioritizing content based on the influence of a nation state, educational institution, or temporary trend, Makiguchi believed education should embody the interest of both the student and society.

Today, the Soka education pedagogy has been the driving force behind a global network of “Soka schools”, institutions embodying Soka philosophy. Presently, led by the efforts and writings of Ikeda, who was responding to his mentor Toda, Soka education is developing as a rich educational philosophy emphasizing the happiness of the learner and the responsibility to contribute back to the world.

2.1 Defining Student-Centeredness

Many universities as well as K-12 institutions have learning environments that claim to be student-centered. Student centered describes a structure of accessible services, administrative policy, employment opportunities following graduation, and student community⁶. Similarly, the focus of Soka Education extends beyond the classroom space. Among some programs, schools

³ Makiguchi, T. (1983-1988). Makiguchi Tsunesaburo zenshu [Collected works of Tsunesaburo Makiguchi]. Vols. 1-10. Tokyo: Daisan Bunmeisha. vol. 6, p.285; in Bethel, 1989, p. 168.

⁴ Labaree, David F. 2008. “*The Winning Ways of a Losing Strategy: Educationalizing Social Problems in the United States.*” *Educational Theory* 58 (4) (November): 447–460. doi:10.1111/j.1741-5446.2008.00299.x. <http://doi.wiley.com/10.1111/j.1741-5446.2008.00299.x>.

⁵ Makiguchi, T. (1983-1988). Makiguchi Tsunesaburo zenshu [Collected works of Tsunesaburo Makiguchi]. Vols. 1-10. Tokyo: Daisan Bunmeisha, vol. 5, p.129.

⁶ Blimling, Gregory S., and Elizabeth J. Whitt. 1999. *Good practice in student affairs: principles to foster student learning*. San Francisco: Jossey-Bass Publishers.

highlight their student centered classrooms, policies, services, and post-graduate programs. Studies understanding student centered colleges sometimes substitute the term with learning centered. In this case we must articulate that learning technologies, particularly those which are mobile based, touch on all areas mentioned above. The technologies themselves are fluid and widely applicable to the context of the student. In this sense, student-centeredness and technology are in themselves closely united.

3.0 Extending Access to Education

Traditionally, teaching has been one of the many professions limited by a teachers ability to work against a fixed set of time. In other words, teachers are paid for teaching class sessions. The worlds first students existed in a period where the ability to learn was dependent on having an educated person to learn from. Therefore, the number of students who could learn were restricted by the number of students a single teacher was able to teach. Further, with the development of the printing press, the knowledge of a learned person could be documented and disseminated through people who could read. Reflecting on the development of Soka education, Makiguchi and Toda both published textbooks to empower students with quality learning materials.⁷ Traveling further into the future, we arrive at a period where a brilliant scholar would travel the world to lecture. The knowledge of a significant intellectual may be documented in written essays and books, but the texts themselves could still not compare to the in-person lectures which were made available to the few.

Each communication technology innovation increases the number of persons who can access quality learning experiences. Arguably, each change alters the delivery of learning experiences, possibly for the worse. Makiguchi states:

“Just as an artist realizes his/her ideal on canvas or in marble, educators should offer to the impressionable minds of children an ideal of life as well as the capacities necessary to realize that...Educators, regardless of their actual success or failure, must be able to envisage being a paradigmatic personality of the first order in society.”⁸

Any quality learning opportunity is better than no learning opportunity, but the impression a teacher makes on a student is great. Our newer modes of communication, such as the internet, have developed and extend the reach of an individual teacher. Through the internet’s feedback, it allows us to identify those who are most effective.

⁷ Tsunesaburo Makiguchi published “Jinsei Chirigaku” (The Geography of Human Life) in 1903 and Josei Toda published *Suirishiki shido sanjutsu* (A Deductive Guide to Arithmetic) in 1930.

⁸ Makiguchi, T. (1983-1988). Makiguchi Tsunesaburo zenshu [Collected works of Tsunesaburo Makiguchi]. Vols. 1-10. Tokyo: Daisan Bunmeisha, vol. 6, p. 32

The internet and new multimedia tools⁹ are exactly the digital technology which allow teachers to reach larger number of people. Most importantly, the people who previously could not have access to high quality learning materials are now able to access learning materials which were previously not available. The application of communication technologies to educational materials extends the number of people able to access previously inaccessible learning opportunities.

