

# The Creation of Capital through an ICT-based Learning Program: A Case Study of MOOC Camp

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## ABSTRACT

Massive Open Online Courses (MOOCs) have recently received a great deal of attention from both researchers and the general public. Their free, open nature allows global access, including by individuals in developing countries. This study will explore ways in which MOOCs can be used as tools for development in these underprivileged areas. Using data collected through interviews with facilitators and students participating in a US State Department program, we apply and extend Bourdieu's framework of cultural and social capital. Results show that MOOCs can be used to foster unique forms of cultural capital as well as both individual and organizational social capital. The research provides recommendations for both development agencies and MOOC platform designers.

## Categories and Subject Descriptors

K.3.1 [Computing Milieux] Computers and education – Distance learning

## General Terms

Management, Human Factors, Theory

## Keywords

MOOCs, developing countries, cultural capital, social capital, US Department of State, blended learning, ICTs

## 1. INTRODUCTION

Massive Open Online Courses (MOOCs) are a recent technological innovation in the education sector that are gaining popularity due to their potential to deliver quality education to large numbers of individuals free of cost. Platforms like Coursera and edX offer a wide selection of courses with both asynchronous and interactive components, produced by world-renowned universities, freely to anyone with an internet connection. Due to these characteristics, many individuals familiar with the phenomenon, such as Coursera founder Daphne Koller, are touting MOOCs as a great equalizer that will bring quality education access to developing countries where educational opportunities are often lacking [1].

However, as more data become available, these bold claims are being challenged. A study published in Nature found that the majority of individuals enrolled in MOOCs already possess higher education degrees, are employed, and are male [2]. Several other studies have arrived at similar results finding that a majority of

MOOC students in their courses have already completed at least a bachelor's degree [3] [4].

Despite this, we still believe that MOOCs have potential for use as development tools. They provide free access to content, which can be used for education and training purposes, but may also provide additional benefits to individuals and organizations in developing countries. Through a case study of a US Department of State program, MOOC Camp, we deductively analyze this potential using Bourdieu's theories of cultural and social capital. In this analysis blended learning, localization, and technology are also considered.

After discussing related work, including cultural and social capital as well as MOOCs, this paper will outline the method used to conduct this study. Data and analysis are then presented followed by a discussion of the findings. Finally we conclude with some remarks about the future of programs like MOOC Camp and their potential as development tools.

## 2. RELATED WORK

### 2.1 Capital

"Capital is accumulated labor" [5]. This definition, proposed by Bourdieu in his 1986 article on the forms of capital, captures the essence of the concept of capital. It is something that is obtained over time, usually through the efforts of its possessor. Capital explains the social status of different individuals – those with more capital are better off than those with less. This is to say that there are benefits to having capital. Capital exists in different forms, each having different definitions, benefits, and methods of accumulation (although there is overlap between these types). Although Bourdieu's originally proposed framework consisted of three types of capital – economic, cultural, and social – this article will focus on cultural and social capital.

#### 2.1.1 Cultural Capital

The concept of cultural capital was first introduced by Bourdieu in the 1970s as an explanation of the role played by educational systems in the persistence of social stratification. Bourdieu posited students' cultural and language competence, or lack thereof, influenced relationships with teachers and other educational elites, and in turn student performance. In subsequent work, Bourdieu suggested cultural capital exists in three forms, embodied, objectified, and institutionalized [5]. Embodied cultural capital refers to cultural traits of an individual's self, for example language, and is learned over time from others in society. Objectified cultural capital is used to describe objects that are pieces of culture, for example works of art. Finally, institutionalized cultural capital describes qualifications that are bestowed on the individual by an institution, for example a university degree.

Following its introduction, cultural capital was researched by scholars in the sociology of education, most notably by DiMaggio in his work, Cultural Capital and School Success. In this work DiMaggio primarily operationalizes cultural capital as "elite

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status” [6] or “highbrow” [7] culture, and found strong evidence of school performance effects. This interpretation was well received and has since been expanded [8] [9].

More recently, however, scholars have questioned the operationalization of cultural capital as high art, arguing Bourdieu’s original construct was not so constrained [7] [10]. For example, studies have found reading habits of parents and the availability of books, as opposed to ‘beaux arts’ participation, was a stronger predictor of school performance [11]. These investigations seek to expand cultural capital back to its roots as ‘communicative competence,’ enabling students to engage in intellectual and public discourse. This study, in its examination of MOOCs as developing these assets, seeks to contribute to this broadening of the cultural capital concept while expanding its traditional domain of application.

When cultural capital is characterized as competence, a broader notion than a specific skill, it lends itself to the study of information technology. Emmison and Frow argue that information technology (IT) skills, which gives one an advantage in society, can be thought of as a form of embodied cultural capital [12]. Kapitzke also views IT as cultural capital, suggesting teachers use their students’ IT –based cultural capital to advance the technological sophistication of their schools [13]. Despite the importance of education and IT skills in low-resource countries, cultural capital theory has rarely been linked to economic development [14].

Our investigation complements and expands these studies. While we agree that technology skills can be the basis for cultural capital, our approach differs in that it views information technology, and particularly technologies that foster linkages (internet, social media, video conferencing), as tools to foster other forms of cultural capital.

### 2.1.2 Social Capital

There are many differing definitions of social capital but we will use Bourdieu’s definition. He defines social capital as “the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition” [5]. This idea that membership in a group has benefits is not a new one and is rather intuitive. Although social capital exists in an abstract form, it can also be transformed in more concrete benefits. Relationships can be leveraged in the pursuit of economic capital essentially transforming social capital into economic capital. Because of this, social capital is considered an important part of the development of underdeveloped regions [15]. To this end, many organizations operating in the developing world are conducting projects that create and harness social capital, sometimes intentionally, sometimes unintentionally. The Grameen Bank, a successful microfinance institution started in Bangladesh, uses social capital as the basis of their lending model [16]. Social capital is also important in the informal economies of farmers in developing countries [17].

