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James E. Willis III

Educational Assessment Specialist, jewillis@purdue.edu

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MOOCs and Foucault's Heterotopia: On Community and Self-Efficacy

James E. Willis, III, Ph.D.
Purdue University
jewillis@purdue.edu

Elizabeth Lynn Spiers, B.A.
Purdue University
espiers@purdue.edu

Patricia Gettings, M.A.
Purdue University
pnorth@purdue.edu

Abstract

Massive open online courses (MOOCs) present challenges for individual student self-efficacy and relational communities of learners. Foucault's concept of the "heterotopia" is examined as a lens of the no-place place by which barriers between the individual and the community are called into question as seemingly disparate concepts. Contextually mitigated with Freire's "problem-posing" and Siemens' "connectivism," it is further argued that self-efficacy and relational community are congruous and dependent entities which provide insight to the future of digital architecture.

1. Introduction

The proliferation of recent online phenomena called massive open online courses, or colloquially referred to by their acronym, MOOCs, is significant both to higher education and the value systems of society. The "open" nature of MOOCs, which at the writing of this paper are primarily cost-free and available to anyone with a computer and an internet connection, has societal implications for those who would otherwise be negatively affected by affordability, access, and quality of education.

The problem with attempting to take an academic view of MOOCs is the general lack of scholarly literature, presumably from their recent development, prominence, and ongoing evolution. The lack of literature also means a paucity of empirical evidence to examine the quantitative aspects of MOOCs. These limitations suggest the best path of analysis is through a lens that helps bring together seemingly disparate information. Our proposal is to examine some of the lecture notes of Michel Foucault's "Des Espace Autres" ("Of Other Spaces") which elaborate on what he calls "heterotopias" [9]. Though originally written for a talk given in March 1967, Foucault's thinking bears especial relevance to today's MOOCs: "We are in the epoch of simultaneity: we are in the epoch of juxtaposition, the epoch of near and far, of the side-by-side, of the dispersed" [9, p. 22]. As asynchronous, widely-accessible learning platforms, MOOCs close educational boundaries once firmly affixed in brick-and-mortar schools; this "dispersed" status begs questions of space, or in Foucault's language, "the space of emplacement" [9, p. 22]. Haider and Sundin (2010) make a similar connection when they argue, "The Web is constituted of an incalculable and constantly changing amount of non-linear interlinked digital objects which together create an enormous and continuously growing digital space or rather spaces" (p. 6). A careful distinction is necessary between Foucault's coinage of "heterotopia;" he is not elaborating on a dire, anti-utopia (or dystopia), but rather a "placeless place" [9, p. 24]. Foucault uses the example of a mirror to illustrate what he means by heterotopia: the mirror presents an image that is "there" but only as an image; a mirror image is both in a place and in no-place.

The conceptual challenges of MOOCs mark out space to be explored with Foucault's heterotopias, or more specifically, the sites "that have the curious property of being in relation with all the other sites, but in such a way as to suspect, neutralize, or invert the set of relations that they happen to designate, mirror, or reflect" [9, p. 24]. MOOCs tread on the utopia of education, the promise of knowledge, power, and social mobility vis-à-vis traditional or even online platforms, thereby marking out space that undermines the monetary value of education all the while elevating the value of disseminating the potentiality of knowledge for those who otherwise may not be participants.

We posit the underlying dichotomy within the structure of a MOOC is best framed as that of a community of learners and individuals' self-efficacy. These are by no means opposite categories, but rather internal tensions present in courses where individuals form a community of (sometimes) thousands of students. Foucault's thesis of heterotopias helps us contextualize MOOCs' marked out space, the tensions of community and self-efficacy within that space, and how the future of disseminated learning changes digital architecture.

2. MOOCs, self-efficacy, and a community of learners: a brief overview of literature

Very specific characterizations are necessary to understand how MOOCs are both situated deeply within educational contexts and, simultaneously, challenging what "self-efficacy" and "a community of learners" mean. Student self-efficacy is rooted in psychological motivations for completing or dropping out of a MOOC; likewise being part of a community of learners is rooted psychologically in terms of connectivity to others, responsibility to others, and mutual relationships to other students. These themes are explored in a general sense to provide a context with which to analyze how MOOCs as heterotopias provide insight to learning changes.

