Revista Internacional de Sociología de la Educación
E-ISSN: 2014-3575
rise@hipatiapress.com
Hipatia Press
España

Saleh, Amany; Sanders, Heath
The Wolf in Sheep's Clothing: The Matthew Effect in Online Education
Revista Internacional de Sociología de la Educación, vol. 3, núm. 1, enero-abril, 2014, pp. 26-50
Hipatia Press
Barcelona, España

RiSE
INTERNATIONAL JOURNAL OF SOCIOLOGY OF EDUCATION

Hipatia Press
www.hipatiapress.com

The Wolf in Sheep's Clothing: The Matthew Effect in Online Education

Amany Saleh[1], Heath Sanders[2]

1) Arkansas State University, United States
2) East Arkansas Community College, United States

Date of publication: February 25th, 2014
Edition period: February 2014-June 2014

To cite this article: Saleh, A., Sanders, H. (2014). The Wolf in Sheep's Clothing: The Matthew Effect in Online Education. *International Journal of Sociology of Education*, *3*(1), 26-50. doi: 10.4471/rise.2014.02

To link this article: http://dx.doi.org/10.447/rise.2014.02

RISE – International Journal of Sociology of Education Vol.3 No.1 February 2014 pp. 26-50

The Wolf in Sheep's Clothing: The Matthew Effect in Online Education

Amany Saleh
Arkansas State University

Heath Sanders
East Arkansas Community College

(*Received: 9 September 2013; Accepted: 21 January 2014; Published: 25 February 2014)*

Abstract

In our globally and technologically connected world, many higher education institutes raced to offer online, college degrees to populations who otherwise would not have access to higher education. They promised high quality, rigorous, flexible, accessible and affordable programs. Colleges and universities pledged to support these students to ensure their success within an online environment. However, Canchola (2011) argued that online students rarely receive the support they were promised. Sandeen and Barr (2006) argued many online programs increase students' dissatisfaction with higher education and increase their drop-out rate. As a result, such programs rather than help students achieve their goals; they set them back academically and financially. This serves only to intensify The Matthew Effect for students. The authors explain how some online education, especially; large-scale, fast-paced programs contribute to this effect. The authors offer recommendations for alleviating The Matthew Effect.

Keywords: Matthew Effect, online education, higher education

ISSN: 2014-3575
DOI: 10.4471/rise.2014.02

RISE – International Journal of Sociology of Education Vol.3 No.1 February 2014 pp. 26-50

El Lobo con Piel de Cordero. El Efecto Matthew en la Educación Online

Amany Saleh
Arkansas State University

Heath Sanders
East Arkansas Community College

(*Received: 9 September 2013; Accepted: 21 January 2014; Published: 25 February 2014)*

Resumen

En nuestro mundo globalmente y tecnológicamente conectado, muchas universidades se apresuraron a ofrecer educación a distancia y títulos universitarios a personas que de otra manera no tendrían acceso a la educación superior. Esta instituciones prometieron programas de alta calidad, rigurosos, flexibles, fácil acceso y con un precio cómodo. También se comprometieron con estos estudiantes en asegurar su éxito usando este tipo de educación. Sin embargo, Canchola (2011) argumentó que los estudiantes rara vez recibieron el apoyo que se les prometió. Sandeen y Barr (2006) argumentaron que muchos programas a distancia aumentan la insatisfacción de los estudiantes con la educación superior y aumentan su tasa de abandono escolar. Como resultado, este tipo de programas en lugar de ayudar a los estudiantes para alcanzar sus metas, los atrasan académica y financieramente. Esto sólo sirve para intensificar el efecto Mateo para los estudiantes. Los autores ofrecen recomendaciones para aliviar el efecto Mateo y directrices de acciones para mantener alta calidad en la educación a distancia .

Palabras clave: Efecto Matthew, educación online, educación superior

ISSN: 2014-3575
DOI: 10.4471/rise.2014.02

With the advent of the internet, online education has become an important and ever increasing tool for the institution of higher education. Since the introduction of the World Wide Web, online education has become increasingly common because of the rapid expansion of distance-learning technologies (Zhang, 1998). There has been substantial growth within online course enrollments compared to the overall higher education student population over the last ten years; thousands of students are earning degrees without ever stepping foot on a traditional campus (Allen & Seaman, 2010). Online education is intended to support individuals, who could not otherwise go to college and earn a college degree. Cunningham (2010, p. 90) contends that online education offers "flexibility for the learner, access to increased educational resources, valuable global interchange, and equal opportunities for students and teachers regardless of location." Individual learners' needs can be met by online courses, in ways that have never been realized before.

Despite the gains in the number of students, the satisfaction rates of the courses are not keeping pace. The authors argue that online education loses portions of those for whom distance learning is designed because they fail to modify their courses to fit their students' unique needs (Sandeen & Barr, 2006). According to Dillon and Cintron (1997), many individuals can be left out by distance education and "become increasingly disenfranchised from the information-based society." As online education expands, higher education institutions must not focus on providing more online courses; but be concerned with improving the quality of the courses being offered.

Online education is defined in this article as the courses offered solely through the Internet, where the instructor posts his/her notes, lectures on the course website, and students can access the materials and upload their assignments to the course website. Some courses employ online discussions among students as well. Some higher education institutions, public and private, provide large-scale (MOOCs), and in some cases fast-paced courses or programs. The acronym "MOOCs" stands for Massive Open Online Courses. The authors of this paper have experience with both formats at the undergraduate and graduate levels teaching courses of sociology and education. They share their concerns about the large-scale courses or programs.