Although many uses of social capital theory are at the individual [18] or societal [19] levels, it has also been theorized at the organizational level. Nahapiet and Ghoshal created a model using social capital to understand the creation of knowledge by business organizations, giving those firms with more social capital an organizational advantage [20]. Ireland et al. theorize that social capital is an important part of successful inter-organization partnerships [21]. Organizational social capital can also provide organizations with advantages like increased access to information or important relationships that can be used for future benefits [22]. Hitt et al. explain that social capital is essential for

organizations working in foreign countries where it can provide them with competitive advantages and relationships that allow operations to succeed [23].

## 2.2 MOOCs

Massive Open Online Courses (MOOCs) are a method of delivering free education online to large numbers of students [24] [25]. While largely a US and European phenomenon at the outset, popular platforms, including Coursera and edX, now partner with universities around the world. As previously mentioned, many individuals see the potential of MOOCs to increase education in developing countries [1].

However, the academic scholarship on the role of MOOCs in developing countries does not comport with Koller’s perspective. For example, Daniel describes such notions as “unfortunate” [26], while Bates points to the hypocrisy of elite US institutions holding out MOOCs as a solution yet failing to offer a credential [27]. Even where issues such as hypocrisy and neocolonialism are put aside, there are the practical concerns, such as language, computer literacy and internet access, among others, that are likely to limit the potential of MOOCs to serve as online education services for a large portion of people in the developing world [28].

We agree that MOOCs are unlikely to be effective educational systems for large numbers of students in developing countries. However, we also assert that some students will be able to take advantage of this new online educational medium. We also find likely there are a number of potential MOOC students for whom a lack of certification is not a problem. In many countries opportunities for life-long learning are limited and MOOCs may serve an important role as informal learning environments.

While the learning outcomes for developing country students is an important topic for MOOC research, our interest is instead on the broader issues of cultural and social capital. Our research is informed by a preliminary investigation of developing country students in a STEM MOOC. In interviews with six students from a variety of countries, we found that while learning the course content was important for some, most were exploring and eager to experience a MOOC in general and an American university experience in particular. This led us to question the types of cultural and social experiences students have online and how these experiences occur. Hence the questions we examine here include: For developing country participants, what forms of cultural capital are developed in MOOCs and how? What forms of social capital are developed and how?

## 3. METHOD

These questions are examined through an independent and unfunded investigation using a critical case study of a U.S. State Department program, called MOOC Camp, administered by the Bureau of Educational and Cultural Affairs (ECA). The program was developed at headquarters and then implemented through its embassies across the globe. Within the case study, a multiphase mixed methods approach [29] was used. This approach used two forms of data: survey results (containing both quantitative responses and qualitative free-form responses) and interviews. Using the surveys, originally administered by the ECA staff in Washington DC, we were able to collect data about some general characteristics of posts in which a MOOC Camp was being conducted. Surveys were given both before and after MOOC Camp to the organizing staff but students were only given a post-MOOC survey. While the quantitative data from these surveys were not applicable to this study, the free-form responses were able to be qualitatively coded with the intention of identifying common characteristics of each post’s MOOC Camp.

This original analysis revealed themes that could be classified as either cultural, educational, or both. Each of these was then weighted to indicate its contribution to an overall cultural or educational orientation of that particular post's MOOC Camp. Factors could be weighted from 0 (no effect) to 3 (heavy influence). After each of the factors was weighted, an overall educational and cultural score was calculated for each post. It was assumed social capital would play a role in either case. Based on these results, we were able to select interesting posts with which to conduct follow up interviews. Of the six total posts selected, two were chosen for their high cultural scores (Peru and Armenia), two were chosen for their high educational scores (Macedonia and Belize), and two were chosen for the unique constraints being faced at their posts (DRC and Iraq).

Interviews were then conducted with embassy or embassy-affiliated personnel at each of these six posts. These interviews were also qualitatively analyzed by the authors in an attempt to confirm the correctness of the cultural and educational scores calculated from the surveys. Given that those interviewed were all in administrative or facilitation roles (these roles are discussed below), we also wanted to get the perspectives of students who had participated in the MOOC Camps. To accomplish this we asked the MOOC Camp facilitators with whom we spoke to put us in contact with participants from their MOOC Camps that they thought were exemplary students. Group interviews were then conducted with these students in order to ask questions about the educational and cultural aspects of their experiences.

The case study is composed of six individual country level embedded cases. This structure allows us to compare the different countries and styles in which MOOC Camps were implemented.

## 4. CASE STUDY: MOOC CAMP

ECA, through partnerships with Coursera and edX, created the MOOC Camp program to engage citizens in foreign countries through the use of MOOCs. The goal of MOOC Camp is to "host facilitated discussions around massive open online courses (MOOCs) at US Embassies, Consulates, American Spaces, and other public spaces around the world" [30]. Embassies around the world can select MOOCs to offer at their posts. Courses offered through MOOC Camp are in three fields: entrepreneurship, college English, or science technology engineering and math (STEM). The Bureau of Educational and Cultural Affairs provides a list of recommended courses that they believe to best fit the purposes of the program.

Students participating in the MOOC Camp program enroll in one of the MOOCs selected by their local embassy and also sign up for in-person sessions facilitated by embassy or embassy-related personnel [30]. At these sessions, participants are able to interact with other local students who are also taking the course and be a part of discussions centered on the particular MOOC they are taking. These discussions are intended to increase engagement in the MOOC and results have shown an increased completion rate among students who attend the extra meetings [31]. Conducting these sessions at embassies or embassy-affiliated locations also allows individuals who may not have reliable access to internet to participate in the MOOCs.

