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Working Paper

The use of MOOCs as a potential avenue to modernize learning in the Philippines

PIDS Discussion Paper Series, No. 2015-53

Provided in Cooperation with:

Philippine Institute for Development Studies (PIDS), Philippines

Suggested Citation: de Dios, Emmanuel S. (2015) : The use of MOOCs as a potential avenue to modernize learning in the Philippines, PIDS Discussion Paper Series, No. 2015-53, Philippine Institute for Development Studies (PIDS), Quezon City

This Version is available at:

<https://hdl.handle.net/10419/173519>

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Philippine Institute for Development Studies
Surian sa mga Pag-aaral Pangkaunlaran ng Pilipinas

The Use of MOOCs as a Potential Avenue to Modernize Learning in the Philippines

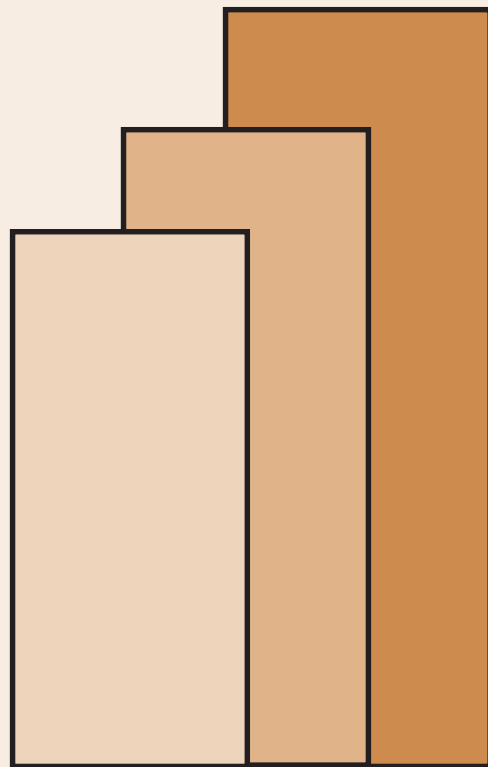
Emmanuel S. de Dios

DISCUSSION PAPER SERIES NO. 2015-53

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November 2015

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The use of MOOCs as a potential avenue to modernise learning in the Philippines

Emmanuel S. de Dios*

Abstract

A framework is proposed for understanding the potential value-added of *massive open online courses* (MOOCs) along the lines of curation, credentialling, and cost. MOOCs are likely to appeal differently to universities depending on their current standard and desired goals. Institutions of a higher standard may be interested in MOOCs primarily as a means of reducing costs and possibly redirecting resources to research or graduate teaching. Universities of a lesser standard, on the other hand, may use MOOCs as a means of improving or augmenting curation, though perhaps at a higher cost. Factors that hinder or promote the adoption of MOOCs are identified that allow realistic expectations to be set regarding the role of MOOCs in Philippine education in the near term. Public policies and private-sector initiatives to achieve these expectations are suggested.

Keywords: massive open online courses; MOOCs; higher education, higher-education institutions; curation; credentials

JEL Code: 121

The use of MOOCs as a potential avenue to modernise learning in the Philippines

Emmanuel S. de Dios*

Introduction

Rapid developments in information and communication technology, particularly the global spread of personal Internet access, have facilitated the rise of *massive open online courses* (MOOCs) as a platform for an alternative or a supplementary mode of delivering both formal and informal education. MOOCs are instructional or educational multimedia modules delivered over the Internet that are characterised by open—in many cases free—access and a very large, potentially unlimited number of participants.

Distance learning has, of course, existed for at least half a century now, notably being offered by “open universities”¹. Its spread however has been limited by the high cost in time and effort of physically producing and delivering its materials. Until the 1990s, for example, the delivery of distance learning still involved the physical delivery of copies of texts or recordings to participants. This situation changed drastically with the advent of the Internet and the possibility of delivering multimedia content from point to point at virtually zero marginal cost. It has been contended that the first MOOC—an example what eventually became known as a *cMOOC* (see below)—was created in 2008 by Stephen Downs and George Siemens [Marques 2013].

Several characteristics distinguish MOOCs from traditional distance learning (TDL). The most obvious is an enhancement in the mode of delivery. MOOCs are in principle able to combine text, audio-visual content, and real-time interaction at virtually zero cost. Second, where TDL was meant as an input to structured formal education, MOOCs were originally valued as stand-alone products offering instruction in discrete topics or skills, even without the prospect of certification. Relatedly, while TDL was valued only in relation to its connection with traditional higher-education institutions, MOOCs were produced and found a market independent of such connections; as a consequence, the scale of production of MOOCs has been far more extensive, its content much more varied, and its sources of supply more numerous. From the foregoing, it

* University of the Philippines School of Economics. This paper was prepared building on notes from a forum held on 21 October 2013 and organised by the Philippine Institute for Development Studies. A summary of the discussions of that forum is provided in a separate Annex.