2.1. Student self-efficacy and MOOCs

In psychological-educational terms, self-efficacy, or an individual's confidence in his or her ability to effectively complete a specific task [1], is important to establish a common language of motivation. Self-efficacy influences an individual's behavior in ways like performance in tasks and the amount of effort applied to the tasks [1]. Self-efficacy can be an important mitigating factor in education because it entails effort, participation, engagement, and output. More specifically, a measurement of self-efficacy can be applied to distance learning, and more particularly to MOOCs. The dearth of scholarly literature on MOOCs suggests that comparable models of educational research into self-efficacy may help align theory of participation with empirical results of low completion, or the rise of what are called "lurkers" (those who may interact with MOOC materials, but do not leave digital artifacts behind to evidence their participation). What motivates individuals to participate in, and more importantly successfully complete, MOOCs? With the exceptionally high number of dropouts and few active participants in these courses, the question of what is affecting the participants' behavior becomes pivotal.

The application of extant research on distance and online learning self-efficacy is helpful to a conceptual understanding of MOOCs because there is an extensive body of research showing how self-efficacy relates to a student's behavior, performance, and achievement in online learning environments. Zhang, Duan, and Wu (2001) conducted a study that examined participants' self-efficacy in relation to their achievement in a distance learning program at a

university in China. This study concluded that students' distance learning self-efficacy significantly affected learning achievement in the distance learning environment. Another study conducted by Simmering, Posey, and Piccoli (2009) showed participants' computer self-efficacy was positively related to learning in an online course. This study also concluded that students' previous experience with using computers and the Internet related to increased computer self-efficacy [28]. Bates and Khasawneh (2007) showed previous experience with online learning increases students' self-efficacy in online learning environments. This study also showed that self-efficacy influenced students' outcome expectations in an online course.

Irizarry (2002) discusses the importance of self-efficacy in online learning environments. He explains that self-efficacy affects student achievement in online courses as well as the motivation levels of individuals in online courses [12]. Wang and Newlin (2002) concluded a student's perceived self-efficacy in an online course was significantly related to choosing to enroll in an online course as well as to the final exam score received. Lynch and Dembo (2004) concluded that participants' self-efficacy was positively related to the final grade received in an online course. Joo, Lim, and Kim (2013) also found self-efficacy predicted achievement for participants in an online university. However, Joo, Lim, and Kim (2012) concluded self-efficacy did not predict achievement but did affect the participants' learning flow. Similarly, Renninger, Lewis, Adams, and Ernst (2011) discuss the need for more research on self-efficacy as it relates to online learning as well as how this research could help design future online courses to take into account the participants' differences in self-efficacy. In most studies, self-efficacy has a significant impact on students' behavior and achievement in online courses.

Other research appraising self-efficacy and behavior in online courses shows self-efficacy affects individuals continuing with online education and that students' self-efficacy in online education can be increased through experience. Simmering et. al. (2009) and Bates et. al. (2007) established previous experience with computers and online learning environments increased students' self-efficacy. Similarly, Chu and Tsai (2009) report that the more time and experience adult learners have on the Internet, the more their self-efficacy increases. With a higher Internet self-efficacy, students will be better able to function and participate in online learning environments [5]. Furthermore, Chu and Chu (2010) concluded that having social support for adults in online courses can enhance Internet self-efficacy. This study also showed how important Internet self-efficacy is to keeping adult learners in online learning environments. This specifically highlights what Irizarry (2002) explains, "If a person believes that he or she can complete a task, the probability that he or she will engage and become resilience [sic] to any obstacles increases." Therefore, it is important to be able to raise students' self-efficacy to further enhance their participation in future online learning situations. Studies indicate self-efficacy is increased through experience, which will further allow individuals to successfully continue in online learning environments.

Self-efficacy, as a descriptor of student motivation, participation, and achievement, is important for a deeper understanding of MOOCs. In relation to distance and online courses, the concept of self-efficacy starkly points to an inverse in MOOC participation. At the very least, this sharp inverse allows us to ask some key questions. Does self-efficacy tell us something deeper about why MOOCs have such a characteristically high drop-out rate? Does it also say something psychologically compelling about why there are so many lurkers in MOOCs? Would students' high self-efficacy possibly help increase the participation and completion of MOOCs?

2.2. A Community of Learners and MOOCs

In recent decades, higher education underwent a dynamic shift in purpose from one that is lecture and faculty-focused, to one that is much more student-centered (e.g., [2]). This shift ushered in a variety of new learning formats that supplement, complement and sometimes replace traditional face-to-face forms of learning including blended learning, fully online small classes, and MOOCs.