In addition to enhancing the experience for participating students, the MOOC Camp program is also intended to expose those students to the US educational system [31]. Because the MOOCs chosen to be a part of MOOC Camp are offered by US universities, students who participate experience the teaching style of American instructors and get a taste of what US university classes are like. Additionally, facilitated discussions can explore issues about the education system and provide information to

students about the application process required to study in the US. These discussions take place with relatively small groups, bypassing one of the disadvantages of MOOCs, the massive class sizes, and allowing students to get a more personal experience with the MOOC.

Following a pilot in late 2013/early 2014, MOOC camp is now operating in over 40 locations, including low, middle, and high income countries, like the Democratic Republic of Congo, Peru, and Germany. While the Washington-based ECA staff does provide some guidelines about how to conduct the program, each embassy post is able to tailor their MOOC Camp to fit best into the local context. This program provides a unique, engaging method for students in other countries to learn more about the US educational system while also gaining knowledge by taking a MOOC.

### 4.1 Personnel Interviewed

The MOOC Camp program was designed in Washington in order to be implemented by various US Embassy posts around the world. Because of this, a set of guidelines was established about how to implement the project but post by post implementations varied due to resources available and other aspects of the local context. The result of this is a diverse set of personnel, many with differing roles within the Embassy structure. We break these roles down into two categories: embassy staff, who work for the embassy, and embassy-affiliated personnel.

#### 4.1.1 Embassy Staff

Embassy staff working to implement MOOC Camp at their posts fall into two organizations within the State Department: embassy Public Affairs Sections and the Office of English Language Programs. The Public Affairs Section of each embassy is responsible for that post's public diplomacy efforts. Public diplomacy refers to actions undertaken by governments to sway public opinions about a political topic [32]. Staff from this section who may work on MOOC Camp are either Public Affairs Officers, who head the section, or Cultural Affairs Officers, who are responsible for educational exchange projects (like the Fulbright Program) as well as other duties. Within the Office of English Language Programs, Regional English Language Officers, who work to spread American English around the world, may also work with MOOC Camp, usually on MOOCs related to the English language.

#### 4.1.2 Embassy-affiliated Personnel

Embassy-affiliated personnel are individuals who work temporarily with the embassy or are employed by an organization affiliated with the embassy. EducationUSA, is an example of one of these organizations and is a program that provides information to students in other countries who are interested in studying in the US EducationUSA advisors, who may have offices at the embassy or be a part of an independent center, have acted as MOOC Camp facilitators in some countries. American Spaces, spaces where interested individuals can engaged with aspects of Americana, provide a supportive environment in which MOOC Camp can be hosted. Finally, State Department Alumni, individuals who have had extensive experience working with the embassy and other Americans, may also help with the facilitation of MOOC Camp.

### 4.2 Countries

The six countries interviewed are presented in Table 1. Also in this table are the courses offered in each country, the personnel who were interviewed for this study, and the internet penetration rate. The DRC has easily the lowest rate of internet penetration at 1.7%. This is concerning for the potential of MOOCs in this country as only an extremely small portion of the population has

**Table 1: Countries**

Country	Internet penetration rate [35]	Courses offered	Personnel interviewed
DRC	1.7%	Entrepreneurship (3) Natural Resource Management Manage Your Career	Embassy staff(1) Embassy-affiliated personnel (1) Students (3)
Iraq	7.1%	College writing English (2) Entrepreneurship	Embassy staff (1)
Armenia	39.2%	College Writing Applying to US Universities Critical Thinking	Embassy staff (1) Embassy-affiliated personnel (1) Students (1)
Macedonia	63.1%	English College writing Entrepreneurship	Embassy staff (1) Embassy-affiliated personnel (2)
Belize	25%	Entrepreneurship	Embassy staff (2) Students (3)
Peru	38.2%	Sustainability Entrepreneurship Shaping the Way we Teach English	Embassy staff (2) Students (1)

the ability to access a MOOC. MOOC Camp and programs like it must find creative ways to provide content to students wishing to participate in such programs in countries like this. On the other hand, Macedonia stands out for its particularly high internet penetration rate, 63.1%, highlighting the potential for MOOCs in that country.

## 5. DATA AND ANALYSIS

### 5.1 Diplomacy versus development

Our study of MOOC Camp requires a discussion of its development versus diplomatic dimensions. This distinction is important for understanding MOOCs as tools for development versus tools for furthering US interests, and the role of cultural and social capital in both.

As with any nation state's diplomatic organization, the US State Department's primary function is to promote US interests. The same can be said of its associated, although officially independent, international development arm, USAID. However, these interests may involve development objectives, particularly where lower and middle income countries are involved.

As concerns MOOC Camp, our interviews revealed the program enabled embassies to pursue a variety of diplomatic and development goals. For example, in Macedonia, US Embassy goals include improving civil society, the business environment, English language skills and access to American education. Accordingly, the Embassy offered MOOCs in English writing and entrepreneurship. It is also important to note that students have their own goals, which may or may not match those of the embassy. For example, in the Armenian English College Writing MOOC, roughly 50% of the students were interested in studying in the US, while the others were focused on improving their English for careers in Armenia.

The use of MOOC Camp to recruit students to US universities was more prominent in the higher income countries of Peru and Macedonia. For example, in Peru, the Embassy uses MOOC Camp to support the '100,000 Strong' program, which seeks to expand US/Latin America study abroad participation. Yet, the embassy has other goals as well, including environmental concerns, combatting transnational crime, promoting trade and protecting US citizens. Accordingly, they offered MOOCs in sustainability, entrepreneurship, and teaching English.