4.0 Massively Open Online Courses

One of the exciting innovations for schools is the Massively Open Online Classrooms that colleges around the world have begun to offer. While the idea of online classes or distance learning is not a new phenomena, the process of using well recognized brand name schools to widely distribute lessons is new. Companies such as edX¹⁰, Coursera¹¹, as well as a number of other private enterprises are striking partnerships with colleges to offer their courses online. The partnership universities, such as Harvard, MIT, and Berkeley, are offering completely free courses to anybody with an internet connection. In addition to American universities, well recognized universities from around the world have begun making MOOC available.¹² These courses are a compilation of recorded lectures, quizzes, and assignments. The lectures are sometimes actual recorded in-class lectures, from the hosting university. Other times, courses are recorded solely for the purpose of the MOOC course. The method of distribution raises questions of how beneficial the MOOCs are for student's learning experience.

The motivation behind universities developing online courses are not always the same as the motivations behind students seeking quality education. While presently, the popularly

⁹ Multimedia tools are defined broadly, but specifically referring to video content, games, interactive content, and learning programs.

¹⁰ "edX," *edX*, <https://www.edx.org/>

¹¹ "Coursera," *Coursera*, <https://www.coursera.org/>

¹² A listing of all courses from Stanford, MIT, Harvard, etc. offered via Coursera, Udacity, edX, Canvas Network, & others can be found here:

"Class Central • Free online courses AKA MOOC aggregator," *Class Central*, <http://www.class-central.com>

acclaimed MOOCs are offering completely free courses, future profit motives exist.¹³ A university's costs incurred for holding an online class is exponentially smaller than that of an actual classroom. The value created by a teacher is expanded when effectively able to teach tens and thousands of students rather than hundreds. Additionally, the number of students a teacher is able to serve is no longer restricted per the classroom size. Oppositely, this shift in the ability for a teacher to be free of classroom size restrictions may be the balance needed to help improve teacher salaries. The ability for a teacher to teach a larger group of students can allow teachers to be paid respective to the teaching ability and attracted audience. Regardless of the motivation, the practices used by these online courses have historically not been equivalent to in-class lectures or lessons. This is especially true when compared to intimate seminar based courses.

4.1 Social Element

The MOOC courses are currently based on pedagogically proven methods to engage the student in online learning environments. The online video lecture classes are interspersed with quizzes between topics, evaluating if students understood the core content as they are learning. Additionally, contrary to popular belief, the online courses encourage student interaction in the classes. Discussions, peer-grading, as well as out-of-class group projects are common parts of the classes. Learning platforms, such as Coursera and edX have created discussion threads for every quiz. The discussion threads allow students who do not understand a quiz to ask questions, while more experienced students can help answer the questions.

Courses are taken alone on a computer, but students are not completely socially isolated. The opportunity for discussion spurs conversations based on the lecture content. The physical isolation is offset by requiring students to engage with the classmates, rather than passively listening to the lecture. For example in the Coursera system, students are required to complete group projects for full class credit. The group projects require students to connect with other classmates, based on geographic proximity, and collaborate on a class topic related project. These various modes of quizzing, discussion boards, and in-person class projects are applying a variety of effective pedagogical methods to the online platform.

The grading of written assignments is a social process in some courses. Peer-grading has been improved and used to provide students with qualitative feedback. While peer-grading is not

¹³ Publicized contracts between Coursera and universities explain their profit model. The documents can be found in the following links.

The contract between Regents of University of Michigan can be found here:

Coursera, "Online Course Hosting and Service Agreement," *Regents of University of Michigan, April 17, 2012*, <http://www.gilfuseducationgroup.com/wp-content/uploads/university-of-michigan-coursera-fully-executed-agreement.pdf>

The contract with the Illinois Senate Task Force with Coursera can be found here:

Nicholas C. Burbules and Rob A. Rutenbar, R. H. Campbell, Paul F. Diehl, Bradley Noble Hedrick, Sally Jackson, William Maher, Gay Miller, "Senate Task Force Report on Campus Participation in the Coursera Initiative," *University of Illinois, Urbana-Champaign, July 5, 2012*, <http://www.gilfuseducationgroup.com/wp-content/uploads/university-of-illinois-coursera-taskforce.pdf>

The contract with University of Toronto can be found here:

Coursera, "Online Course Hosting and Services Agreement," *University of Toronto, July 13, 2012*, <http://www.gilfuseducationgroup.com/wp-content/uploads/university-of-toronto-coursera-agreement.pdf>

always necessary, it offers a mechanism for students to get individualized feedback. The social interaction is crucial for students as it helps develop their character. Makiguchi makes this point stating:

"What we can create, however, is value and value only. When we praise persons for their 'strength of character,' we are really acknowledging their superior ability to create value."¹⁴

While Makiguchi's quote emphasized the relationship between students and teachers, it can also be applied to interactions between students. For students to help one another recognize the value they can create, they must interact. Rather than solely interacting with programmed lecture quizzes, students have opportunities to write essays, submit project proposals, and produce content with value creative evaluative techniques. The variety of assignment and grading mechanism offers flexibility in teachable topics.