A sense of community is highly relevant to understanding these alternative learning platforms. "Community" refers to "a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together" [18, p. 9]. Of especial note here is that this definition does not indicate any physical or material commonalities among group members, but rather a sense of community is predicated on *processes* of interaction. Based on a review of extant literature on sense of community, Rovai (2002) argues that sense of community comprised four dimensions: spirit, trust, interaction, and common expectations (i.e., learning goals).

Sense of community is operationalized using a Classroom Community Scale [22] that assesses overall classroom community in addition to two subscales: connectedness and learning. Connectedness, in this case, represents "the feelings of the community of students regarding their connectedness, cohesion, spirit, trust, and interdependence" (p. 201). Learning represents community members' feelings "regarding interaction with each other as they pursue the construction of understanding and the degree to which members share values and beliefs concerning the extent to which their educational goals and expectations are being satisfied" (p. 201).

Rovai (2002) notes seven factors related to sense of community, specifically in online contexts: a) transactional distance, b) social presence, c) social equality, d) small group activities, e) group facilitation, f) teaching style, and g) community size. Transactional distance refers to the subjective psychological and communication space learners feel between themselves and others. Social presence refers to how present or absent an individual is in an online community. For instance, instructors of online courses who regularly contribute to discussions build social presence. Social equality highlights the importance of each student feeling "safe" to contribute in the online classroom. Threats to social equality and, therefore, a sense of community can occur when students take authoritative tones during online discussions. Small group activities help bolster a sense of community in online classrooms because they can break large groups into smaller ones (i.e., fewer than 10 students) in which groups complete a specific task in a set time period. Group facilitation refers to the instructor's ability to inspire learners to interact both around instrumental and relational issues. In terms of sense of community, instructor's teaching style and students' learning stage are directly linked. Optimal teaching is situational because instructors can adapt and accommodate the needs of all learners. Finally, community size influences sense of community. Students who feel that they are merely one in a very large class often do not feel a sense of community.

Strong sense of community has been associated with several outcomes including lower levels of student burnout [17] and fewer student-reported feelings of isolation [11]. As Tinto (1975) argued in regards to traditional face to face learning environments, feeling as if one "fits in" and has a myriad of opportunities for interacting with other students and faculty is critical to college success. In recent years, a sense of community in blended learning environments provides

additional context. Blended learning can include any combination of face to face and online elements and has been praised for its flexibility [23]. Using a causal-comparative design, Rovai and Jordan's (2004) findings suggest that blended courses produce a stronger sense of community among students compared to either traditional or fully online courses.

For the most part, research on sense of community in educational contexts has been conducted within the confines of "traditional" learning environments. However, the increase in MOOCs challenges what we know about this construct because they allow for learners and instructors to interact outside of these traditional educational structures.

In line with notions of sense of community is connectivism or connectivist learning [8; 26]. Connectivism refers to learning as a collaborative—rather than top-down—activity in which individual learners become members of (online) networks and, through communication with others, co-construct knowledge and learning experiences. Siemens and Downes (2009) emphasize the importance of human agency and the necessity of active participation in connectivist learning. They point to four types of activity for successful learning: (a) *aggregating* information, (b) *remixing* and reflecting on resources and relating them to what people already know, (c) *repurposing*: learners creating something of one's own, and (d) *sharing* one's work and activities with others.

In their analysis of two MOOCs, Kop, Fournier, and Mak (2011) note, "many participants realized the importance of connections with other learners and of relationship building to advance learning. However, in a MOOC, they found these things extremely hard" (p. 87). These authors included the following quotation from a participant: "I still feel like I struggle to make collaborative relationships online and asynchronously. It is as much a need to improve my relationship-building skills and perfect my organization abilities with existing tools."

Though much of what is thought about a sense of community in a MOOC is theoretically extrapolated from earlier studies on traditional and online education, recent research suggests the sheer volume of students in MOOCs create serious hindrances toward forming relational connections necessary in a community. More specifically, Rovai's (2002) Classroom Community Scale has only been used in blended learning or "smaller" online learning environments, but not MOOCs. Could we realistically expect MOOC learners to highly endorse some of these items? For example, items such as "I feel that this course is like a family" or "I feel that students in this course care about each other" might be particularly far-fetched for a course of 1,000 students. Is it necessary, then, to reframe what "sense of community" means for the MOOC context?