The use of western MOOCs, and the formation of cultural capital through this use, is embedded in the broader trends of

internationalization and globalization, in both education and society in general. When asked whether local Armenian universities are critical of EducationUSA, our interviewee explained: "Yes, sure there are those who are unhappy we promote US education. Some local universities do not like us to come to advertise our services, but these are fewer nowadays. People understand students need these international experiences, it's not a bad thing to learn something new, even if coming from the US or other sources."

Interviewees explained that development goals are pursued collectively by the entire overseas mission, including USAID as well as the cultural affairs and public diplomacy units, although different approaches are used. Differences can be seen in target beneficiaries, where USAID is more likely to target the Bottom of the Pyramid (BOP), while public diplomacy targets middle and upper classes. In low and middle income countries, however, these populations may still have significant needs. As described by staff in the DRC: "Given the challenges we face here, it is incredible to see how this program has expanded so rapidly, because people getting a taxi to go to the MOOC meet ups, or money for internet cafes, or using their minutes to call Pascal [MOOC Camp coordinator], those are serious, serious hardships that are part of this program. And most of the people we engage with are middle and upper class and it's still a hardship. So unless we change the model, these programs are not touching the lower classes."

A second difference is sometimes observed in the scale of programming and consequently their budgets. In the DRC, embassy staff explained that MOOCs, being free, enable them to offer education programs and that their entire operating budget was roughly equivalent to a quarter of the budget for one USAID program. In Iraq, the situation was different. There, USAID and State are pursuing two separate yet similar livelihood projects, each with roughly the same budget.

So, for the State Department's cultural affairs and public diplomacy programs, the free nature of MOOCs and the skills required to participate in them, including technical skills and in some cases English language proficiency, which are more likely found in middle and upper classes, are a natural fit for both their diplomacy and development objectives.

### 5.2 MOOCs and Development

As tools for development, the primary role of MOOCs is providing access to education and students from developing

countries have been enrolling by the millions. Some development professionals see them as valuable tools, providing an option for those who cannot afford university. This is the case in Armenia, where some students take MOOC courses as a substitute for Master's degrees. In Belize, students' participation focused on fostering economic opportunities in their own country, rather than trying to access US education. MOOCs may also provide access to quality education, helping with academic readiness, as in Peru, or expanding the diversity of course offerings, as in the DRC.

While in most cases the MOOC Camp served as the focal program, in two cases, one in Armenia and one in Peru, the MOOC Camp was offered as a complement to an ongoing development program. In these cases, the online course provided important content but also served as a basis for discussions, which helped students develop conversational English language skills in a particular discipline. This pairing of a MOOC with a development program can also help overcome frustration when the course alone is not enough. This was more likely to be the case in entrepreneurship MOOCs, where students were seeking specific outcomes. As observed by a student from Belize, "The MOOC is standing alone, the entrepreneur is standing alone, and the embassy is serving as facilitator, and, as a result, there's a bit of a disconnect. Maybe the embassy or the university could look for it to go a step further." The student also observed that international development agencies could use MOOCs to better define people's needs through discussions and then follow up with a development program.

MOOC Camp also helped overcome the challenges of distance. In Macedonia and the DRC, the program was launched simultaneously in areas outside the capital, making use of partner NGOs in secondary cities who could offer space for facilitation and in the DRC, internet access as well. For Iraq, the issue of distance was crucial. Its MOOC Camp programs were launched in a distributed manner from the outset due to the security situation. For this Mission, the online nature of MOOC Camp helps them maintain their outreach during a difficult time for Iraqis. The program helped embassy staff maintain a connection with the English teacher students, and helped understand their needs to inform future development programs. The staff noted: "It was a two way street, I learned about the Iraqi context and I was going to help them get as much as they could from the MOOC."

However, the limitations of MOOCs for widespread development programs were recognized by a Belizan student, "What I got out of the MOOC was I found it fascinating that we could be in course with 23,000 participants from 183 countries, while we are still dealing with issues with internet speed and cost. My vision is take the same concept and take it to over 500 people throughout the country, but again because of cost and the level of technology at which people operate I don't see that happening in the immediate future."

### **5.3 Cultural Capital**

This research examines the various forms of cultural and social capital developed in MOOCs as well as the mechanisms for their development. As discussed previously, cultural capital exists in embodied, objectified and institutionalized forms. Limited evidence exists for the role of objectified cultural capital here, so this analysis will focus on the other two forms. Of the two, institutionalized cultural capital is the most straight-forward.

Beyond learning, the most common goal of MOOC participation in general is to achieve a certificate from the platform provider (e.g. Coursera, EdX). In the MOOC Camp program students were also offered certificates from the embassy. The opportunity to gain certificates from both sources was an

important motivation for some students. For example, one student from Belize, a recent college graduate, saw the MOOC Camp certificate as providing a competitive advantage in the job market. As described by embassy staff in Peru: "Yes, here in Peru people still really trust or are interested in the university rankings. So universities in the US are really popular and well recognized. So having the chance to study any course of any university in the US, even online, has an impact on their resumes, on their careers. That's why they are interested in participating." Similarly, when asked whether locally developed MOOCs could replace US or European MOOCs, the DRC embassy staff reflected: "I think the cache of working with the US Embassy and the link with us and showing your English is good enough to complete a course and you've gotten a certificate from a US university, that will never go away. The whole cultural issue is more influential."

In addition to institutionalized cultural capital, students developed four forms of embodied cultural capital. While much the literature on embodied cultural capital focuses on language, and this is an important form of capital here as well, we observe three additional sub-fields of embodied capital – one related to learning, a second related to educational systems, and the third to global exposure.