¹ The UK’s Open University at Reading was founded in 1969. In the Philippines, the open university of the Polytechnic University of the Philippines was organised in 1990, while the University of the Philippines established the UP Open University in 1995.

also becomes evident that compared to TDL, MOOCs in principle afford the learner a far greater degree of autonomy in the choice of content and the pace of learning.

Several variations of MOOCs have emerged since their early beginnings, of which two main types should be noted: “*Connectivity*”-MOOCs (*c*-MOOCs) were the first MOOCs. In this form, a MOOC-provider, under a pre-announced general heading, volunteers an online resource (text or video) to stimulate discussion. Active participants then contribute by producing further materials (e.g., blogs, Tweets, videos, further texts), thus expanding the discussion and creating a network of content, exposition, and commentary that is made available to all participants. Essentially, therefore, the content of a *c*-MOOC is jointly curated by the participants themselves and it is run in a highly autonomous manner, following a “connectivist” philosophy which holds that “knowledge is distributed and learning is the process of navigating, growing, and pruning connections” [Siemens 2012]. Moreover “each individual is responsible for their own learning” and for defining their own learning goals, and learning takes place only through one’s interaction with a community. (See [Kesim and Altinpulluk 2015:16-17] for a description and further references.) Some see an obvious drawback of this approach, however, in that while it affords the learner maximal autonomy, it also makes it more difficult to design standard means of assessment and evaluation.

“*Extension*”- MOOCs”, or *x*-MOOCs, on the other hand, originated from typical university lectures that were subsequently uploaded as videos to serve as material in online courses (notably pioneered by Harvard University). The content and purpose of such MOOCs, approximates those of regular university or college courses, which itself is one source of its attraction—as well as the same point of criticism from those who are dissatisfied with the pedagogical philosophy of standard college offerings, to begin with.

An important characteristic of such MOOCs is that they are accompanied by tests or quizzes, similar to university environments, which are vetted either by course-providers themselves through built-in mechanisms or by other participants. They may or may not include forums among participants. An important difference between *x*-MOOCs and traditional programmes, however—reflecting a basic characteristic of MOOCs in general—is the greater autonomy afforded the student in terms of the timing and pace of learning.

Not surprisingly, therefore, interest in MOOCs as a learning tool has focused primarily on the potential of *x*-MOOCs. This, after all, is the form most closely related in both origin and style to the products of formal higher education. (For this reason, unless there is some ambiguity, we shall henceforth simply designate *x*-MOOCs generically as MOOCs without qualification.) For MOOCs producers, university courses provided an easy template that could be emulated and

optimised in terms of both content and delivery. The link with the classroom experience is evident in that even independent MOOCs providers have almost always been started by academics. In particular, the “big three” providers were all started by current or past professors of elite universities, i.e., Harvard and MIT professors for edX, and Stanford professors for both Coursera and Udacity. The link with and close approximation of a university experience is made explicit, for example, by edX, which bills its offerings as “great online courses from the world’s best universities”. For potential users, likewise, the familiar format of ordinary college courses leads to a ready-made demand for a close alternative.

Universities have been among the pioneers in MOOCs-production, and it was natural that they did so. A further development appeared, however, in which MOOCs instead began to be produced in quantity by independent private (both for profit and nonprofit) entities not specifically attached to higher education institutions (HEIs). These include entities such as edX, Udacity, Coursera (all founded in 2012), etc., that offer access to MOOCs—under different models of pricing and access—in the mould of university courses. The attractiveness of such offerings lies in the high quality of pedagogy and curation (selection) of materials. Most of them were specifically designed to approximate university offerings, with private MOOCs providers tapping the talents of instructors with education credentials and experience from highly regarded institutions. The next development was therefore unsurprising—namely, the accreditation of these courses by the universities themselves. At the same time, these courses retained the characteristic specific to MOOCs, namely the high degree of autonomy, choice, and interactivity that they afforded the learner.

Toward the end of 2014, there were an estimated 2,400 MOOCs on offer globally, with more than 400 universities² offering or accrediting them, and with the top five providers (Coursera, edX, Udacity, MiriadaX³, and FutureLearn) accounting for some 16 million participants [Shah 2014].

Curation, credentials, and cost

Proceeding from the premise that the attractiveness of MOOCs for HEIs is their potential to replace or supplement the traditional classroom experience, it is natural to analyse the value-added that that latter experience contains and whether and how this is provided and enhanced by MOOCs.

² The number had crossed 500 universities worldwide as of this updating (September 2015). See <https://www.class-central.com/universities>.

³ MiriadaX is a Spanish-language MOOCs-provider, the first to reach more than one million enrollees.

We argue that the three most important considerations in the classroom experience for the learner are arguably (a) curation, (b) credentialing, and (c) cost. *Curation* refers to an instructor's role in selecting the material based on desirable qualities, such as relevance, reliability, logical order or progression of topics, and pedagogical method. *Credentialing* refers to the function of evaluation and certification of accomplishment, which is accomplished in the typical classroom environment through examinations, fulfilment of assigned work, class participation, and so on. The third consideration for both learner and provider is *cost*, or more precisely, *marginal cost* of including an additional learner.