If the intent of online education is to provide education for all, then

everyone should have an equal opportunity for success with distance learning technologies. However, educators are inadvertently widening the gap between the educational haves and have not's by providing online education in a format that might not be conducive to the success of some students (Grill, 1999; EduPunk, 2010). The authors suggest that problems associated with online education, especially large scale courses as they experienced them, serve only to magnify The Matthew Effect, and widen the gap between the privileged and disadvantaged.

The Matthew Effect

The Matthew Effect derives its name from the passage in the New Testament, "For unto every one that hath shall be given, and he shall have abundance: but from him that hath not shall be taken away even that which he hath" (Matthew 25:29). Robert K. Merton found "The Matthew Effect" to be expressed in the principle of cumulative advantage where the "rich get richer at a rate that makes the poor become relatively poorer" (Merton, 1968, p. 62).The advantage a person or group of people receives, grows over time, and accumulates, which serves to create further inequities for the disadvantaged group who fall further behind (DiPrete & Eirich, 2005).

The Matthew Effect can be used to describe phenomenon across different situations, contexts, and institutions. Keith Stanovich (1986) borrowed the term The Matthew Effect from the field of sociology to describe the reciprocal relationship between children's reading ability and their future learning skills. Stanovich postulated that the more reading difficulty children have, the more likely they will suffer learning failures later in life. The more children endure difficulties in reading, the less motivated they become to learn and the less likely to succeed as adults. The authors of this article contend the concept of The Mathew Effect applies to some online programs as well.

The Matthew Effect in Online Education

Education is believed to be an economic asset, which should close the gap between the privileged and the disadvantaged. Research has consistently demonstrated that investment in human capital-defined as the knowledge

and skills one posses or acquire which makes him/her productive in a society (Olaniyan, & Okemakinde, 2008) - is associated with health, longevity, happiness, and economic prosperity (Schultz, 1961; Walberg & Tsai, 1983). However, these benefits are mediated by other factors such as the ability to persevere, invest in learning, and intellectually profit from experience (Walberg & Tsai, 1983). Such variables are usually associated with students who have high cultural capital. Drawing on Pierre Bourdieu's work (2002), cultural capital is defined as social background, knowledge, and skills that are transmitted from one generation to another. Unfortunately, such cultural capital is closely associated with middle and upper social classes.

High socioeconomic parents instill within their children the attitudes, knowledge, and skills to be academically successful (Xu & Hampolen-Thompson, 2012). These students possess greater linguistic and cultural capital increasing their likelihood of success within higher education, especially online courses. "Early advantages in cultural capital among students from high-status families accumulate over time" (Xu & Hampolen-Thompson, 2012, p. 118) further perpetuating the divide felt between the educational haves and have not's.

With the advent of technology, many of us assume that all people have easy access to the Internet. It is true that a majority of people living in OECD (Organization for Economic Co-Operation and Development) countries, for example, have access to the Internet, mobile phones, and videogames. But of those individuals many are not proficient at using technology for educational purposes (OECD, 2005). Mominóand, Sigalés, and Meneses (2008) contended that socioeconomic factors impact the use of such technology. They argued that access to technology does nothing to mitigate The Matthew Effect in education. They found that the use of online resources relies heavily on the parents' education level, experience, and use of the Internet. All factors are closely tied to the socio-economic levels of the parents (Pasquier, 2008).

> It can be reasonably expected that those who are already in possession of good cultural capital will find in their technology-related practices a way to reinforce it, while those who either do not have access to technology or lack sound cultural capital will lag behind. In the long run, the existing differences between those who have and those who don't have the right cultural capital to take advantage of the potential of technologies will increase.

> Hence the Mathew effect: those who benefit from a better socio-economic environment find it easier to benefit from technologies, thanks to the cultural capital transferred to them, and they thus increase their advantage and privileged situation in comparison to those who lack such an accompanying capital. (New Millennium Learners, 2008, p.6)

The authors of this article borrowed the concept of The Matthew Effect to apply to online education and its role in exacerbating the social divide. They contend that online education, especially large scale classes, rather than close the gap between the social classes as it is intended, in effect, it increases the gap. The Matthew Effect manifests itself within online education in a variety of ways. The authors sum these manifestations as follows: students' reading skills; students' personality traits and study skills; students' technological skills; nature of students; and the quality of online courses.

The first manifestation of The Matthew Effect occurs as a student begins an online course. Online education forces students to read the material and produce meaning on their own, rather than having direct support of a professor who explains the material and classmates who can be engaged in discussions to help clarify the content. Students with high reading comprehension skills have a much greater opportunity to be successful (Stanovich, 1986). Students who have difficulty with reading are much less likely to be successful. The reciprocal relationship between reading ability and cognitive processes cannot be ignored. Students who struggle with reading at the onset of enrollment in an online course are much more likely to struggle with cognitive processing, information retrieval, and lack the ability to understand let alone learn concepts. Even though, some online programs may offer technical support and some may offer support for assignment clarification, rarely do such programs offer support for cognitive issues that some students may have.

Hu and Atsusi (2004) found that students who have reading difficulties drop out of traditional schools and enroll in online classes while they stated that online educators assume that online learners can read. They argued that it is easier for traditional class teachers to recognize students' reading difficulties than in the online class. They offered reading assessment techniques to diagnose students' reading skills at the beginning of online

classes to provide appropriate support for students.

In Jefferson and Arnold's (2009) study, they compared the perceptions of accounting graduate students of a course taught online and face- to- face formats. The students reported more misunderstandings in the online class. However, they liked the flexibility of the schedule and not having to leave the house. They felt they lacked the confidence to ask questions in the online class, but they liked that they can email the instructor 24/7. They reported they had to teach themselves concepts they did not have to do in the traditional course. They also found the online course to be time consuming and that they had difficulty forming relationships with their peers.