#### *5.3.1 Language capital*

This classic form of cultural capital is developed in MOOC Camp through the online course as well as in the facilitation sessions. An Armenian staff member recalled that students, "mentioned the experience of native English language and professional people who work for universities, and they found this unique and important to interact with the university staff." Even where the official language is English, for example in Belize, the language skills developed through MOOC Camp are helpful. According to embassy staff, one reason for relatively poor English skills is that at the university, many classes officially taught in English are actually taught in Creole.

In Armenia, spoken English was improved through engaging discussions on current events introduced to the students in their MOOC on critical thinking. The embassy staff reflected: "At first some people were shy, or if their English wasn't so good they wouldn't speak. But after some time they would talk, whether or not their English was correct. They found it was a very good place to practice their English because the topics were interesting and you wanted to express your opinion, whether or not your English was perfect."

In the Peruvian MOOC Camp on sustainability, part of the program's value was enabling scientists to learn the technical jargon of sustainability in advance of a two month international program. A student commented: "I streamed and downloaded [the videos], because I wanted to check again and again. When it was online it had different languages for subtitling and I used the English subtitles. They were very helpful because the professor was an Australian working at Illinois University."

#### *5.3.2 Learning capital*

Learning capital is a form of cultural capital acquired through exposure to different approaches to learning. Important aspects of this cultural capital include critical thinking, engaging in discourse, and processing information as opposed to rote memorization. In the Iraqi MOOC Camp the embassy staff recalled: "We did a lot of thinking about how they could put the content from the class into their local context and they were exposed more to critical thinking. Also there is the exposure to how you write in English, which is very different from writing in Arabic. Here teachers almost nearly tell the students what to write. So there were very good discussions. And this was good because

they need more critical thinking and that became a very important cultural aspect.” An Armenian student, who participated in a critical thinking MOOC, enjoyed the American educational style and when asked why commented: “They are giving you the opportunity to imagine, to write something.”

A Peruvian student also observed: “It is not only the subject, but also you learn how Americans do exams. It makes you think, you have to think very hard.” How do Peruvians do exams? “Here you have to read. And the person who reads has a really good grade. But during this MOOC, I realized that you also have to process this information very well to answer. So you have to really read and process.”

Learning capital, similar to language capital, was also developed through the facilitation sessions. In Iraq, the embassy staff noted, “facilitation online helped foster discussions about differences in ways to teach English. I would help encourage them to accept change, but bring it to their context.”

### 5.3.3 Educational systems capital

Educational systems capital differs from learning capital in its focus on experiences and skills accrued through exposure to different educational systems, where differences exist, for example, in the way courses are run and in relationships between faculty and students. While the capital accrued through these experiences may have secondary effects on learning, it is a distinct form.

Across locations, staff and students alike recognized the difference between US and local educational experiences. One issue mentioned several times was the MOOC’s clarity of presentation. A Congolese staff member contrasted this with the local experience: “Some of the professors or senior lecturers make the course tougher. They complicate the task. They tend to pose tougher questions and that’s very common.” His American colleague went further: ““I’ve heard [in the DRC] it’s an adversarial relationship between student and professor, where the professor hides information or doesn’t give the whole picture because he, well I don’t know the whole reason behind it, and as a result getting a 70% on an exam is considered excellent. So I think that just the fact that these are open discussions, I can imagine this is completely different way of learning. It’s not only about the digital stuff, it’s that everything is presented clearly, everybody has access to the exact same information, you don’t have to pay anybody to get your certificate.”

In addition to clarity, accessibility of faculty was another noted difference. A Congolese staff member observed: “With MOOCs it’s a different learning environment. Students have access to professors through the discussion forums, and in some cases on MOOCs professors have scheduled small section meetings or use social media to keep interacting with students. This is really different for us. We don’t use social media to contact our students in the DRC. The perception is professors are more available to keep interacting with students, this is really different.”

In Macedonia, as described by embassy staff, the MOOC Camp facilitators set up their classroom to be like an American university, where students were encouraged to ask questions. In the class, they discussed the differences between their educational system and the American system (asking questions, participation) and this helped the students understand how a typical American course is conducted.

In Armenia, students enjoyed the choice of courses offered via MOOCs. An embassy staff member observed, “Yes, the students expressed ideas that to be independent and to be free somehow motivates people to learn. As many of them have been to the

States or Europe to see how their classes have been held. Especially, that you are free to choose elective courses, students have more flexibility in the curriculum. That somehow we don’t have that in Armenia. Students want to be able to choose their courses, rather than have them all prescribed.”

### 5.3.4 Global exposure capital

Global exposure capital accrues to students when they are exposed to foreign ideas, different ways of doing things or solving problems and when they gain awareness of other countries facing similar problems. The importance of global exposure is particularly visible when considering the possibility of substituting local for international MOOCs. A student from Belize observes: “I wouldn’t have taken it [the MOOC] if it was offered by a local university because in this way [through a foreign university] we are exposed to a developed country way of thinking. It forces us to grow and develop, we are learning. So it’s like we don’t keep staying in the same way of doing things, we move on, we get new ideas, our horizons and minds are broadened.”

Global exposure can also raise students’ horizons, by exposing them to new ways of doing things and in some cases a broader range of options. Staff from the Armenian MOOC Camp on critical thinking observed: “The program helped expose people to the western or US educational system and style. People started to understand they could be independent and even without spending much money they can get an education, have access to the best universities of the world, even meeting at the embassy and the ambassador came to greet our students, and asked their opinions. So somehow it helps the students to have more self-confidence and other goals that can be reached for, than just getting an education and getting a job. They understand they can get an online education and a better job.”