Table. MOOCs mapped

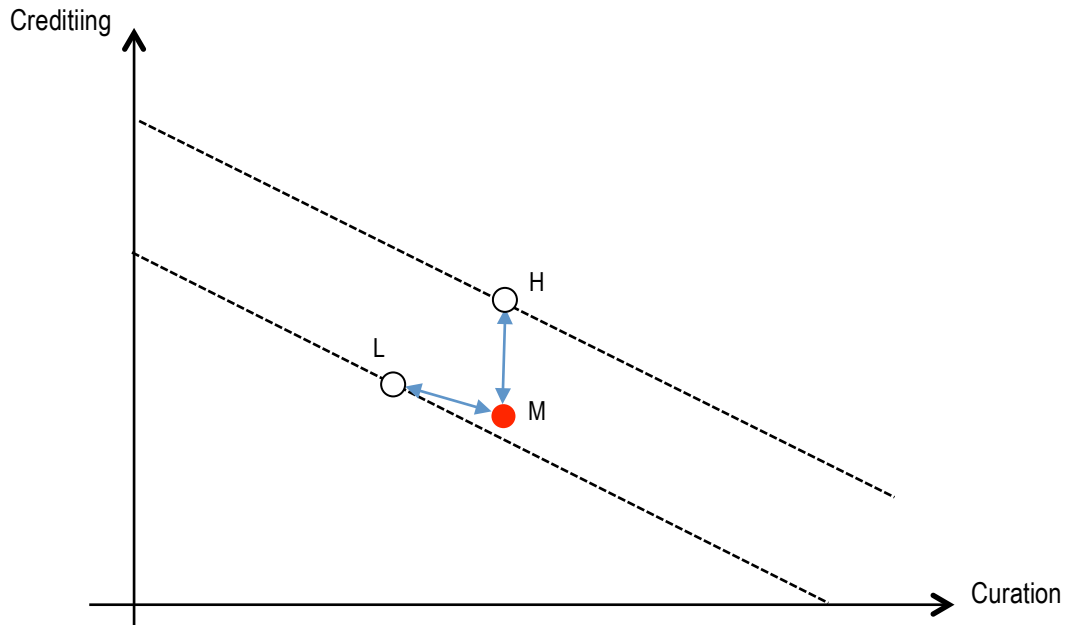
	Curation	Marginal cost	Credit
Free online videos	None	None	None
MOOCs not for credit	High	None	None
Lesser-quality classroom course	Medium	Medium	Medium
MOOCs for credit	High	Low/Medium	Medium
High quality classroom course	High	High	High

Along these dimensions, we characterise (admittedly in ideal form) various learning-delivery systems (Table) in order to locate the contribution of MOOCs. At one extreme are free online instructional videos that are available to anyone (say, as made freely available through various university websites, Youtube channels, or at Khan Academy). These are free and are typically available from uploaders of heterogeneous provenance and qualifications. The selection and sequence of material to be used—among the various offerings available—is left however entirely to the would-be learner, so that the curation function is almost non-existent. This wide autonomy on the learner's part, on the other hand, also implies the absence of any external evaluation, so that formal credentials for achievement are also absent.⁴

The other extreme is represented by high-quality classroom courses in prestigious institutions (say, the U.S. Ivies). It is self-evident that curation will be high in this case (i.e., given the quality of the faculty), as will be credentialing and cost. More relevant to the Philippines, however, is the case of physical classes delivered by institutions of lesser or even mediocre quality. Again, it will be readily conceded that these involve (as we have so labelled) medium or moderate levels of curation, cost, and credentialing relative to higher-quality institutions.

Then, finally, there are MOOCs. These may in turn be differentiated according to whether they are taken for credit or not. It is current practice among private MOOCs-providers to offer

⁴ Not explicitly included here are *c*-MOOCs, which approach the classification of free online courses. These differ from online video courses, however, in involving a degree of interaction with the online community, so that a loose form of curation is involved.

Figure 1

MOOCs for free but to charge a fee for a certificate of accomplishment or completion, especially when work is to be credited towards a university degree (see, e.g., Fain [2013]). Credit will usually require a more stringent process of identification and evaluation, such as in Coursera’s “Signature Track” offerings. For this reason, noncredit MOOCs are described by high curation, zero cost, and zero credit, while MOOCs for credit are described by high curation, low-to-medium cost, and medium-to-high credit. In the case of MOOCs credited by high-quality universities, for example, credits earned from MOOCs are regarded by some universities as identical with those taken in physical courses.

In Figure 1, points H and L represent combinations of curation and crediting that respectively describe traditional classroom courses at high- and lesser-quality institutions. The broken lines running through H and L are lines of equal cost or expense associated with each. Since high-quality courses entail more of both crediting and curation, it obvious that they should lie on a higher isocost line.