4.2 Class Quality

Online learning, compared to in-class or one-to-one tutoring, raises questions of learning quality. While the method of one-on-one teacher is definitely of high value to a student, it is an exclusive experience. Falling costs of government subsidies for schools and growing number of students seeking to enter higher education are reducing the number of quality learning opportunities available for the majority of students. As a result, it is crucial to discover an inclusive alternative to the exclusive one-to-one or small classroom learning experiences. Without claiming that online classrooms are equal, we can confidently state that the value behind online classrooms is a question worth researching.

Online courses seek to discover and implement the highest quality teaching experiences. In 2010, the United States Department of Education issued a detailed report showing that online learning methods are, on average, at least as effective as face-to-face learning.¹⁵ The online courses seek to overcome the problem where students forget the concepts not learned because they do not review the content. By providing students with immediate feedback, through quizzes, students know whether or not they understood a concept. The method, referred to as Mastery Learning, was one of the methods shown in a seminal paper seeking to provide students in group learning environments a learning experience equal to that of one-to-one tutoring.¹⁶ Grounded in proven methods of pedagogy, the online courses and providers are seeking out teaching methods

¹⁴ Makiguchi, T. (1983-1988). Makiguchi Tsunesaburo zenshu [Collected works of Tsunesaburo Makiguchi]. Vols. 1-10. Tokyo: Daisan Bunmeisha, vol. 5, p. 13; in Bethel, 1989, p. 6.

¹⁵ Means, Barbara. 2009. Evaluation of evidence-based practices in online learning a meta-analysis and review of online learning studies. Washington, D.C.: U.S. Dept. of Education, Office of Planning, Evaluation and Policy Development, Policy and Program Studies Service. <http://bibpurl.oclc.org/web/35320>.

¹⁶ Bloom, Benjamin S. 1984. "The 2 Sigma Problem: The Search for Methods of Group Instruction as Effective as One-to-One Tutoring". Educational Researcher. 13 (6): 4-16.

that are known to be the most effective for students. This could be thought of as a scientifically proven student-centered method.

5.0 Positive Points

The past generation has seen a significant increase in investment for digital educational technologies. Large scale data analysis tools, growing adoption of mobile devices, and the use of server-side applications have created new places for technology to impact schools. The improvement of internet quality and availability of computers raises the question about how schools will utilize digital technologies. Predictions estimate that technology will continue making learning experiences more student-centric.¹⁷

5.1 Non-Consumption

MOOCs greatest benefit is its ability to provide high quality learning resources to people who otherwise don't access. Students in less privileged communities have the fortune of accessing lessons produced by leading intellectuals. By having high quality research universities offer free courses, anyone with an internet connection can access courses online. The audience of effective teachers is no longer reserved for a few who have the financial means to attend top universities. Courses are accessible to students who seek out learning opportunities. Privileged students also benefit from a wider selection of courses that are otherwise not offered in their schools. In this way, MOOCs are inclusive to learners.

Criticism about MOOCs assumes online courses are limited in teachable subjects. One misconception is that online courses only lend to teaching technical skills. MOOCs, such as Coursera, presently offer courses such as poetry and other humanity based classes. This is particularly important as schools have begun eliminating programs that do not directly influence assessment scores due to budget cuts. By having courses such as "Modern & Contemporary American Poetry"¹⁸ and "Introduction to Philosophy"¹⁹ means that students have "full(y) developed personalities".²⁰ Rather than penalizing students with poor course selection, MOOCs open up the potential for a wider selection of courses.

¹⁷ Christensen, Clayton M., Michael B. Horn, and Curtis W. Johnson. 2008. *Disrupting class: how disruptive innovation will change the way the world learns*. New York: McGraw-Hill.

¹⁸ Al Filreis, "Modern & Contemporary American Poetry," *University of Pennsylvania*, Sep 7th 2013, <https://www.coursera.org/course/modernpoetry>

¹⁹ Dave Ward, Duncan Pritchard, Michela Massimi, Suilin Lavelle, Matthew Chrisman, Allan Hazlett, Alasdair Richmond, "Introduction to Philosophy," *Coursera: University of Pennsylvania*, Jan 28th, 2013, <https://www.coursera.org/course/introphil>

²⁰ Ikeda, Daisaku. "Serving the Essential Needs of Education," *Soka Education: A Buddhist Vision for Students and Teachers*. Santa Monica: Middleway Press, 2001. p.81