While technology plays a very important role in fostering global exposure, it is likely part of a more general trend. The Armenian staff explains, “It might also be that there are now many opportunities for students to go abroad. Students are traveling more often, through different exchange programs they go to Europe, to the United States, and they bring that culture here and share with other people.”

A Peruvian student studying sustainability found the global exposure fostered by the MOOC to be extremely valuable. Through the MOOC she learned how other parts of the world think about sustainability. “There was a Chinese student who talked about a model they use for forest management and I asked him ‘how do you do that?’ because here in Peru this is one of the most difficult problems we are facing. We were trying to interact because this is what we really need for sustainable development.”

Global exposure can also include sharing unique assets and national pride through MOOCs. One student from the DRC expressed interest in creating courses on specific to his country: “MOOCs on for example, traditional knowledge, or medicinal plants”, or great apes called bonobos – we are the only country in the world where you are finding these apes.” “We can develop good MOOCs that can be followed throughout the world.”

## 5.4 Social Capital

The MOOC Camp program also fostered development of social capital, for the students as well as embassy staff. This capital was developed through face-to-face interactions in the facilitation sessions and via social media, which was used to support participation in both.

### 5.4.1 *Student Social Capital*

Social media use in MOOC Camps included Google Groups (DRC), Google Hangouts (Macedonia, Iraq), Facebook (Armenia, Iraq, Peru, Macedonia), and the MOOC discussion boards (Macedonia). These social media connections fulfilled several needs, including supporting logistics for the facilitation sessions (DRC), obtaining help from fellow students in doing homework (Armenia), finding one another and providing support on MOOC discussion boards (Macedonia) and serving as a venue for facilitation sessions (Iraq). A Peruvian student reflects: “I made a group on Facebook and we [the embassy selected group] were discussing and sharing the information at times during the week, other than the Saturday [face-to-face] sessions. We talked on Facebook maybe twice per week. We were talking from 7pm to maybe midnight, talking about the course via Facebook.”

Social capital was also developed through facilitation sessions, among students, between students and facilitators and between students and experts. In Macedonian facilitation sessions, students developed social capital amongst themselves through interactions during group work. In the DRC, facilitation sessions were held in French to foster communication. Students developed social capital with facilitators as well as experts from the local community (e.g. Chamber of Commerce). In the Iraqi entrepreneurship MOOC, the facilitation session held in a Google Hangout, was forum for the group of young entrepreneurship students, as well as experienced entrepreneurs from the local community. In two MOOC Camps, students were even able to interact with their American MOOC professors, via Skype (Belize) or in person (Macedonia).

There were however, limitations to the social connections developed in MOOC Camp. Students in Belize felt the entrepreneurship MOOC Camp program did not go far enough to enable networking with angel investors or others who could help expand local businesses. Also, amongst the students themselves, they felt there was little support for continued interaction after the conclusion of the course.

### 5.4.2 *Organization social capital*

In addition to the students’ social capital, the MOOC Camp program also enabled development of social capital for the Educational and Cultural Affairs organizations, and for some this was the primary motivation for offering the program. Social capital was developed primarily with host country nationals, but also between staff in different locations, with staff in Washington DC, and in some cases with professors providing the MOOC.

As with many social service organizations, Embassy staff place great value in being able to identify and reach people in need, which usually requires extensive networks in the beneficiary population. For many staff, MOOCs created opportunities for a broader scope of outreach. The Iraqi staff member noted, “I wanted to find out what Iraqis were interested in and were they able to sustain their connection. I wanted to build my base, my connections.” For those in Belize, it was a way to show host country nationals the embassy was interested in more than just security, a common misperception. The entrepreneurship MOOC also provided a reason to reach out to the University of Belize and its business students, with whom traditionally they have limited contact. As described by an embassy staff member from Peru, the MOOC Camp program provided a platform to first attract new people to the Embassy and its programs and then to continue the engagement. They made use of ‘alumni’ of embassy programs (e.g. Peruvians participating in Fulbright, International Visitors Leadership Program) as MOOC Camp facilitators, and worked to build networks. Contemplating the various topics of MOOCs they

might offer, she observed, “MOOCs are about reaching audiences, key target audiences in different ways. If we thought that MOOC would help us reach an audience we couldn’t reach in another way and that fosters mission goals, yes. If it broadens our contact base, deepens the relationship, yes I think we would be willing to consider it.” Similarly, in Macedonia, they have an embassy staff member who is passionate about astronomy and has given well-attended public outreach talks on the subject. They are now considering having him to lead a MOOC Camp on that topic.

In some cases, MOOC Camp enabled embassy staff to create ties amongst themselves. In Peru, they used MOOCs to reach across and integrate with other programs within the embassy. There were also efforts to reach across embassies. While staff in the DRC were unsuccessful in making connections with other African mission staff, the Iraqi staff were well connected with other Regional Language Officers (RELO) around the world in a ‘teaching English’ MOOC. In fact, ECA staff in Washington created a contact with the MOOC professor and in turn she was in contact with all the RELOs offering the course during that session. Of the MOOC professor, he observed, “She talked about things and made sure we knew where to find content and when we had problems we could email her and she would get back to us immediately.” For the Belize program, the MOOC professor noted the spike in enrollments from that country and reached out to staff. Eventually they were able to arrange for him to Skype with the students.