Williams, Birch, and Hancock (2012) compared the performance of three groups of first year microeconomics course students. The first group attended the instructors' lectures regularly in the traditional class, but had no access to the recorded lectures. The second group attended some lectures in the traditional class and had access to the recorded lectures online. The third group only had access to the recoded lectures online. The authors kept record of the number the students in the last two groups that accessed the lectures. The authors tested all groups on the content of the lectures. They reported no differences between the first two groups, but the third group scored significantly lower than the first two groups. However, Mooneyhan (2012) compared tests results of three groups of undergraduate students taking a "concepts of fitness" course in the traditional face-to-face, blended, and online formats. He reported no significant differences in test results among the three groups.

As suggested by Stanovich (1986), students fall into a downward spiral of achievement as they lack initial success within online education. What starts as a deficiency in reading, progressively affects the student throughout the entire course (Hempenstall, 1996). Cumulative advantage (i.e. The Matthew Effect) is "capable of magnifying small differences over time, and makes it difficult for an individual or group that is 'behind' at a point in time in educational development to catch up" (DiPrete & Eirich, 2005, p. 2). This is especially evident in fast paced, large online courses, where by the time the instructor recognizes a student's struggle, it might be too late to salvage the student's grades. Online education is intended to help those individuals who cannot engage in a traditional setting. Those students who cannot engage in the traditional environment must then rely more heavily on their

own academic skills, specifically reading, to effectively learn the material. If they are disadvantaged with lower reading skills, then they lack the ability to be successful in an environment which forces students to retain meaning from material without the immediate aid of a classroom instructor; therefore The Matthew Effect manifests itself.

The second manifestation of The Matthew Effect can be linked to students' personality and study skills. Online education requires disciplined, self-directed learners, who have access to the Internet and online resources (Cunningham, 2010); necessitating that learners have organizational skills to succeed in a non-traditional environment. Students who come from middle classes tend to have access to resources and have the necessary skills to be successful in online educational classes (Free Education Matthew Effect, 2011). The majority of chief academic officers (CAO) of 2,831 higher education institutions in the United States (68.9%) surveyed by Allen and Seaman (2014) indicated students need more discipline to succeed in an online course than in a face-to-face course. They also agreed that online classes require self-pacing students.

Additionally, many students lack the motivation to learn in traditional classrooms, much less in online courses that require self direction and self management of learning (McCloughlin, & Marshall, 2000). Online courses encourage students to learn a new way of learning which requires self-direction and motivation. This contention was supported later by Canchola's (2011) remarks on the quality of online students whose dissertations she helped edit for a large online university. She argued that online students tended to be non-traditional ones who have full responsibility as workers, moms, etc., who usually suffered through traditional schools. These students need more mentoring and support which unfortunately, they do not receive in the online format. Allen and Seaman (2014) reported that 41% of CAO agreed that retention of students is a bigger problem for online courses than for face-to face courses. Allen and Seaman (2014) found that CAOs of public higher education institutions were more likely to report retention as a problem in online education (42%) than CAOs of private institutions (28%). They reasoned that this could be because public institutions enroll higher percentage of older, low socioeconomic students with family, work, and other obligations which make them drop out of online courses than those enrolled in online courses in private institutions which have a lesser

percentage of these populations.

> David Eubanks, Dean of Academic Support Services at Southern Illinois University, blogged about online education and the Matthew Effect, " . . . [W]hat we might expect is that self-starters, confident students, and those with enough knowledge and skill to *begin* self-education, will flourish like Matthew Peterson. On the other hand, a student who struggles in school and as a result doesn't like it much, seems unlikely to be in a position to benefit from the OCW [Open Course Ware] or other free resources. This is a recipe for an increasing divergence between intellectual haves and have-nots" (EduPunk, 2010).

Third, The Matthew Effect is manifested due to differences in the abilities of students when considering digital technologies. Jones and Slate (2009) stressed that many students who seek non-traditional educational venues tend to have lower study and technology skills than traditional students. Essentially, there is a divide between technological haves and have nots, hence The Matthew Effect is exacerbated.

Palfrey and Gasser (2010) distinguished between two types of individuals: "digital natives" and "digital immigrants." Young, "digital natives" have the tools and resources to be successful with online education. "Digital Natives" are children who have been born into and raised in the digital world; they are born after 1980, "when social digital technologies came online. They all have access to networked digital technologies. And they all have skills to use those technologies" (Palfrey & Gasser, 2010, p. 1). Today's students have an adeptness and advantage with online materials due to an increased amount of digital capital, a form or manifestation of cultural capital (Morgan, 2010). Non-traditional students are primarily defined as "digital immigrants"; those individuals who were not born within the digital world; "they learned how to e-mail and use social networks late in life" (Palfrey & Gasser, 2010, p.2). While some of these individuals may be successful with technologies, most continue to rely on older forms of communication and learning and may not have ready access to the technologies needed to be successful in the online environment or feel comfortable with such medium.

The increasingly "wired" society benefits those with rich digital capital,

while the digital immigrants do not possess vast stores of digital capital. Digital natives have grown up in an online environment which has affected how students communicate, think, and even live (Morgan, 2010). The Matthew Effect creates a divide between the two types of students by providing advantages to one group of students by unjustifiably disadvantaging another group. The intention of online education is to serve those students who cannot engage within a traditional college environment. However, students who start off with a limited ability to learn within an online environment are less likely to be successful; whereas those with high amounts of digital capital are much more likely to succeed.