In “Disrupting Class,” Clayton Christensen points out how online learning resources provide learning opportunities where they would otherwise not exist.²¹ Christensen explains how rural, suburban, and urban schools have unique reasons for not being able to provide a wide spectrum of classes. Whether related to number of available certified professionals, the number of students, or shrinking budgets, each domain suffers. Because of institutional issues, schools are unable to provide all the courses students would benefit from taking.²² On the other hand, MOOCs and other educational resources can provide high quality learning experiences. In other words, students’ determine the services they will receive, rather than school budgets and administrative policy decisions. Christensen specifically states that these digital technologies move schools toward a “student-centric” educational system.²³

5.2 Learning Analytics

Beyond pedagogy, the use of digital resources for teaching naturally allows for in-depth learning analytics on students. Learning analytics are a huge value to MOOCs, but alone are a powerful mechanism for teachers and students. The learning resources’ effectiveness can be pinpointed to exact points through data generated from records of view counts, quiz completion rates, discussion board posts, and other touch points. Through the analytics on class activity, the highest quality content can be identified. Makiguchi urged teachers to engage in collating, analyzing and distilling their own experiences in order to "inductively establish principles"²⁴ that could be fed back into their daily praxis.²⁵ The digital educational tools conveniently offer many angles for quantitative measurement and improvement. This data driven method of improvement is highly student-centered.

One of the major benefits for having high quality assessment data generated by students is the ability to rid alternatively disruptive modes of assessment. Standardized tests, college examinations, and other modes of assessment used to qualify students could hypothetically be eliminated when students are regularly being assessed. Makiguchi expressed his own distaste for the modes of testing which do not benefit student learning. He stated:

“I am driven almost to distraction by the intense desire to prevent the present deplorable situation--ten million of our children and students forced to endure the agonies of cutthroat competition, the difficulty of getting into good schools, the

²¹ Christensen, Clayton M., Michael B. Horn, and Curtis W. Johnson. 2008. *Disrupting class: how disruptive innovation will change the way the world learns*. New York: McGraw-Hill. p. 97.

²² Ibid. p. 91

²³ Ibid.

²⁴ Makiguchi, T. (1983-1988). Makiguchi Tsunesaburo zenshu [Collected works of Tsunesaburo Makiguchi]. Vols. 1-10. Tokyo: Daisan Bunmeisha. 1983-1988, vol. 5, p. 17.

²⁵ Andrew Gebert, Monte Joffee T. 2007. “*Value creation as the aim of education : Tsunesaburo Makiguchi and Soka education*” Ethical visions of education: philosophies in practice. Editor Hansen, David T. New York: Teachers College Press.

‘examination hell’ and the struggle for jobs after graduation--from afflicting the next generation. I cannot afford to attend in any way to the vagaries of praise or censure, the opinions and judgments of the world.”²⁶

In this sense, the regular modes of assessment would allow for a natural means to regularly attend to student’s proficiency. This would also provide students regular feedback on their own mastery. Having regular high quality feedback would allow students to be proactive about their education.

Teachers can also assess their own progress as teachers through feedback from the data students generate. While teacher assessment can be viewed as a threat to job security, data driven assessments can provide teachers with an objective point of self-reflection. For teachers creating resources for online courses or in-class teachers using online resources, the record of data generated by student activity can help teachers make calculated decisions on selecting resources and identifying effective methods of teaching. The emphasis on data generated is used as a guide to assist teachers. Data can benefit teachers approach to helping students learn when used as an objective measurement of effectiveness. Having data to reflect upon and having real-time feedback about student progress would allow teachers to intelligently respond to the student needs.

5.3 Opportunities of Scale

Niche course topics can be taught on MOOCs without concerns about not having enough students enrolled. No longer are schools restricted to teaching to topics which can fill classes. By having a global audience for potential classes, very specific topics can be taught to individuals spread out around the world. The idea of having a potential audience of thousands lends for teachers to focus on specific topics which interest only a few. Even students who wish to participate in small scale classrooms can expand their selection of learning opportunities by also participating in MOOCs. Liberal arts students could access highly specialized courses to gain exposure to otherwise unavailable courses in their smaller institutions. These new platforms position students to draft learning experiences appropriate to their personal desires.

Additionally, students from many backgrounds bring a wider spectrum of experience to classes. The innate diversity associated with a global audience lends for rich discussion and opportunities for collaboration. While it is known that students have different ways of learning,²⁷ the cost for serving specific needs can be distributed across a larger group. Auditory, visual, or experiential learners can ironically be served in mass. The opportunities associate with a global scale allows classes to serve students needs, rather than forcing students to operate in a restrictive learning space. Again, these tools offer means for personalizing learning opportunities while connecting a wider spectrum of people together.