3. Emplacement: Theoretical Views of Self-Efficacy and Community in MOOCs

Foucault's heterotopias serve as a useful lens to help us understand the tension between what is marked out in the digital space of MOOCs as well as the relationship between self-efficacy and community that is occurring inside the human-machine space of MOOCs. If we are to take seriously Foucault's assertion, "our epoch is one in which space takes for us the form of relations among sites," there is an interconnectivity that drives a structural foundation of action within "a system of opening and closing that both isolates [heterotopias] and makes them penetrable" [9, p.23; p.26]. Within the place/no-place opposition of the heterotopia is a "place" that allows for a highly-theoretical penetration of connectivity between self-efficacy and community. To align an educational construct with heterotopic emplacement of MOOCs, we turn to theories proposed by Paulo Freire and, more recently, George Siemens.

Freire proposed a view of education contrarian to the more traditional view whereby there is a sharing of information between teacher and student. Freire describes the traditional and oft current view of education as a “banking style” (as cited in [20]). In this model, the teacher is an all-knowing expert whose job it is to deposit information into a receptacle, the students. He explains that in this concept of education, knowledge “is a gift bestowed by those who consider themselves knowledgeable upon those whom they consider to know nothing” (as cited in [20] p. 189). This view of education takes away the ability of the students to contribute and share their ideas and categorizes the students as having nothing to contribute. This banking style places the teacher categorically above the students. This view of education requires the students to passively memorize information rather than take an active role in the learning process.

Freire describes his idea of education as “problem-posing” (as cited in [20]). Problem-posing education takes away the authority of the teacher and replaces it with a teacher who is “taught in dialogue with the students, who in turn while being taught also teach” (as cited in [20], p. 194). Freire’s concept joins the teacher and students in a process where all involved grow and learn together through one another. This problem-posing model of education varies greatly from the “banking style” because it encourages egalitarian, active learning. Selim (2007) suggests that the rise of online education takes seriously Freire’s critique. Perhaps an even more acute example of a contrarian model of “banking style” education is the MOOC because students take a leading role in the learning process. MOOCs are designed to allow the participants (students) in the course to direct the information that is being shared and elaborate on it; students engage in active learning because they direct the learning process. Like Freire’s model, MOOCs go against the “banking style” of education. Students in MOOCs are not seen as ignorant receptacles to be filled, but rather as individuals who have information to share and contribute in the learning process.

The majority of MOOCs employ the theory of connectivism, which advocates learning between individuals [25]. This is the idea that in order to expand students’ knowledge base, they must make connections with other individuals and share information [25]. Some of the principles of this theory are the diversity of opinions, the process of learning taking place by connecting specialized information, and connecting information between fields and concepts [25]. Connectivist concepts and principles are closely aligned with what takes place in MOOCs. As online courses that allow many individuals from around the world to share information with each other, MOOCs provide the means for participants to connect their specialized knowledge with other participants’ knowledge.

The conceptual alignment of Freire’s theory and the pragmatics of MOOCs are held together with connectivism. Connectivist theories allow for the correlative space to examine how both Freire and MOOCs go against traditional models of education. Traditional education does not provide means for individuals to share information between each other and connect each individual’s field of knowledge. MOOCs, on the other hand, demonstrate how Freire’s views education *should* work. According to Freire, education should be a connecting between individuals who share, learn, and teach in the process of learning; the pragmatic dynamics of MOOCs allow this very thing. The question, then, becomes with an understanding of how MOOCs actively encourage the learning process, how do self-efficacy and community contribute to learning in these courses?

The lack of scholarly literature treating MOOCs yields a particular challenge; to systematically apply self-efficacy theories we rely on literature from online courses. Though this

is methodologically difficult because online courses differ from MOOCs, they also share a lot of similarities, especially in physical and digital delivery. Both MOOCs and online courses provide incentives to take the courses. The strongest similar incentive is the act of learning, which is extremely important in both types of courses. With online courses, the incentive, with successful completion of a curriculum, is a degree. MOOCs, on the other hand, do not qualify individuals for a degree, but some MOOC providers offer badges (certificates of completion) to show a student completed the course. A central difference is that with completion of a MOOC, a student receives the incentive forthrightly; in online courses, multiple different courses are needed to receive a degree. Both types of courses provide incentives for individuals to participate.

With online courses and MOOCs, the digital architecture and mechanisms of work are also similar. In each type of course, individuals must use a computing device (i.e. digital architecture) in order to access the course, assignments, and information. Individuals in each course are also encouraged to submit assignments, information, and one's knowledge to the course electronically (i.e. mechanisms of work). Skills in navigating the Internet are also needed for each course. Even though MOOCs and online courses may have differing guidelines in delivery and how they are conducted, both types require similar skills, digital architecture, and mechanics of work in order to participate and learn. Since each type of course requires certain skills in order to effectively participate and complete the course, the idea of self-efficacy for successful completion is similar in each course.