Online education requires students not only to participate in a digital environment but to also possess the ability to learn from digital materials. "The students [digital natives] demonstrated a high level of understanding of form, audience, and convention in composition because they were able to use a medium in which they had a high degree of fluency and understanding of context, form, content, and technique" (Morgan, 2010, p. 222). In other words, these students were able to produce significant meaning by using literacies which other types of students (digital immigrants) do not possess. Students learn this digital capital from mainly outside sources, but the effects are cumulative. The greatest divide is between social classes when considering access and efficiency with digital technologies. High-income households are more likely to have access to computers and online services while lower-income households are less likely to have the same access. The middle and upper classes are the most likely to possess and use digital technologies. Hence, they are much more likely to possess digital capital and navigate through a digital environment successfully further perpetuating the problems associated with The Matthew Effect. Currently, many public schools in the United States are implementing the notebook initiative where all students, starting in the elementary schools, are provided with computer notebooks loaded with their curricula, textbooks, and all classes' assignments. All schools, involved in the initiative, are connected to high speed Internet. Students are expected to conduct all their schoolwork using the notebooks and the Internet. They are also expected to take their standardized exams online starting school year 2013-2014 for some pilot schools. This trend should serve to eliminate such gap in digital knowledge and should provide us with new digital-savvy students, regardless of their

socioeconomic backgrounds in the near future.

Aborisade (2013) investigated the reactions and perceptions of 'digital immigrant' students to the adoption of blended learning and traditional face-to- face instructional delivery method on EAP courses in a Nigerian university of technology. He found ". . . students' use of the online components of the courses are high and perceptions of the various values such as relevance, reflective thinking, interactivity, tutor support, interpretation, learning experience and benefit are very positive" (p.68). He reported, however, additional work is needed with difficult context areas and with peer-to-peer interaction. He recommended the use of blended courses in the future.

The fourth manifestation of The Matthew Effect can be seen in the type of students enrolled in college. Those academically gifted and students of affluence are more likely to go to colleges which offer the greatest advantages after graduation. A positional benefit (i.e. social class) provides an advantage for acceptance into a quality college, whereas the lower classes are more likely to enroll in community colleges, state colleges, and online universities. The disadvantaged students receive an education that lowers the likelihood of acceptance into high quality graduate or professional schools further exacerbating the poor's position (DiPrete & Eirich, 2005). The disparity in the type of education the different social classes receive serves to increase The Matthew Effect.

> Until very recently in order to get a college education you needed to go to college. And, in order to network you needed to go to college. For students who could afford it this meant going to a top of the line university. Of course, the ability to fund these top of the line education already created a gap between students who could pay for a premium education and those who had to settle for what they could afford. (Free Education Matthew Effect, 2011, Para. 2)

Students who enroll within more prestigious universities gain a positional advantage once college is completed. The students who enroll in top universities have the advantages of social class and possess the skills to be successful after college. Online education was created to help dissolve the educational and achievement gap between classes; however, students

enrolling within online programs tend to go to community and state colleges rather than prestigious universities (Allen & Seaman, 2014). While some prestigious schools have developed entire online programs, only the rich can afford those programs. The employment rate of Ivy League graduates is much greater than that of other colleges. The average salary of Ivy League graduates is 32% higher than that of non Ivy League graduates (Koba, 2011). This creates a cumulative advantage for the Harvard graduate and a cumulative disadvantage for the community college graduate. Additionally, many employers still have suspicious views of online education, which may result in their reluctance to hire online institutes graduates. In Allen and Seaman's (2014) report, two thirds of CAOs of higher education institutions in the United States indicated that the quality of online courses remain to be a concern. About 64% of them indicated that they are concerned about the credentials of MOOCs graduates. In the same study, 53% of CAOs were undecided about MOOCs, while 33% indicated that they have no plans of implementing MOOCs in their schools. Interestingly, Allen and Seaman (2014) pointed out that the majority of schools that stated they would not offer MOOCs were small or private institutes. This further demonstrates the disadvantages associated with large-scale online education and the manifestation of The Matthew Effect.

The fifth manifestation of The Matthew Effect is in the quality of the online courses. In order to attract a large number of students, many institutes market these online degrees as short, condensed courses which will allow them to attain their degrees in record time. Such practice had, in fact, stripped these courses of its "meat" as Dillon contended (2007). Many instructors had to reduce the content and difficulty/challenge level of the course to accommodate such schedule (Grady, 2013; Saleh, 2011). Some argued that even if the courses' content were comparable to regular courses, the speed at which these courses were offered eliminated the possibility to cover any topic in depth (McGuire & Muffo, 2003, Saleh, 2011).

Grady (2013) compared students evaluations of her graduate level education course offered in traditional face-to-face, semester- long and in large-scale, five-weeks online (MOOC) formats. She found that students consistently rated the large-scale course lower than the traditional course-an average of two points on a five points scale. The students rated clarity of objectives, instruction, and assessment procedures lower in the online class

than the traditional class. They also rated the quality of materials and resources lower in the online class than in the traditional one, despite being the same in both classes. The same is true in their evaluation of the same instructor; students rated the instructor's knowledge lower in the online (2.5 out of 5) than in the traditional class (4.5 out of 5). She contributed the differences to the fast pace of the online course, the lack of physical interaction between students and the instructor, and the course design.

Students who are disadvantaged academically have difficulty keeping pace with the high-volume and fast-paced online courses currently being offered in some universities. Russell and Curtis (2013) found that students' dissatisfaction with large scale, online classes is due to low quality and quantity of interaction between instructors and students. Their findings are supported by Walker and Kelley's (2007) research. They reported that many students expressed dissatisfaction with their interaction with the instructor in the online classroom.