²⁶ Makiguchi, T. (1983-1988). Makiguchi Tsunesaburo zenshu [Collected works of Tsunesaburo Makiguchi]. Vols. 1-10. Tokyo: Daisan Bunmeisha. 1983-1988, Vol 5, pg 8.

²⁷ Gardner, Howard. 1993. Multiple intelligences: the theory in practice. New York, NY: Basic Books.

6.0 Negative Points

The use of digital technologies in education must be viewed on a case-by-case basis. The danger in blindly ignoring new technologies results in missing opportunities for improving student-experiences. Similarly, wide adoption and investment into digital educational technologies across all levels of administration, faculty, parents and students can create irreversible damage. For one, the opportunities for students to spend time in schools is irreplaceable. The semester in which a school fails to properly integrate new technologies can permanently impact a student's learning pathway. Obviously, investment into premature trending industries can result in large scale waste. Still, huge technology investments have been made without any quantifiable results²⁸. Additionally, the purchase into digital tools without sufficient staff training can equate a wasted investment.

6.1 Barriers

MOOC content, alongside digital educational technologies, have barriers of access. As long as a student has internet connection, the student is able to access the tools available to them out of the classroom. Within class, the students require not just an internet connection, but a computer for every student. On the other hand, it should not be ignored that these barriers are great for many school districts in the United States and in the world. Optimally, all students who desired to learn would have a computer at home and a fast internet connection, but this is by no means the case. Additionally, having a single computer for each person is a Western view on digital technology in classrooms.²⁹ Schools that have the technology themselves are also not always able to utilize the tools available. The amount of money spent on acquiring hardware for classes, often as a result of grants, do not consider the budgets needed for teacher training and maintenance. Again, these barriers of entry are great enough for normal users that the plethora of available resources will never be used.

6.2 Piecemeal Learning

Tools like MOOCs that allow students to pursue knowledge based on their interests can leave them with incomplete knowledge. By providing a wide array of MOOCs to students, learning can lose its empowering value. Instead of seeking personal fulfillment and deeper

²⁸ In 2005, Kyrene School District made a \$33 million investment into classroom technologies. Since the investment, scores in reading and math have stagnated in Kyrene, even as statewide scores have risen. Matt Richtel, "In Classroom of Future, Stagnant Scores," *New York Times*, September 4, 2011, http://www.nytimes.com/2011/09/04/technology/technology-in-schools-faces-questions-on-value.html?pagewanted=all&_r=0

²⁹ The Inter-American Development Bank (IDB) wrote a study on the One Laptop per Child program, showing it was not an effective investment. The need for every child to have their own laptop was criticized as a Western value.

"Error message: A disappointing return from an investment in computing," *The Economist*, April 7, 2012, <http://www.economist.com/node/21552202>.

understanding of the world, students may gravitate toward mechanical consumption. Makiguchi and Ikeda have explicitly said, alongside other educational scholars, that quality education is a holistic development of the self. While additional tools exist to help guide students, the course selection process lends to specialization without balance. Considering Makiguchi, education should be about creating opportunities for students' empowerment and creation of the value.³⁰ MOOCs, as a tool for accessing educational materials, should continue consideration of the potential for piecemeal learning.

6.3 Motivation to Complete

The isolated approach to MOOCs can be empowering for driven students, but oppositely can leave them unmotivated to engage in courses. MOOC critics draw attention to data around on-time assignment submission, quiz completion rates, effective group formation, and class completion. Tucker Balch, a teacher from Georgia Tech, publicized the results of his MOOC. Of the 53,205 students who enrolled, by clicking “sign me up,” 53% watched a video, 26% took a quiz, and 12% submitted the first homework assignment. In Balch’s class, the completion rate was 4.8.³¹ Of those 4.8, 18% took a quiz and 39% submitted the first project. The user demographic for MOOCs are already educated college graduates. Again, Using Balch’s course statistics as reference, the mean student age was 35 years old. Of the students who completed courses, over 40% held Master’s degrees. These numbers reveal that while the MOOCs have great value for uneducated students, they currently attract degree holding individuals.

Comparing the MOOC completion rate against other academic institutions is difficult because the influencing variables are significantly different. The MOOC courses being analyzed are currently free. The average completion rate for MOOCs is approximately 5%.³² Balch’s course is normal. In “Predictively Irrational,” Dan Ariely writes “Zero is not just another price, it turns out. Zero is an emotional hot button.”³³ Having free courses means students registering have no consequence for signing up and similarly are not committed to completing the registered. Students are not enrolling in a university which is monetarily and intellectually expensive. There is no comparable consequence for failing a MOOC. The associations with free can make the statistical comparisons misleading, but regardless the factors behind motivation should be considered.