For all the embassies, the use of MOOCs for building social capital complemented existing uses of technology. MOOC Camp program announcements were made via websites but all interviewees saw Facebook as a more important medium. As observed by the staff in Iraq, “We use the embassy Facebook page as well as the website to announce the MOOC Camp. For a while the counselors section was taking visa inquiries via Adobe Connect, but then switched to Facebook, because everyone knew Facebook and it was just easy. We use both the website and Facebook but it is more likely to be seen by the younger people on Facebook, which is relevant because the average age in Iraq is 19.” However, the contacts developed and maintained via Facebook are seen as relatively superficial compared to the MOOC Camp program. In response to the questions ‘Why use MOOCs? Why not expand networks via Facebook?’ the staff in Peru explained, “Facebook is very superficial. Having facilitators [in MOOC Camp] allows them to make deeper personal connections. It’s all about the facilitated sessions.”

## 5.5 **Blended learning, localization, and technology**

While this research is primarily concerned with cultural and social capital formation, the inductive analysis generated interesting findings concerning blended learning and localization, as well as technology with implications for capital formation.

### 5.5.1 *Blended learning and localization*

The blended learning approach generated benefits including assistance with assignments, in-depth discussions based on additional materials, and providing forums for watching videos, solving technical problems, or practicing English. A significant value of MOOC Camp facilitation was bringing diverse people together and establishing a common topic for discussion.

While the discussion sessions were valuable in all locations, they were particularly important in Iraq and the DRC. In Iraq, where security issues can sap motivation for pursuing future-related activities, the facilitation sessions helped keep the students motivated, helped with reading assignments, and how to structure their homework. In the DRC, as explained by embassy staff, the

facilitation sessions or meet-ups had several benefits, “Not only do the facilitators provide information on the Congolese context, but it’s interesting to see them come together and say ‘I have this file, and here’s the USB or the CD or go to this internet café, it has better internet, or if you had trouble logging in here, because you know internet here is terrible and so having technical challenges can be very discouraging and so this is a place to troubleshoot these issues. So it’s funny how the technical troubles help to solidify the community and create a sense of ‘we’re all in this together.’”

Facilitation provided more information, helped in learning but also provided local context. A student from Belize observed, “The facilitation added a dynamic element as it pushed each one of us to be involved. It brought cohesion, and it made us feel not alone. When you have facilitation you are socializing in and outside the class and the socializing process helps you to learn. When you are on the computer, you have your own thoughts but in facilitation you bounce off ideas on others and it helps you develop and reflect. It’s also a networking process so you’re not alone. And you get new or other ideas. Online we can meet people from all over the world but they can be harsh. Face to face, people are more compassionate. Facilitation helped apply the concepts here.” So, students and staff were conflicted; they appreciated the global nature of MOOCs, but were able to connect more meaningfully with the localized examples provided by the blended learning approach.

### 5.5.2 *Technology*

And while facilitation was highly valued, the experience of the MOOCs, particularly for first time participants, was very exciting. Comparing the value of the MOOC itself and the facilitation, a Peruvian student observed, “I would say the MOOC was 70% and the facilitation was 30%. It was my first time taking a MOOC and all the information, the lectures, the videos, and each session we were learning and learning.”

For non-native English speakers, the MOOC videos are usually very helpful, particularly the ability to both stream and download, particularly to tablets, as well as the availability of English sub-titles. However, videos can be problematic as was the case in a DRC MOOC Camp course. In the course numerous videos were provided via links external to the course site. Because they were not easily downloadable the students faced many difficulties. However, together the staff and students overcame technical challenges, as a staff member observed, “Many of the students have good internet access or bandwidth. What we do is try to see where we can find very good internet access and download the content and share it. But some others were able to use their mobile devices especially tablets. Especially Coursera has a mobile version of their platform and this was very helpful. We also encourage students to use the text transcripts of the videos, which can also be helpful. Students have found it easier to download the text version of the course and the videos.”

Mobile connectivity was also important in Iraq, where the staff observed, “What was interesting was every time we connected [for online facilitation] there were two or three, and it wasn’t always the same two or three, that were connected using their smart phone. Others were connected at school or at an internet café. Nobody connected from home, except via mobile phone.” For Iraq, where facilitation occurred online, they noticed that using Zoom or other low bandwidth video conferencing services, as compared to say Adobe Connect, enables people to use mobile phones and tablets for video conferencing.

As compared to the video and mobile connectivity, students and staff were less positive about the discussion forums. Both

noted the difficulty of keeping up with threads and even found it difficult to follow along on comments to content they had provided. They suggested perhaps more narrow discussion topics, smaller groups or limited threads might be helpful to point them to topics of interest to them.

## 6. DISCUSSION

The case of the MOOC Camp program provides insight into technical as well as cultural and social capital dimensions of the use of MOOCs for international development. This research aims to highlight the forms and mechanisms of cultural and social capital accumulation in MOOCs, as a complement to dominant MOOC research in online education. It also contributes to the scholarship in cultural capital, providing a novel international and technological approach and complement to IT cultural capital research.

### 6.1 *Capital formation*

Both the technology and blended learning approach of MOOC Camp, have implications for understanding cultural and social capital formation. The most direct linkage between the technology and capital formation is between social media and social capital. For both the embassies and their students, social media provided a valuable platform to establish and maintain social capital. However, the discussion sessions, both online and off, served to further those relationships. The facilitation sessions, with the MOOC content providing a common basis for discussion, enabled development of deeper social capital than is typically formed through social media alone. Given the importance of social capital in economic development, the deepening of social ties between potential leaders (students) and development agencies could have important benefits. Not only are ties established between the organizations and individual students, but the organization becomes imbedded in the students’ network as well. The research also highlights the limits the social media and the potential of blended learning approaches to deepen social capital.

This research also examines cultural capital formation and, in a departure from traditional studies, provides an international perspective while also investigating the role of technology. As compared to conceptualizing IT skills as cultural capital, the focus here in on the use of IT to accumulate cultural capital.