MOOCs are represented by the point M, which has been drawn so that the level of curation is just as high as that in high-quality institutions but the level of crediting is lower. The assumption of high curation is made plausible by the practice of the big-three MOOCs providers

to use the best lecturers and material. The lower level of crediting (in the figure, a level lower even than for lesser-quality institutions) may or may not hold; one argument for saying so, however, is that attention to individual performance is necessarily less when large numbers of students are involved (the same reason smaller classes are deemed more desirable—if not necessarily the rule—at more elite institutions). Moreover, even the process of authentication in for-credit MOOCs cannot be said to be perfect. In the figure, MOOCs are shown to be less expensive than H-courses but slightly more expensive than L-courses. That is, M lies on an isocost line (not shown) between those passing through H and L. This seems to be a description applicable at least to Philippine conditions. As an example, a “Signature Track” course from Coursera is priced anywhere at \$30-\$100 [Fain 2013]. The upper bound of this range is about equal to the most expensive public tuition in the Philippines (i.e., ₱4,500 = a three-unit course at ₱1,500 per unit at the University of the Philippines), although in practice tuition in most other state universities is heavily subsidised and far lower. At the Polytechnic University of the Philippines, for example, tuition for a three-unit course is about ₱36, or less than \$1.⁵ All this seems to justify saying that MOOCs may be more expensive than tuition at the average state university, although this assertion of fact is not essential to the conclusions that follow.

More importantly, the double-headed (blue) arrows connecting L and H to M represent convex combinations of MOOCs courses and classroom instruction in lesser- and high-quality institutions, respectively. Any point on the arrow between H and M may then be understood as a “blended” programme that combines regular courses and MOOCs.⁶ The same is true for points on the arrow between L and M.

The figure now makes evident how MOOCs might carry a different significance depending on the viewpoint of the institution considering them as an alternative to traditional classroom instruction. For H-type institutions, the gain from blending MOOCs seems to lie generally in reducing the cost of instruction (i.e., any point on the H-M arrow will lie on a lower isocost line) without a sacrifice of curation, albeit at the cost of lower credentialling.

The situation is different for L-type institutions, however, for which the MOOCs represent primarily an opportunity to improve the level of curation in their courses, though at the cost of

⁵ These numbers refer only to tuition and exclude miscellaneous fees.

⁶ If the points M and L on the graph are represented by the ordered pairs (m_1, m_2) and (l_1, l_2) , respectively, then a point on the arrow between those two points has coordinates $(z_1, z_2) = q(m_1, m_2) + (1 - q)(l_1, l_2)$, for some q in the interval $[0, 1]$. Here q may be interpreted as the proportion of subjects in the curriculum taken as MOOCs. A point on the arrow closer to point M corresponds to a large value of q , that is, to a greater reliance on MOOCs. Points on the arrow between H and M may be understood in the same way.

looser evaluation and possibly even at a higher pecuniary cost. That is, the benefit of the MOOCs option for institutions of lesser quality is the opportunity to tap into a higher standard of curation; it is an open question whether blending will also result in lower cost (i.e., M could conceivably have been placed below the isocost line passing through L.)

This latter is case particularly relevant, since the average quality of Philippine HEIs— ranked internationally—is generally conceded to be mediocre at best.⁷ If so, then the average Philippine university is more likely to be represented by L than H.

An implication of the above analysis is that MOOCs should appeal to the average Philippine L-institution primarily as a means of upgrading instruction and materials, even if it is *not* a cost-reduction strategy. (The argument would hold a fortiori of course if MOOCs also became cheaper.) The straightforward way to tap this benefit is for a local university to accept MOOCs completed by its students for credit as fulfilling some part of the local university's own curricular requirements, in much the same way that advanced-placement (AP) examinations are currently credited. (There are possible obstacles to this, however, which are discussed further below.) Students of L-institutions should likewise view this arrangement as advantageous to the extent that MOOCs provide distinctly superior curation at only slightly higher cost.

On the other hand, for H-type institutions, resorting to MOOCs may be more relevant as cost-reducing strategies, either for the HEI themselves, for their students, or both. For the HEIs' management, using pre-existing MOOCs to fulfil at least part of the curriculum requirements may, among other things, allow an increase in enrolment without requiring major additional investments in steel-and-concrete infrastructure or an increase in staff. More importantly for students, MOOCs could shorten the years of education, thus reducing the implicit cost of foregone income from an otherwise earlier employment.