Discussion

Online education offers educators the means to reach their students in ways they do not have in the traditional class and gives students unprecedented access to education. However, there are pitfalls to such method of delivery that we have witnessed in the last decade such as lack of proper training, support, and resources for online instructors, lack of adequate preparation for online students, and the use of large-scale, fast-paced courses. All these factors contributed to teachers and students' frustration and increased students' drop out from the online courses. Overcoming these obstacles can only aid online educators reach their original aspirations for online education. These concerns might be reflected in the latest Allen and Seaman yearly survey of higher education institutes CAOs of online education (2014). They pointed out a reversal in the trend of the positive views regarding the potential of online education that marked their survey for the last decade. They also noted that the online student enrollment growth rate is the lowest the last ten years. They reasoned that the online course student enrollment might have reached a plateau.

Some OECD studies showed that many times teachers are very skilled technology users, but they lack the skills to use such knowledge in their own

teaching (New Millennium Learners, 2008). They argued that teachers, in general, do not apply the best, evidence-supported teaching methods and lack the vision of what technology enhanced teaching should look like. In higher education, many instructors placed their lecture notes and presentations online. Some videotaped their lectures and placed them on YouTube. They placed their assignments and readings in course depositories. In many institutes, where they have large online course enrollment, there is no direct interaction between the teacher and the students. Such elements, combined with the lack of resources and cultural capital of many students who enroll in online education, can lessen the chances of success for many students and increase the gap among the social classes. Muchinsky (2006) referred to the format most online education institutions use such as Blackboard/Epic, etc as the "information Dump." In these shells "Information dumps," the experts develop the subject material and associated activities and deliver them to the technology expert to be placed in such shells. Such views can have adverse effects on the institution of higher education and long-term ramifications for faculty. However, we must note that not all online courses inferior to traditional classes; merely that some online programs and courses had failed to live up to their potential.

> Throwing information dumps online that, at best, merely reproduce the low levels of learning already of public concern is no one's best interest. In fact, the rush to online instruction may turn out to be the higher education equivalent of the charge of the Light Brigade—charging right into the big guns of our biggest critics. If, at best, what we accomplish through electronic instruction is simply more of what we are already doing, can a higher education equivalent of No Child Left Behind, and the resulting loss of institutional control, be far away (Jones and Slates, 2009, p.6)

Recommendations

The Internet provides all of the major media in one concise package; radio, newspaper, and television are rolled into one with access for virtually everyone. Online education courses offer the ability for teachers to reach all

learning styles and truly educate the diverse groups of students currently populating the education system. Proper online education has the ability to accomplish what no other pedagogy can; the ability to develop an independent learner who can create meaning, develop ideas, and synthesize information in a way traditional students cannot. The following section offers suggestions for improving the online experience for students and combating The Matthew Effect.

The first recommendation to combat The Matthew Effect is improving the academic skills of students through offering easily accessible, high-quality education programs that raise their course satisfaction and ensure their success. Browne (2011) argued for offering high-quality, low-cost academic programs to assist students of lower academic standards in leveling the playing field. Xu and Hampolen-Thompson (2012) contended that students from low-SES families benefit the greatest from an investment in their education. Offering high-quality, online courses will require greater time from both instructors and students, but for individuals to catch up they must be willing to invest greater amounts of time and effort than traditional students (Means, Toyama, Murphy, Bakia, & Jones, 2009; Saleh 2012). Students who struggle with reading comprehension and lack adequate academic skills will need greater support from instructors; they may require extra readings, homework, and much greater support and encouragement from the instructor to be successful. Teachers preparing high-quality online courses expend as much as triple the amount of time as compared to the traditional course prep (Saleh, 2012).

A study that demonstrated a marked improvement in achievement for online students over traditional courses found that students spent more time on tasks than traditional students (Means, et al. 2009). Interestingly, students who take online courses because they have other duties such as work, home and children find that they can only be successful if they spend triple the time on tasks as compared to traditional students. To combat The Matthew Effect educators should inform students of the immense time required in order to succeed within an online course.

Second, higher education institutions should consider abandoning their fast-paced programs and offer online programs on a regular schedule. The fast-paced programs may attract some students, but they may also lead to higher frustration and attrition within these programs. Distance learning is

very inviting to students who need flexible scheduling, who are working, have young children, or need more accessible education (Gedviliene, 2010). Individuals who have responsibilities which prevent them from going to traditional courses are the primary candidates for enrolling in online courses. However, Jones and Slate (2009) argued that we reach these students at the worst possible time for them to seek education as full time employees, mothers, care takers, etc. They engage in online class activities after they fulfill all other duties. Dierkmann (2001) found that working mothers pursue their online course work after 40 hours of work and 72 hours of household duties. Such factors contribute to decreasing the chances for these students to be successful learners in an online environment. Offering regularly-paced online courses and adequate support for these students may prove to be more accommodating to their needs and conducive to their success.

Third, faculty members should receive adequate training in offering successful online courses. Having knowledge of the technology and using technology for educational purposes does not constitute adequate training in developing effective online courses. Such training should be continual, not only to prepare faculty to teach online courses but also to keep faculty abreast of the ever-changing technology. A great method for accomplishing this is through professional development. Technology has made great strides in offering innovative programs to gain greater student participation and learning, however the technology is only as good as the instructor employing it. Instructors need to be continually updated on the newest technologies available. Universities should become proactive when utilizing technology encouraging instructors to attempt new methods of delivery to increase student success.

A challenge facing online education and this recommendation is the push for more professors to teach online courses. Many colleges and universities are requiring professors and instructors to teach at least one online class. This complicates matters because many do not have the ability to teach online effectively (New Millennium Learners, 2008). Also, many professors teach online courses in addition to their full teaching load for extra money; such situations make offering quality online courses difficult.