6.4 Physical Interaction

³⁰ Goulah, Jason. 2009. “Makiguchi in the ‘Fractured Future’: Value-creating and Transformative World Language Learning.” New York 45 (2): 193–213. doi:10.1080/00131940902762243.

³¹ Balch, Tucker, “About MOOC completion rates: The importance of investment.” *Augmented Trader* (blog), January 6, 2013, <http://augmentedtrader.wordpress.com/2013/01/06/about-mooc-completion-rates-the-importance-of-investment/>

³² Daniel, Sir John. 2012. *Making Sense of MOOCs: Musing in a Maze of Myth, Paradox and Possibility*. <http://procommotion.wordpress.com/2013/01/10/about-mooc-completion-rates-what-are-the-right-metrics/>

³³ Ariely, Dan. 2008. *Predictably irrational: the hidden forces that shape our decisions*. New York, N.Y.: HarperCollins Publishers.

Possibly the most obvious downfall for MOOCs is the lack of physical interaction with a teacher. While social opportunities exist through digital office hours, email, and discussion boards, the personal relationship with a teacher is incomparable. In an essay titled, “An Outspoken Advocate for Educational Reform,” Ikeda writes, “Students’ lives are not changed by lectures but by people. For this reason interactions between students and teachers are of the greatest importance.”³⁴ MOOCs can not offer the same level of personal connection to a teacher. With exception to edge cases, where professors travel the world meeting students while teaching, teacher-student relationships are nowhere as intimate. Considering the current state of MOOC enrollees, relationships with other students is sometimes equally beneficial to learning students.

Research shows that MOOCs’ value is significantly improved through the hybrid methods of teaching, involving both in-person instruction and access to online lecture resources. This shift in teaching methodology, of using online resources with in-class teachers, is still a new pedagogical approach. A 2010 US DoE report, subtitled “A Meta-Analysis and Review of Online Learning Studies,” showed that hybrid classes are considerably more effective than either in-class lessons or online lectures alone. The hybrid classroom would provide high quality learning materials and human interaction. The necessity for interaction is also into with writings by Makiguchi on education. Makiguchi wrote, “The only value in the true sense is that of life itself. All other values arise solely within the context of interactions with life.”³⁵ The emphasis toward dual forms of content, also known as blended or flipped classrooms, are methods leveraging the limited amount of time students have with teachers. These hybrid methods use students’ free time at home as content consumption opportunities, and use in-class time for extensive discussion or practice of learned topics. Beyond the high quality resources, increasing the hours spent learning are positively impactful on students themselves.

7.0 Conclusion

Soka education’s philosophical framework for teaching and learning is appropriate for the emerging to the newly emerging educational technology field. This paper’s goal was to help draw attention to a field that is quickly emerging with good intentions. The growth and social cause makes it attractive to both educators, entrepreneurs, and investors. Having such a great impact on the students, it must be carefully traversed. In references to evidence-oriented progress, Makiguchi states:

³⁴ Ikeda, Daisaku. “Education Toward Global Citizenship,” *Soka Education: A Buddhist Vision for Students and Teachers*. Santa Monica: Middleway Press, 2001. p.118

³⁵ Sharma, N. 2008. *Makiguchi and Gandhi: Their Education Relevance for the 21st Century*. University Press of America. p.59

“We must strictly avoid following ideologies of uncertain origin that cannot be substantiated by actual proof-even if they may be the most time-honored tradition-and thereby sacrificing the precious lives of others and ourselves.”³⁶

The education technologies too must be scrutinized to insure they are being implemented for the correct reasons. While MOOCs and other tools may benefit schools in reducing costs and increasing profits, the fundamental question should revolve around how they improve a students learning opportunity.

The digital technologies emerging in the education space are seeking to improve student-centered learning opportunities, but the educational technology space is not new. In the past five years, investors funding emerging private educational technology enterprises have quadrupled.³⁷ These investments are spurring ventures such as MOOCs, but are still building profit-seeking entities. As a result, the driving forces behind Soka education are invaluable for reflecting on the purpose of education technology companies. Traditionally disruptive technology companies must be extremely careful in their disruption of existing educational markets. While emerging digital technologies can undoubtedly offer value to improving student experiences, many systems are already healthy.

The MOOC field is targeted at student-centeredness in a way that is inline with Soka Education. Just as the MOOCs themselves are not innately good or bad, their application must be continually considered. Companies like Udacity and Coursera are already holding classes that are eligible for actual college credit in American universities.³⁸ The MOOCs are will help colleges reduce the cost of classes, expand course selection for students, and continue growing the discussion on the application of digital technology to education. The digital tools redefine “student-centeredness” by allow students to personalize their learning experiences in ways less prone to budget and institutional capacity.