Enabling and hindering factors

A number of problems associated with Philippine higher education may potentially be addressed by a greater resort to MOOCs, among them the highly uneven, generally mediocre quality of higher education, specific skills- or specialisation-deficits among the faculty, limited infrastructure and personnel budgets among both private and public institutions, and the lack of means among students—all of which become manifest in the lack of access to quality

⁷ This is suggested by the absence of any Philippine universities in international league tables (notably the Times Higher Education Supplement *World University Rankings* ($N = 400$) and the Shanghai Jiaotong University's *Academic Ranking of World Universities* ($N = 500$)). The more lenient and subjective QS *Ranking of World Universities* lists only four Philippine universities, none in the top 350.

education among the majority. In most respects, there is little other than a policy-decision that prevents HEIs from piggy-backing on or adopting already-existing MOOCs from providers like Coursera, edX, Udacity, or EdCity, among others. The real question is why there has not been a more enthusiastic uptake of the idea. We enumerate a number of reasons.

Connectivity. MOOCs presuppose connectivity: access to broadband and computers is indispensable. Personal internet access in the country is far from optimal and could stand improvement in speed and cost, but the presence of the Internet in most urban centres is an important enabling factor that allows potential learners to avail themselves of MOOCs. The UNESCO's Broadband Commission [2014] reports that in 2013, some 37 percent of households used the Internet, and 22.9 percent of Filipino households had Internet connections. While figures on Internet use and access may seem respectable, their significance is dimmed somewhat when one considers that fixed connections account only for only 11 percent of Internet connections, the other 89 percent being mobile broadband connections.⁸ The bias for mobile connections is probably linked to the predominant use of the Internet for social media and entertainment rather than for education and computing. This, however, is a trend that is not confined to the Philippines, and the demand for personal computers has fallen in relation to smartphones.

At the moment, however, computers linked to fixed-line broadband, however, are still the most effective mode of accessing MOOCs. From this aspect, therefore, it appears that only a small minority of the population (i.e., 2.6 percent of households) is optimally placed to access MOOCs readily. In itself, however, Internet access, however, has also become less restricted to fixed line subscription; the availability of prepaid retail Internet access through smart-phones has facilitated far greater access than can be made available through fixed lines. Further improvements in the capabilities and lower prices of "smart phones" themselves and other devices providing Internet access (but which are less expensive than computers) may yet relieve this bottleneck, as might common computer facilities provided by HEIs for the use of their own students wishing to take MOOCs. For the moment, however, limited personal access to devices and connections must still be counted as a moderately important barrier to MOOCs access.

Language and course choices. On the other hand, it is a distinct advantage that most available MOOCs are produced in English, the predominant medium of instruction in Philippine higher education. It is estimated that of the 2,500 MOOCs on offer as of the end of 2014, 80 percent

⁸ The 22.9 percent of households with Internet connections are broken into 2.6 percent with fixed connections and 20.2 percent with mobile broadband connections.

were offered in English, covering the humanities, computer science and programming, and business management [Shah 2014]. There is thus little in principle that prevents HEIs from immediately adopting pre-existing MOOCs, which by itself would represent a great saving in cost. The possibility remains, however, (and indeed it has been done) for Philippine HEIs to produce their own MOOCs depending on their own needs. Levels of difficulty, gaps in language proficiency, pedagogical style, and express requests for specific content from important sectors may provide both the need and the opportunity for local HEIs to design their own MOOCs. This can be done independently or in collaboration with strategic segments of the private sector (e.g., media companies, industry associations, and corporate foundations). In turn, such locally produced MOOCs can in some cases provide revenue streams if these can be marketed locally or internationally, under some revenue-sharing arrangements. In any event, great room exists for experimentation with business models arising from MOOCs.

Inertia of low quality—the students. It is not the scarcity of connectivity or the inaccessibility of material that currently presents the most significant barrier to the spread of MOOCs in the Philippines. Rather it is the inertia of low quality among many HEIs and their students. The previous analysis points out that the main attraction of MOOCs for lesser-quality institutions is the possibility of offering higher quality at little or no incremental cost. The presumption, however, is that it is in the interest of HEIs' management and their students to take up that challenge and put in the added effort. That cannot unfortunately be presumed.

A serious problem with MOOCs that has now come to be recognised—and moderated expectations about what they can accomplish—is that these have appealed more to highly motivated, achievement-oriented students and not necessarily to typical or weakly motivated ones hosted by L-type institutions, whom MOOCs had hoped to help. Experience in the U.S. shows a very high dropout rate among those who sign up for MOOCs (as high as 90 percent), leaving only those who are goal-oriented to begin with. As Sebastian Thrun, Udacity's founder, came to recognise: "The basic MOOC is a great thing for the top 5 percent of the student body, but not a great thing for the bottom 95 percent" (quoted by Selingo [2014]). Indeed, a large cohort of those attracted to MOOCs already possesses baccalaureate degrees⁹; alternatively, they

⁹ As an example, "Eight of every 10 students enrolled in University of Michigan and University of Pennsylvania MOOCs in 2012-13 already had a degree of some kind. The credentials gap was most pronounced in countries where the courses were supposed to have the biggest impact among the undereducated: Some 80 percent of MOOC students in Brazil, China, India, Russia and South Africa had a college degree, while in the overall population only 5 percent did" [Selingo 2014].

are achievement-oriented high school students who wanted a leg up before taking college entrance exams.¹⁰

This presents a problem for MOOCs in the Philippine context, since a good part of the student market for L-institutions (similar to the situation in many other countries) is unlikely to be self-motivated and achievement-oriented. This means the demand for higher quality is unlikely to be driven purely by student interest even if the option of taking MOOCs for credit were to be held out by their universities. Average students are apt to regard such a strategy as risky, more difficult, and entailing more (intellectual) effort compared to attending a regular class. The upshot then is that few students are likely of their own accord to take MOOCs for credit, but especially if it entails additional expense on their part.