Self-efficacy is especially important to MOOCs because students have to be confident in their capabilities to navigate and succeed in the course as well as have confidence that the course will work for them [31]. Students' self-efficacy for success in a MOOC is directly related to performance because if a student does not believe they have the skills to participate then their performance will ultimately suffer. This aligns with the research discussed above where self-efficacy has shown to play a vital role in one's performance and outcome in online courses. Therefore, with self-efficacy having such an effect on performance how can this be raised in order to enhance participation in MOOCs and combat the high dropout rates of these courses? Perhaps the relationship with a sense of community is highlighted best here; if self-efficacy is encouraged and nurtured externally (either by an instructor or fellow students) in a MOOC, then the community benefits from active and engaged self-efficacious learners.

Further qualitative context is helpful to fill out the connection between performance, self-efficacy, and the relationship to community. In his blog, M. Crosslin (2010) discusses what caused him to drop out of a MOOC. He explained that he was unable to figure out how to work and navigate the MOOCs he attempted. Therefore, his self-efficacy in navigating these courses was low, causing him to drop out of the course. Crosslin (2010) compared his experience in a MOOC to feelings he similarly experienced in 500-person lecture halls in college. He stated that it was easy to feel as if one was disappearing into the masses. By feeling like one has disappeared into a course composed of hundreds or thousands of students, it can further lower a participant's self-efficacy if they cannot seem to find a way to make their voice heard in the community. It is helpful to question if personalized feedback is the panacea to enhancing self-efficacy and further participation in MOOCs, thereby enhancing communal activity. If students receive feedback and believe they are heard, will they more fully participate in the course?

Briefly returning to Freire's model of education to draw out meaningful analyses, more student effort is needed for success. Students are not expected to just sit, listen, and memorize information anymore; rather, students are expected to share, question, and make individual connections with the material. This is similar to participation in a MOOC. In order to learn in a

MOOC, students must continue to locate information through course navigation, share information with other students, and create digital artifacts by sharing their thoughts and knowledge with others. Students cannot be passive members of a MOOC or they will soon find themselves lost in the masses without a voice. Students have to enter a MOOC with a level of self-efficacy that gives them the confidence in their own voice as well as confidence to navigate a MOOC. Experience in MOOCs will help to enhance the self-efficacy in individuals with low self-efficacy and will possibly even take individuals whom already have a high level of self-efficacy and enhance it even more. Possibly one of the paradoxes of MOOCs are they are dichotomous because individuals will either remain lurkers or will engage their self-efficacy and more fully participate in the community of learners.

Foucault's concept of heterotopic emplacement helps bridge the gap between community and self-efficacy because the mutual dependence of each one reflects a (em)place(ment) that is both place and no-place. MOOC students who are self-efficacious contribute to learning in a community; the very act of commitment to participatory learning lends relational development within the community. Similarly, active renegotiation of knowledge, relational interplay between students and instructor, and a sense of trust all build community vis-à-vis self-efficacious individuals. The mirror of Foucault's heterotopia shares an uncanny relationship with this view of community/self-efficacy in MOOCs: "this place that I occupy at the moment when I look at myself in the glass at once absolutely real, connected with all the space that surrounds it, and absolutely unreal, since in order to be perceived it has to pass through this virtual point which is over there" [9, p. 24]. Something is lost in the emplacement of the no-place place – and found – in MOOC students who must overcome the obstacles to being self-efficacious learners and who, in turn, form relational communities of learners.

4. Conclusion: Digital Architecture of the (no)Place

Foucault worked well before the time of digital connectivity, widespread personal computing devices, and the challenges and opportunities presented by massive open online courses. Yet his work is conceptual enough to bear more than a passing resemblance to relational interconnectivity. His lexicon does not necessarily reflect some sort of pre-knowledge of the coming digital revolution(s), but it does speak to the problems of space in terms of a dichotomous place / no-place of today's technology.

Foucault's heterotopias reflect well the redefinition of community in terms of self-efficacious individuals forming purposeful learning communities and those communities bolstering and encouraging self-efficacy in its individuals. The traditional divisional lines between individuals and communities are brought into focus through MOOCs. The no-place emplacement of MOOCs means that students who dedicate themselves to learning form communities and those communities sustain individuals. This also signals the challenge of the future of MOOCs: designers, instructors, and MOOC platform providers must find different spaces, new horizons of emplacement, and individual-community building potentialities to further the model of *truly* open education.

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