³⁶ Makiguchi, T. (1983-1988). Makiguchi Tsunesaburo zenshu [Collected works of Tsunesaburo Makiguchi]. Vols. 1-10. Tokyo: Daisan Bunmeisha. 1983-1988, col. 10, p.26.

³⁷ National Venture Capital Association reports the venture capital investment into educational technology companies jumped from \$100-million in 2007 to nearly \$400-million last year. Kevin Carey wrote on this topic in the Washington Monthly.

Kevin Carey, "The Siege of Academe," *Washington Monthly*, October 2012. http://www.washingtonmonthly.com/magazine/septemberoctober_2012/features/_its_three_oclock_in039373.php?page=all

³⁸ On February 7th, 2013, Coursera announced the first five Universities offering undergraduate credit courses through their program. The credits are being provided by University of California, Irvine, Duke University, and University of Pennsylvania. Coursera's announcement can be seen here: Coursera, "Five Courses Receive College Credit Recommendations," *Coursera* (blog), February 7, 2013, <http://blog.coursera.org/post/42486198362/five-courses-receive-college-credit-recommendations>

On January 15th, 2013, Udacity announced a partnership with San Jose State University to pilot three online courses at an “affordable tuition rate and for college credit.” Udacity’s announcement can be found here:

Udacity, “Sebastian Thrun: Udacity Announces For-Credit Course Pilot with San Jose State University,” *Udacity* (blog), January 15, 2013, <http://blog.udacity.com/2013/01/sebastian-thrun-udacity-announces-for.html>

8.0 Future Research

Future research should further analyze the following points from the perspective of Soka education: MOOC course rights,³⁹ digital resource copyright clearance,⁴⁰ hybrid teaching pedagogies, the usage of other multimedia tools for student learning, and the efficacy of video based learning materials.⁴¹ These topics could each be the basis for extensive research to further the field of student-centered education using digital technologies.

9.0 Final Note

Due to the nature of the topic, this paper cites websites and blogs. Because the educational technology industry and MOOCs have undergone so many changes in the recent weeks, it is difficult to find published resources. It should be noted, all websites quoted were either from recognized publications, academics, or research white papers.

³⁹ Levine, Pamela Beth (Stanford University, School of Education), and MediaX) Russell, Martha G (Stanford University. 2012. *Course Rights in Cyberspace*. MediaX. Stanford.

⁴⁰ Russell, Martha G, and X Media. 2012. “*Addressing the Copyright Law Barrier in Higher Education* —” (June).

⁴¹ C., Krauskopf, K., Hesse, F.W., Pea, R. Zahn (2010) *Digital video tools in the classroom: how to support meaningful collaboration and critical advanced thinking of students?* , 503-523. In New science of learning: Cognition, computers and collaboration in education.

Works Cited

- Ariely, Dan. 2008. *Predictably irrational: the hidden forces that shape our decisions*. New York, N.Y.: HarperCollins Publishers.
- Balch, Tucker, "About MOOC completion rates: The importance of investment." *Augmented Trader* (blog), January 6, 2013, <http://augmentedtrader.wordpress.com/2013/01/06/about-mooc-completion-rates-the-importance-of-investment/>
- Bloom, Benjamin S. 1984. "*The 2 Sigma Problem: The Search for Methods of Group Instruction as Effective as One-to-One Tutoring*". *Educational Researcher*. 13 (6): 4-16.
- Kevin Carey, "The Siege of Academe," *Washington Monthly*, October 2012. http://www.washingtonmonthly.com/magazine/septemberoctober_2012/features/_its_three_oclock_in039373.php?page=all
- "Class Central • Free online courses AKA MOOC aggregator," *Class Central*, <http://www.class-central.com>
- "Coursera," *Coursera*, <https://www.coursera.org/>
- Coursera, "Online Course Hosting and Services Agreement," *University of Toronto, July 13, 2012*, <http://www.gilfuseducationgroup.com/wp-content/uploads/university-of-toronto-coursera-agreement.pdf>
- Coursera, "Online Course Hosting and Service Agreement," *Regents of University of Michigan, April 17, 2012*, <http://www.gilfuseducationgroup.com/wp-content/uploads/university-of-michigan-coursera-fully-executed-agreement.pdf>
- Coursera, "Five Courses Receive College Credit Recommendations," *Coursera* (blog), February 7, 2013, <http://blog.coursera.org/post/42486198362/five-courses-receive-college-credit-recommendations>
- Christensen, Clayton M., Michael B. Horn, and Curtis W. Johnson. 2008. *Disrupting class: how disruptive innovation will change the way the world learns*. New York: McGraw-Hill.
- Ibid. p. 11.
- Ibid. p. 91.
- Ibid. p. 97.
- Ikeda, Daisaku. "Serving the Essential Needs of Education," *Soka Education: A Buddhist Vision for Students and Teachers*. Santa Monica: Middleway Press, 2001. p.81
- Ikeda, Daisaku. "Education Toward Global Citizenship," *Soka Education: A Buddhist Vision for Students and Teachers*. . Santa Monica: Middleway Press, 2001. p.118
- Daniel, Sir John. 2012. *Making Sense of MOOCs: Musing in a Maze of Myth, Paradox and Possibility*. <http://procommotion.wordpress.com/2013/01/10/about-mooc-completion-rates-what-are-the-right-metrics/>
- Blimling, Gregory S., and Elizabeth J. Whitt. 1999. *Good practice in student affairs: principles to foster student learning*. San Francisco: Jossey-Bass Publishers.