Inertia of low quality—the HEIs. The same inertia hounds L-type HEIs. While significant improvements have been made in the recent past, it is far from certain that the management of all L-type HEIs (both public and private) regard a big push for quality as an imperative.

A first concern is financial. The financial models of many HEIs—especially private ones—are built around large student numbers paying moderate to low tuition for residential programmes that are less than top-quality. As stated previously, MOOCs provide L-type HEIs the opportunity to raise the quality of curation at minimal or lower cost. Most of the quality-cost efficiencies, however, would accrue to students rather than to the HEIs themselves. Students allowed to incorporate MOOCs in their curriculum, for example, could take less residential courses, replacing these with online courses of better quality, and possibly graduating in a shorter period. From the viewpoint of HEIs themselves, however, such a scenario presents no financial advantages. Indeed, if widespread enough, such efficiencies could result in redundancies of staff and facilities, which in themselves would present a separate set of difficulties for management (e.g., objections from academic unions, lower than expected revenue flows), at least in the short term. These factors, plus the likely small demand for quality from students at such institutions, will inherently limit the uptake of MOOCs in L-type institutions in the short run.

By contrast, that same scenario would present real opportunities for H-type HEIs determined to raise standards, e.g., those seeking to offer more graduate-level courses or to become research universities. For such institutions, replacing a number of residential courses (especially lower-level undergraduate courses) with MOOCs could free up staff and facilities from undergraduate teaching and allow these to be redeployed instead in graduate teaching and research. This

¹⁰ See, for example, Harris [1015].

discussion underscores how the potential use and significance of MOOCs will differ depending on the goals of specific institutions and types of students.

Realistic opportunities: improving faculty skills

In one respect, however, MOOCs should present opportunities for HEIs of both types: the improvement of faculty skills. Current faculty of HEIs may themselves enrol in MOOCs—with credit or without—in order to improve pedagogy or to update themselves on content. Even if MOOCs are not taken by students themselves for the reasons already stated in the previous sections, faculty may enlist in these courses to upgrade their knowledge in certain subject-areas, develop new curricular material, or improve presentation skills. This is especially relevant to faculty from L-type HEIs. In the inevitable process of determining which MOOCs are applicable or relevant to their respective curricula, and which may therefore be taken by their students, faculties and departments will be obliged to review and curate MOOCs already on offer. Such an effort can be organised departmentally so that it becomes a learning experience for the faculty itself. In this manner, the MOOCs experience can yield quality improvements for the institution. At a higher level, universities might also incentivise their faculty to enlist for graduate-level MOOCs by counting these towards fulfilment of their pending advanced degrees, or simply by taking such efforts at self-improvement into consideration in job-promotions. Students would then enjoy the quality-benefits from MOOCs not by directly enlisting in them but indirectly, through a better-prepared and better-educated faculty.

Realistic opportunities: flipped or blended classes, and SPOCs

We have argued that the “pure” uptake of MOOCs—in the sense of self-motivated students enlisting in and completing MOOCs to earn university credits—is unlikely to be a major trend in the short run. But MOOCs can also make a useful contribution if these are deployed creatively as complements to—rather than as replacements of—traditional classroom instruction and supervision. Examples of these are the use of MOOCs in “flipped” or “blended” classes to deliver university courses. A “flipped” class is one where “students gain first exposure to new material outside of class, usually via reading or lecture videos, and then use class time to do the harder work of assimilating that knowledge, perhaps through problem-solving, discussion, or debates” [Brame n.d.]. This effectively reverses the traditional assignment of tasks to loci where instruction is transmitted through instruction in class and analysis and assimilation are accomplished at home through “homework” or exercises. In a “flipped” environment, students can listen to lectures, read material online, and do exercises largely on their own time and process what they have learned in common together. In such an environment, packaged and selected MOOCs can form the main part of the material assigned to students to be viewed at

home and subsequently discussed in class. Two known shortcomings of MOOCs are overcome by this approach. First, because evaluation ultimately still occurs in a classroom environment, the flipped classroom overcomes the problem of weak supervision and credentialing. Second, for the same reason, the rate of course completion is improved, since greater and more customised support is available to individual students, including those with average or weaker motivation and academic backgrounds.

A possible hindrance to this approach is students' limited personal access to computers and the Internet. As already suggested in a previous section, however, this difficulty may be surmountable with better Internet access through smartphones or shared computer facilities provided by HEIs.