Fourth, universities need to develop pre-tests or assessments, to determine if students can be successful in an online course. Retention is extremely important for funding of higher education institutions. By being

proactive in spotting unsuccessful students, universities can work to provide the students with the support and courses which will best suit students' needs and abilities. An online student orientation is a great method to determine student abilities and orient students into a course. Cho (2012) found an online student orientation to significantly improve student success, especially at the onset of an online course.

Higher education institutions can offer pre-online course assessments to evaluate students' readiness for online courses. Students can be advised on their chances of success in online courses, as well as the demands and expectations of such courses. They can also be counseled on the compatibility of their personality traits, study skills, and individual needs and the nature of the online courses. Song, Singleton, Hill, and Koh (2004) found students who were comfortable with online technologies were much more likely to be successful with an online course. Students who have incompatible traits with such medium should be discouraged from taking an online course or provided with extra support. This places great responsibility on advisors and instructors to ensure students are prepared for the rigors of an online course. Giving students options to take courses in the format that best suit their needs increases their satisfaction with the education they receive. Bolliger and Erichsen (2013) found that students' satisfaction with elements of blended and online courses depended on their personality types.

Fifth, numerous studies have found that active communication between instructor and students is the most important factor in student success. Dzakiria (2008) discovered in his study of student perceptions of distance learning that one of the greatest problems experienced by learners was the feeling of isolation associated with online classes. Naturally, human beings need communication and interaction to learn concepts. For students who need traditional interactions, they become isolated within the online environment. Cook (2007) suggested that distance education serves to socially isolate individuals and provide "de-individualized" instruction furthering the isolation associated with distance education. Feedback within online courses takes time while students within the classroom receive almost instant feedback. And e-mail messages sometimes do more to confuse students than to solve problematic issues (Jefferson, & Arnold, 2009).

Song et al. (2004) suggest that students benefit the most from instructors and students establishing a community within the online environment to

combat isolation and communication problems. Setting up a time for students to meet the professor face-to-face establishes a sense of community and connection between student and professor. "A kick-off meeting is very helpful…it puts faces to people" (Song et al., 2004, p. 66). This can combat the isolation felt by students as well as combat other negative aspects of the online environment. Instructors can use media such as Skype or Tango, etc. to arrange such initial meeting if face-to-face meeting cannot be utilized.

Young (2006) investigated students' views of online instruction and methods which improved the student experience of online courses. Students quickly become distressed with communication issues, ambiguous directions and a lack of direct communication with instructors. To combat this, instructors need to provide high-quality feedback and communication as quickly as possible to increase students' success. By communicating clear goals and defining the expectations, students are much less likely to fall victim to frustration and despair and eventually drop out of these programs (Young, 2006).

Within online courses, there is a changing role structure which occurs between students and instructors which provides opportunities and challenges for students to be successful. Instructors become facilitators while students are required to become self-directed learners (McCloughlin & Marshall, 2000; Young, Cantrell, & Shaw, 2001). Students reported that effective teachers are visibly engaged within the learning process with the students, establish relationships with the students, and provide a structured yet flexible learning environment (Young, 2006). Online learning should not be an isolated activity for students to conduct alone, rather the instructor and students should be partners in learning.

Dillon and Cintron (1997) suggested that educational institutions should not be emphasizing the "distance in distance education but the connections made possible by distance technologies." This is increasingly true considering the opportunities created through globalization for collaboration across large demographic and geographic distances. Faculty need to keep open and continued communication with their online learners to ensure success. Chang and Smith, (2008) and Endres, Chowdhury, Frye, and Hurtubis (2009) reported increased students' satisfaction with courses correlated positively with their increased interaction with the instructors.

Sixth, higher education institutes should consider, when possible,

offering more blended courses of face-to-face and online formats. This recommendation is supported by Aborisade's (2013) study. Additionally, Ekici, Kara, & Ekici (2012) reported that teacher candidates had positive views of their blended physics class and they recommended its use at a wide scale.

Lastly, educational institutions can also help with communication issues by providing continuous and timely technical support for faculty and students. This should reduce the level of frustration with the courses and in turn reduce students' attrition in online programs. Song et al. (2012) report technical problems as being a significant predictor of student dissatisfaction with online courses. Technical issues hinder the education process and can eliminate the ability for students and faculty to remain in contact with each other.

Conclusion

Online teaching has a place in our current world of instructional pedagogy; however, it is not the silver bullet that will achieve all of our educational hopes. Online instructors have a difficult task ahead of them if they are to increase student learning. The teachable moments are much harder to come by as the distance and pace of online education keeps instructors from being able to adjust material, delivery, or assignments during a "class period" as they used to in traditional classrooms. Of course, like in any profession, there are traditional courses that lack integrity and standards, but the fast pace, large numbers of students, lack of traditional contact with students, and lack of teacher training and mastery of online teaching methodology make holding to high standards in the online classroom a challenge to most educators.

Sandeen and Barr (2006) argued that about 70% of students who are dissatisfied with the school leave higher education institutes because they perceive the university to be only after their money, but such dissatisfaction only grows higher when students are enrolled in online programs. In the "Unfaculty" Blog, Browne predicted in 2011 that with the increase of access to the Internet and the availability of free educational online resources, many students will resort to "self educate" and force employers and organizations to invent mechanism to evaluate their credentials without the need for formal

college education. Higher education institutes should strive to offer students top quality programs both in online and traditional classes to survive.

Successful instructors within an online environment must be proactive in addressing their students' needs. Once students get behind, they are much more likely to drop out of online courses. It is up to us, educators, to ensure that they receive quality education that will enable them to be successful online learners.