C., Krauskopf, K., Hesse, F.W., Pea, R. Zahn (2010) *Digital video tools in the classroom: how to support meaningful collaboration and critical advanced thinking of students?* , 503-523. In *New science of learning: Cognition, computers and collaboration in education*.

"Error message: A disappointing return from an investment in computing," *The Economist*, April 7, 2012, <http://www.economist.com/node/21552202>.

"edX," *edX*, <https://www.edx.org/>

Al Filreis, "Modern & Contemporary American Poetry," *University of Pennsylvania*, Sep 7th 2013, <https://www.coursera.org/course/modernpoetry>

Gardner, Howard. 1993. *Multiple intelligences: the theory in practice*. New York, NY: Basic Books.

Andrew Gebert, Monte Joffe T. 2007. "*Value creation as the aim of education : Tsunesaburo Makiguchi and Soka education*" *Ethical visions of education: philosophies in practice*. Editor Hansen, David T. New York: Teachers College Press.

Goulah, Jason. 2009. "*Makiguchi in the 'Fractured Future': Value-creating and Transformative World Language Learning*." *New York* 45 (2): 193–213. doi:10.1080/00131940902762243.

Labaree, David F. 2008. "*The Winning Ways of a Losing Strategy: Educationalizing Social Problems in the United States*." *Educational Theory* 58 (4) (November): 447–460. doi:10.1111/j.1741-5446.2008.00299.x. <http://doi.wiley.com/10.1111/j.1741-5446.2008.00299.x>.

Levine, Pamela Beth (Stanford University, School of Education), and MediaX) Russell, Martha G (Stanford University. 2012. *Course Rights in Cyberspace*. MediaX. Stanford.

Makiguchi, T. (1983-1988). *Makiguchi Tsunesaburo zenshu* [Collected works of Tsunesaburo Makiguchi]. Vols. 1-10. Tokyo: Daisan Bunmeisha. vol. 6, p.285; in Bethel, 1989, p. 168.

Ibid. vol. 5, p 8.

Ibid. vol. 5, p. 13; in Bethel, 1989, p. 6.

Ibid. vol. 5, p. 17.

Ibid. vol. 5, p.129.

Ibid. vol. 6, p. 32.

Ibid. vol. 10, p.26.

Means, Barbara. 2009. *Evaluation of evidence-based practices in online learning a meta-analysis and review of online learning studies*. Washington, D.C.: U.S. Dept. of Education, Office of Planning, Evaluation and Policy Development, Policy and Program Studies Service. <http://bibpurl.oclc.org/web/35320>.

Nicholas C. Burbules and Rob A. Rutenbar, R. H. Campbell, Paul F. Diehl, Bradley Noble Hedrick, Sally Jackson, William Maher, Gay Miller, "Senate Task Force Report on Campus Participation in the Coursera Initiative," *University of Illinois, Urbana-Champaign, July 5, 2012*, <http://www.gilfuseducationgroup.com/wp-content/uploads/university-of-illinois-coursera-taskforce.pdf>

Russell, Martha G, and X Media. 2012. "Addressing the Copyright Law Barrier in Higher Education –" (June).

Sharma, N. 2008. *Makiguchi and Gandhi: Their Education Relevance for the 21st Century*. University Press of America. p.59

Udacity, "Sebastian Thrun: Udacity Announces For-Credit Course Pilot with San Jose State University," *Udacity* (blog), January 15, 2013, <http://blog.udacity.com/2013/01/sebastian-thrun-udacity-announces-for.html>

Dave Ward, Duncan Pritchard, Michela Massimi, Suilin Lavelle, Matthew Chrisman, Allan Hazlett, Alasdair Richmond, "Introduction to Philosophy," *Coursera: University of Pennsylvania*, Jan 28th, 2013, <https://www.coursera.org/course/introphil>