Indeed, solving the same pedagogical concerns underpins the more recent trend of SPOCs, or *small private online courses*, which have been labelled the “post-MOOC” phenomenon [Garner 2013], though they may be less relevant to the problems faced by Philippine HEIs. SPOCs seek to improve the credentialing and accreditation function of MOOCs by restricting participation to better-selected students (enlisting perhaps no more than several hundred instead of tens of thousands). This results in a more customised delivery and a better chance of completion. SPOCs differ from flipped classrooms, however, in that they are primarily delivered online and require no physical attendance in bricks-and-mortar classes. Accreditation and fee-charging will also obviously be better facilitated in a SPOCs environment, creating a viable business model for MOOCs-providers more generally.

Realistic opportunities—roles for the private sector

The private sector can play a potentially large role in helping HEIs use MOOCs in their curricula. This participation may form part of corporate philanthropy but may simultaneously create platforms new business opportunities, including the following:

- (a) The private sector has a large role in expanding students' access to MOOCs through the provision of Internet access on various platforms. Various bundled offerings of data access and inexpensive devices such as smartphones may prove economical enough for students to access these.¹¹
- (b) Alternatively, the private sector may cooperate with HEIs to improve (especially superfast) broadband Internet access to MOOCs for both faculty and students through shared facilities

¹¹ In the forum the example was given of how the Scots education authorities purchased tablets in bulk then leased them to students.

- (e.g., equipping smart classrooms and computer labs, especially for underserved areas) and provision of hot spots or campus-wide Internet coverage
- (c) Cooperation between HEIs and industry (e.g., media firms and telecommunications companies) in the production of MOOCs, especially for courses that feed into the skills urgently needed by industry. As an example, the cooperation between the U.P. Open University and telecoms and business-process management organisations has resulted in the production of a number of MOOCs responsive to industrial needs.¹² But this effort could be significantly expanded.
- (d) Media and telecoms companies and other private-sector associations may also help HEIs in the formation of MOOCs-users' consortiums to deal directly with large foreign providers of MOOCs for better terms (e.g., bulk licensing and revenue-sharing). To the extent Philippine HEIs are able to produce their own MOOCs for inclusion in either national or international compendia, financial flows may also be forthcoming from revenue-sharing arrangements that could help subsidise the cost of these educational initiatives.

Policy initiatives

The inertia in the HEI system described above will likely mean that the spread of the use of MOOCs in the Philippines—despite its advantages—is likely to be slow and tentative. Shaking off this inertia will require a push from the outside to facilitate the process, and this can be done only through initiatives from government that will produce an environment conducive to HEIs and students alike in using or developing MOOCs.

A necessary first step is for the Commission on Higher Education (CHED) to enunciate a clear policy and mechanism requiring the recognition of MOOCs completed for credit by students, with portability across all HEIs. As a subordinate part of this policy, CHED can also a more liberal policy to allow students to take advance-placement examinations (APEs) using credentials based on MOOCs courses they have completed (rather than only subjects listed in high-school transcripts). For this purpose, ordinary MOOCs certificates of completion (short of complete accreditation) should suffice, since the passing of the APes themselves should provide the definitive validation of the students' accomplishments. While unlikely to draw a massive following, such a policy would benefit students—typically the more advanced and motivated—who take it upon themselves to learn from and complete MOOCs at their own expense. More important, however, is that such a policy would introduce MOOCs into the

¹² These include MOOCs on android apps development, technopreneurship, e-teaching of world languages; and service management for BPO industry.

curricular mainstream of universities and encourage curricular innovation from HEIs themselves.

For this purpose, CHED needs to develop a list of potentially creditable MOOCs and their concordance with existing curricular requirements. A useful starting point would be for the existing CHED disciplinary technical committees (where faculty from various HEIs are represented) to curate and suggest existing MOOCs that are equivalent to courses in the existing curricula. Technical courses such as those in mathematics, statistics, programming/coding, or other basic prerequisites for some STEM fields would be ideal early candidates for recognition. Subjects in the standard general-education curriculum or the prescribed curriculum for major fields should also be considered. In economics, for example, MOOC equivalents for introductory courses in microeconomics and macroeconomics are widely available. Foundation courses in algebra and trigonometry, calculus, and probability are also common MOOCs offerings.

A further step would be to undertake a similar policy-initiative for professional and graduate education, with credited MOOCs courses also serving to fulfil subject- and competency-requirements. Proceeding from empowered student initiatives, one should expect that HEIs will subsequently take up the challenge themselves and actively incorporate MOOC-equivalents more widely in their curricula.