In particular, we focus on the role of connections, whether online or off, but in the context of international online courses. These courses expose students to different ways of learning and educational systems, and provide an international or even global experience. Our specification of a learning element in cultural capital contributes to research in international education on the role of critical thinking and processing, as alternatives to rote approaches. This was exemplified by one student’s experience with her MOOC exam, which required her to process the information at a higher level. While research has examined efforts to promote these learning processes in physical classrooms (see e.g. Littlewood 2000 [33]; Hussain et al. 2007 [34]), there is little scholarship on the use of MOOCs as a mechanism for supporting the development of these different learning skills. This study suggests MOOCs can be used to introduce students to and potentially develop these competencies.

This research also delineates forms of cultural capital related to learning skills versus educational systems. Interviewees reported students’ exposure not only to different learning approaches but also to different educational systems. These differences are exemplified by the varying roles of faculty and students. Naturally, there are relationships between learning and educational systems; however, the latter suggests a different set of skills. For example, the higher level processing or critical thinking

occurring in learning helps create an engaging discussion in classes that take a participatory or problem-based learning approach. Also, to pose the question generated through critical thinking, students and faculty must have a certain rapport, and the freedom to pose questions. Hence, the ability to engage in different educational systems, an element of cultural capital, can potentially be developed in MOOCs, particularly those that adopt blended learning approaches.

Finally, we also delineate global exposure capital from learning and educational systems forms. While the latter two both could be achieved through an online course designed to build these capacities, only global exposure capital is more uniquely associated with the massive, and hence largely global, nature of a MOOC. The competence of global exposure is in part the ability to interact interculturally, but it relies on an interest in others, a curiosity of the ways and solutions of others. Many MOOC participants, both in this study and others, are mesmerized by the sheer geographic and cultural breadth of student participation. Many students are excited to engage with and learn about other countries, particularly on subject chosen by the student. This form of cultural capital, similar to intercultural competence, but imbued with notions of self-directed inquiry in areas of specific interest to the learner, is likely to accrue benefits personally and professionally.

## 6.2 Technology

In terms of the technology, we note three findings. First, the case demonstrates MOOCs' configurable nature. In no instance, in this case, did a Camp operate solely through the online platform. Students and staff made significant use of social media, with students' use providing support to their learning outside the facilitation sessions. Staff used social media to advertise the program, to manage the logistics of the facilitation sessions and to maintain social ties with participants after the program's conclusion. Social media were key to developing social capital for both groups. Also, in addition to the technologies used outside the MOOC platform, the MOOC courses themselves consisted of bundles of technologies, such as mobile platforms, subtitled videos, text-only content, and external links, which influenced students' experiences.

Second, the case highlights the role of combining MOOCs with blended learning approaches, where the massive nature of the MOOC platform is complemented by smaller, local, and in many cases face-to-face discussion sections. In the MOOC Camp case, blended learning conflates two issues, online versus offline, as well as scale. In terms of scale, on the one hand, the case exposes the limitations of the massive approach, particularly the need for localization of content, the benefits of small group discussion, and the local social capital, which provided learning, social, and technical support. On the other hand, the massive approach, enabled by widespread internet access and accessible video technology, had benefits in connecting students to a global community. In terms of online versus face-to-face discussion sessions, the case demonstrated the possibility of using online facilitation, and suggests the acceptance of these forms may be influenced both by the physical and social context as well as organizational factors.

Third, the MOOC Camp program was conducted in diverse sociotechnical contexts, from Peru where technical expertise and internet access is readily available, to the DRC, one of the most constrained internet access environments in the world. In the DRC, and other locations as well, the staff and students demonstrated a high level of resourcefulness and creativity in working around their technical problems. Granted, these programs

were run primarily in cities, including secondary cities as well as capitals, but still the staff in DRC thought the idea impossible and discovered it was not.

## 7. CONCLUSION

This research examined the forms and mechanisms of capital accumulation through a case study of the international MOOC Camp program. The findings demonstrate both students and staff were able to accumulate social capital through social media technologies, combined with a blended learning approach. Three unique forms of cultural capital were identified, accumulated through participation in a global MOOC with its associated technologies, together with the advantages of blended learning.

The research is exploratory and the findings are derived from a critical case, in which interviewees were more likely to be aware of cultural factors in MOOCs. Also, the program targeted relatively educated and experienced students, often recruited due to previous experience with the embassy, and hence the findings cannot be generalized to MOOC use by developing country students in general. Also, given the nature of the case study program and its students, the findings are generated in a program with a pro-western and pro-US bias. Future research should explore the use of MOOCs in development programs that offer a more neutral approach.

The research has implications for development practitioners and MOOC designers alike. For development practitioners, these research results suggest MOOCs can serve as a valuable addition to established development programs and may be used to expand organizational social capital. The research also suggests that benefits need not focus solely on learning outcomes, but that students' social and cultural capital accumulation are also potential goals. For programs more closely tied to local contexts, such as entrepreneurship, it is important to provide mechanisms for localization.

For MOOC course, platform, and interface designers, findings have implications for discussion section design, mobile platforms, integration of external facilitators, and content availability. Discussion board design should integrate search capabilities or generally improve usability for following extensive and complex threads to enable students to easily find information of interest. Platform designers should ensure the availability of mobile interfaces, given their importance to students in developing countries. Platform designers should also establish and promote the use of standard mechanisms for integrating external facilitators into courses. These mechanisms should be transparent, providing opportunities for facilitation to a broad range of professionals. Finally, course designers should remain cognizant of students' needs to be able to easily and quickly download content, particularly where internet access is a constraint. Limiting use of external resources helps.

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