Online education should offer personalized education for students; that is what they want, but most importantly what they need. We are no longer dealing with the same students; we are witnessing a technological revolution before our eyes. Today's students live in a completely customizable world; students should have access to individualized learning to be successful. This creates the opportunity for new, innovative practices to develop the next generation of learners and combat the insufficiencies of online education.

References

Aborisade, P. (2013). Investigating African **'digital-immigrant'** students' reactions to moodle resources. *Higher Education of Social Science, 4*(3), 68-77.

Allen, I.E., & Seaman, J. (2010). *Class differences: Online education in the United States.* Babson Survey Research Group..

Allen, I.E., & Seaman, J. (2014). Grade change: Tracking online education in the United States. Babson Survey Research Group and Ouahog Research Group.

Bolliger, D.U., & Erichsen, E.A. (2013) Student satisfaction with blended and online based on personality types. *Canadian Journal of Learning and Technology, 39*(1), 1-23. Retrieved from: http://cjlt.csj.ualberta.ca/index.php/cjlt/article/view/655

Bourdieu, P. (2002). The forms of capital, in Nicole Woolsey Biggart, (Ed.), *Readings in economic sociology,* (p. 280-291). Malden, MA: Wiley. doi: 10.1002/9780470755679.ch15

Browne, K.J. (2011). *The Free Education Matthew Effect. Unfaculty*. Retrieved from http://www.unfaculty.org/2011/09/free-education-matthew-effect.html

Canchola, Y. N. (2011, April). How for-profit colleges fail their students. *The Chronicle of Higher Education.* Retrieved from http://chronicle.com/article/How-For-Profit-Colleges-Fail/129619/

Chang, S. H., & Smith, R. A. (2008). Effectiveness of personal interaction in a learner-centered paradigm distance education class based on student satisfaction. *Journal of Research on Technology in Education, 40*(4), 407-426.

Cho, M.H. (2012). Online student orientation in higher education: a developmental study. *Education Technology Research Development, 60,* 1051-1069. doi: 10.1007/s11423-012-9271-4

Cook, D.A. (2007). Web-Based Learning: Pros, Cons, and Controversies. *Education for Primary Care, 18,* 417-441. doi: 10.1017/S146342360700045X

Cunningham, J. (2010). Self-Direction: A Critical Tool in Distance Education. *Common Ground Journal, 7* (2): 89-100.

Dierkmann, F. J. (2001). Everything you wanted to know about e-learning (but didn't know where to log on to ask). *Credit Union Journal, 5(*30), 6-7.

Dillon, S. (2007). *Troubles grow for a university built on profits.* The New York Times. Retrieved from http://www.nytimes.com/2007/02/11/education/11phonenix.html?ei=5124&en=dee1fea9c7

Dillon, C.L. & Cintron, R. (1997). Distance Education and the Community College: From Convention to Vision. *New Directions for Community Colleges, 1997*(99), 93-103. doi: 10.1002/cc.9910

DiPrete, T.A. & Eirich, G.M. (2005). *Cumulative Advantage as a Mechanism for Inequality: A Review of Theoretical and Empirical Developments.* Retrieved from http://www.columbia.edu/~tad61/CA_AR112205.pdf

Dzakiria, H. (2008). Students' Account of the Need for Continuous Support in a Distance Learning Program. *Open Learning, 23,* 103-111. doi: 10.1080/02680510802051913

EduPunk and the Matthew Effect. (2010). Retrieved from http://highered.blogspot.com/11/edupunk-andmatthew-effect.html

Ekici, F., Kara, I.A., & Ekici, E. (2012), The primary student teachers' views about a blended learning application in a basic physics course. *Turkish Online Journal of Distance Education, 13* (2), 291-310.

Endres, M. L., Chowdhury, S., Frye, C., & Hurtubis, C. A. (2009). The multifaceted nature of online MBA student satisfaction and impacts on behavioral intentions. *Journal of Education for Business*, 84(5), 304-312. doi: 10.3200/JOEB.84.5.304-312

Free Education Matthew Effect. (2011). Retrieved from http://www.unfaculty.org/2011/09/free-education-matthew-effect.html

Gedviliene, G. (2010). Adult Distance Learning Quality in University Studies. *Bridges, 51*, 133-143.

Grady, J. R. (2013). *Improving student satisfaction with large-scale, compressed timeline online graduate education courses*. Paper presented at E-Learn2013 World Conference on E-Learning in Corporate, Government, Healthcare, and Education, October, Las Vegas, NV.

Grill, J. (1999). Access to Learning: Rethinking the Promise of Distance Education. *Adult Learning, 10*(4): 32-39.

Hempenstall, K. (1996). The gulf between educational research and policy: The example of Direct Instruction and Whole Language. *Behavior Change, 13*, 33-46.

Huh, J., & Atsusi, H. (2004). Reading assessment strategies for online learners. A paper presented at *Association for Educational Communication and Technology*, Chicago, IL, April.

Jefferson, R.N., & Arnold, L.W. (2009). Effects of virtual education on academic cultures: Perceived advantages and disadvantages. *US-China Education Review, 6* (3), 61-66.

Jones. C. H., & Slate, J. R. (2009). *Online courses, Instructional quality, and Economics: A conceptual analysis.* Retrieved from http://cnx.org/content/m29669/1.1/

Koba, M. (2011, March 7). Are ivyleague diplomas still worth the price? *USA Today*, Retrieved http://usatoday30.usatoday.com/money/perfi/college/2011-03-05-cnbc-ivy-league_N.htm

McCloughlin, C. & Marshall, L. (2000). Scaffolding: A Model for Learner Support in an Online Teaching Environment. *Open Learning, 7*, 78-85.