Also crucial is government grants to support HEI projects to experiment with MOOCs. Especially for less financially able HEIs (notably state universities and colleges), project proposals to immerse faculties in MOOCs—for improvement of curated content or pedagogy—should be encouraged and financed. Possible projects could range from something as basic as the organised curation by faculty of on-the-shelf MOOCs, including higher-level courses (which may include provision of broadband access and devices); the support to students and faculty to enlist in MOOCs for credit; to the measurement of the impact of flipped classrooms and other blended forms of learning; up to support for actual production of an HEI's own MOOCs (this last to be done only after a good track record is established). It is possible to design such pedagogical experiments on a rigorous basis, e.g., through randomised controlled trials to measure differential performance as between MOOC- and non-MOOC-based or –blended classes.

As interest in MOOCs matures among HEIs, it could be advantageous for HEIs to form a consortium of Philippine MOOCs users and producers to obtain favourable price and other terms with more established (especially foreign) MOOCs providers, as well as with suppliers of devices and Internet access, through bulk-purchases and bulk-licensing. ■

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SUMMARY OF THE DISCUSSION¹³

1. A first point of discussion dealt with the benefits to be derived from MOOCs for both the student the HEI. Various advantages for the student were pointed out, most of which are linked to the autonomy afforded the student (e.g., repetition of the material, ask questions any number of times; flexibility of schedule within limits; self-paced learning; quick results and feedback), as well as quality, i.e., the fact that MOOCs are typically taught by the best professors.

2. For HEIs as *users* or employers of MOOCs the financial benefits to be derived are important and were said to involve: (a) cost reductions and quality-gains when using pre-existing MOOCs, owing to lower capital spending per student without sacrificing personalised instruction; (b) the positive revenue implications from having a higher profile, and a larger enrolment at a lower price. Some benefit to HEIs in pecuniary or reputational terms could also arise for HEIs as *producers* of MOOCs, e.g., from the production of supplemental material; from added incomes earned by the faculty and HEIs involved (which is available in revenue-sharing arrangements with some MOOCs providers); the possibility of using an ASEAN platform for a higher profile (also joint programmes, e.g., MBA; Master's in ASEAN Studies)

3. Besides financial benefits, other possible pedagogical and job-related benefits have to do with overcoming geographical isolation and deficits in faculty capacities; more faculty time freed up for research (which helps raise efforts for accreditation of institutions); the stimulation of internal competition for faculty to level up; and the relative ease of tailoring mix of courses to become more relevant to the job market.

4. The forum also raised qualifications and questions about the significance and general applicability of MOOCs. Foreign experience was cited suggesting that MOOCs prove more useful and successful for self-motivated students; hence the need for recognition of different levels of learners. MOOCs may also be more readily adaptable for technical courses and less applicable to the humanities. Foreign experience also gives pause with respect to labour and human-resource issues (e.g., anxieties and agitation regarding tenure) arising from MOOCs, as well as the diminished enthusiasm for teaching among some faculty from the experience of teaching courses they did not themselves create. Finally it was pointed out that practical

¹³ The forum on MOOCs was held on 21 October 2013 and organised by the Philippine Institute for Development Studies. The participants included Michael Alba, Grace Alfonso, Marito Garcia (via Skype), Aniceto Orbeta, Vicente Paqueo, Gilbert Sales (CICM), Josef Yap, and educators from Bicol University, the Asian Institute of Management, and Mindanao State University (Iligan). Emmanuel de Dios served as moderator.

obstacles first needed to be addressed before MOOCs could even be expected to play a significant role. These obstacles had to do with the content or curation of MOOCs themselves; broadband Internet access; and the availability of devices.

5. There was a consensus that each HEI should ultimately be allowed to decide its own priorities and the exact role that it sees MOOCs can play. Making this clear will alleviate the fear among some sectors about the erosion of institutional control and autonomy. The problem of how MOOCs would affect the existing business models of HEIs was also raised, and how this would differ from one HEI to the next. At any rate, the participants noted the flexibility with which MOOCs could be used, since it was always possible to “blend” MOOCs with existing programmes. The same autonomous priorities based on an assessment of its own needs should guide each HEI’s decision whether to simply buy MOOCs off-the-shelf or develop its own. At one end, MOOCs may simply serve as supplementary material in larger Learning Management Systems. At the other end, a full accreditation process of MOOCs may be instituted for some courses. It was stressed that the level of the students needs to be considered, and that there was a need to experiment with various modes of using MOOCs before there was any scaling up.

6. Further progress in MOOCs will depend on active cooperation between various sectors: HEIs, the ICT sector (including media, telecoms, and suppliers of devices); MOOCs producers, both foreign and Filipino; as well as the various potential employers of HEI graduates, and finally the government, particularly the Commission on Higher Education. Cooperation between sectors is needed in expanding access to broadband and connected devices; in the curation or design of courses that are relevant to industry needs; in the actual production of MOOCs (which is resource-intensive); and in the organisation of bulk-purchasing (e.g., through an alliance of mooc buyers or producers) especially when negotiating with global MOOCs producers or device and access suppliers. Finally, CHED needs to take an active role in accreditation of either courses or majors that include MOOCs as equivalents or complements to existing college courses.

END