McGuire, L., & Muffo, A. (2003). For-Profit Higher Education: the Good, the Bad and the Ugly? Retrieved from *filebox.vt.edu/users/lmcguire/For%20Profit%20Education.doc*

Means, B., Toyama, Y., Murphy, R., Bakia, M., & Jones, K. (2009). *Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies*. Available from the U.S. Department of Education. Retrieved from http://www.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf

Merton, R.K. (1968). The Matthew Effect in Science. *Science, 159*(3810): 56-63. Retrieved from http://www.unc.edu/~fbaum/teaching/PLSC541_Fall06/Merton_Science_1968.pdf

Mominóand, J. M., Sigalés, C., & Meneses, J. (2008). *La escuela en la sociedad red. Internet en la educación primaria y secundaria*. Barcelona: Ariel.

Mooneyhan, A. (2012). *Comparing three delivery methods in concepts of fitness course.* Paper presented at the Annual European Teacher Education Network, Coimbra, Portugal, April 2012.

Morgan, B. (2010) New Literacies in the Classroom: Digital Capital, Student Identity, and Third Space. *International Journal of Technology, Knowledge, & Society, 6*(2): 221-239.

Muchinsky, P. M. (2006). *Psychology applied to work* (8th ed.). Belmont, CA: Thomson. Society for Industrial and Organizational Psychology, Inc. *Graduate training programs in industrial-organizational psychology and related fields*. Retrieved from http://www.siop.org/GTP/.

New millennium learners: initial findings on the effects of digital technologies on school-age learners. (2008). Center for Educational Research and Innovation. Retrieved from http://www.oecd.org/site/educeri21st/40554230.pdf

OECD. (2005) E-learning in tertiary education: where do we stand? Paris: OECD/CERI In Schiffman, Stephen, Vignare, Karen & Geith,

Christine (Eds.) (2007) *Why do higher education institutions pursue online education? Journal of Asynchronous Learning Networks,* 11(2), pp61-71 Retrieved from http://www.sloan-.org/publications/jaln/v11n2/pdf/v11n2_schiffman.pdf

Olaniyan, D.A., & Okemakinde, T. (2008). Human Capital Theory: Implications for Educational Development. *European Journal of Scientific Research*. Retrieved from http://www.eurojournals.com/ejsr_24_2_01.pdf.

Palfrey, J. &, Gasser, U. (2010). *Born Digital: Understanding the First Generation of Digital Natives*. New York, NY: Basic Books.

Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students. Volume 2: A third decade of research.* San Francisco, CA: Jossey-Bass.

Pasquier, D. (2008). *From parental control to peer pressure: cultural transmission and conformism.* In S. Livingstone & K. Drotner (Eds.), International handbook of children, media and culture (pp. 448-459). London: Sage.

Russell, V., & Curtis, W. (2013). Comparing a large- and small-scale online language course: An examination of teacher and learner perceptions. The Internet and Higher Education, *16,* 1-13. doi:10.1016/j.iheduc.2012.07.002

Saleh, A. (2011). *A closer look at the marriage of for-profit and public higher education institutions*. Paper presented at the 13th Annual International Conference on Education, Athens, Greece.

Saleh, A. (2012). A Closer look at online graduate degree programs in public institutions. *Review of Higher Education and Self-Learning, 5* (16).

Sandeen, A., & Barr, M. (2006). *Critical issues for students affairs: Challenges and opportunities.* San Francisco, CA: Jossey-Bass.

Schultz, T.W. (1961). Investment in Human Capital. *The American Economic Review, 51*(1), 1-17.

Song, L., Singleton, E.S., Hill, J.R., Koh, M.H. (2004). Improving online learning: Student perceptions of useful and challenging characteristics. *Internet and Higher Education, 7*: 59-70. doi: 10.1016/j.iheduc.2003.11.003

Stanovich, K. E. (1986). Matthew effect in reading: Some consequences of individual differences in the acquisition of literacy. *Reading Research Quarterly, 21* (4), 360-407. doi: 10.1598/RRQ.21.4.1

Walberg, J. H., & Tsai, S. (1983). Matthew Effect in Education. *American Educational Research Journal, 20* (3), 359-373.

Walker, C. E., & Kelly, E. (2007). Online instruction: Student satisfaction, kudos, and pet peeves. *The Quarterly Review of Distance Education, 8*(4), 309-319. doi: 10.3102/00028312020003359

Williams, A., Birch, E., & Hancock, P. (2012). The impact of online lecture recordings on student performance. *Australian Journal of Educational Technology, 28* (2), 199-213.

Xu, J. & Hampolen-Thompson, G. (2012). Cultural Reproduction, Cultural Mobility, Cultural Resources, or Trivial Effect? A Comparative Approach to Cultural Capital and Educational Performance. *Comparative Education Review, 56* (1): 98-124. doi: 10.1086/661289

Young, S. (2006). Student Views of Effective Online Teaching in Higher Education. *American Journal of Distance Education, 20*(2), 65-77. doi: 10.1207/s15389286ajde2002_2

Young, S., Cantrell, P., & Shaw, D. (2001). Online Instruction: New Roles for Teacher and Students. *Academic Exchange Quarterly, 5*(4), 11-16.

Zhang, P. (1998). A Case Study on Technology Use in Distance Learning. *Journal of Research on Computing in Education, 30*(1): 398-420.

Amany Saleh is Professor of Curriculum and Instruction in the Center for Excellence in Education at Arkansas State University (United States)

Heath Sanders is an Instructor of Sociology at East Arkansas Community College. He is also a doctoral student of Educational Leadership at Arkansas State University.

Contact Address: Direct correspondence to Amany Saleh at Center for Excellence in Education P.O. Box 1270, State University, AR 72467 (United States). E-mail: asaleh@astate.edu