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# COMPETEN-SEA

## Capacity to Organize Massive Public Educational Opportunities in Universities of Southeast Asia

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### WPD2.1

## Institutional Development Plans and Infrastructure Development

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# 1. INTRODUCTION

The deliverable WPD2.1 “Institutional Development Plans and Infrastructure Development” is part of WP2 (“Development: Capacity Building Programme”), whose objective is to significantly increase the capacity of the Partner Universities in Malaysia, Indonesia and the Philippines to design, develop, deliver and evaluate various types of MOOCs-based educational services through three dimensions: (1) technological **infrastructure**, (2) upgrading knowledge and skills of **teaching and technical staff**, and (3) **administrative procedures** allowing service provision for outreach. The results of the MOOCs feasibility study in Southeast Asia (see WPD1.1), and the local contexts of the three partner countries and six partner Universities lead the building of capacities on the three aforementioned dimensions.

Each of the six partner Universities has developed an Institutional Development Plan, covering infrastructure development needs, human capacity building plan, potential administrative reforms, as well as other steps to be taken within the project and beyond to enable the sufficient capacity to develop and deliver MOOCs. This document integrates the six Institutional Development Plans of the six partner Universities:

- Universiti Sains Malaysia (USM) (Malaysia)
- Universiti Malaysia Sarawak (UNIMAS) (Malaysia)
- Universitas Brawijaya (UB) (Indonesia)
- Universitas Sam Ratulangi (UNSRAT) (Indonesia)
- University of the Philippines System (UPS) (Philippines)
- Ateneo de Manila University (AMU) (Philippines)



## 2. INFRASTRUCTURE DEVELOPMENT

The COMPETEN-SEA project proposal detailed the equipment to be purchased by partners from Southeast Asia. Each of these partners can decide to purchase this same equipment, or suggest changes to adapt the equipment to be purchased to their particular needs. The equipment included in the project proposal is described next.

- For USM as regional coordinator: a server for hosting a local MOOC platform, two PCs or laptops for MOOC production, two video cameras for video recording, four software licenses for video production and edition, a portable Chroma key, four professional microphones and a tablet for Teleprompting. Additionally, USM acts as MOOC communication node, requiring also a server rack, HD array, and router. USM has 18,000€ available for the acquisition of this equipment.
- For the rest of the partners UNIMAS, UB, UNSRAT, UPS, AMU: a server for hosting a local MOOC platform, two PCs or laptops for MOOC production, two video cameras for video recording, four software licenses for video production and edition, a portable Chroma key, four professional microphones, a tablet for Teleprompting, and color printer/copier. Each partner has 12,000€ available for the acquisition of this equipment.

After analyzing the specific context of each partner, decisions on the infrastructure development plans are made in relation to the purchase of equipment.

- **USM** will acquire the same equipment described in the project proposal, and therefore, no significant modifications are expected from USM.
- **UNIMAS** will acquire the same equipment described in the project proposal, , and therefore, no significant modifications are expected from UNIMAS.
- **UB** may need additional equipment considering the target audience in the coastal area. UB will acquire the following additional equipment, either by waiving some of the items set in the proposal, by lowering procurement costs, or by assuming the extra costs as co-financing:
  - 5 Portable Web Servers: Hosting portable MOOC server to mobile MOOC clients (for a situation without connectivity to the MOOC server in the campus). The APTUS solution (<https://www.col.org/services/knowledge-management/aptus>) is being explored to host these MOOC servers. The partners have also thought of alternative solutions consisted of Raspberry Pi 3, SSD Drive, Power Bank battery, and Wi-Fi AP module.
  - 10 Android-based Tablet: mobile MOOC Client to use during MOOC session training with local stakeholders.

- **UNSRAT** proposed a detailed list of elements to be purchased considering the local needs of the institution. UNSRAT will acquire the following equipment, either by waiving some of the items set in the proposal, by lowering procurement costs, or by assuming the extra costs as co-financing:
  - Video Editing System, including Video Editing PC and Video Editing Software.
  - Video Production System, including Video Camera and Accessories (Tripod and SD Card), Video Mixing and Accessories (USB/HDM cables), Presentation Laptop, Presenter display, Chroma Key/Greenscreen, Teleprompter, and Lighting System.
  - Data storage Server: Network Storage Server.
  - Sound System, including Audio System and Accessories (speaker, headphones, microphones and cables), and soundproofing.
  - MOOC administration, including Desktop PC and Printer.
  - Electricity and Room Air-conditioning System, including a UPS (Uninterruptible Power System) and Power Stabilizer, Cabling and Terminal, Room Air-conditioner.
- **UPS** is expected to acquire the equipment described in the project proposal with slight modifications, and in two batches. Additional elements will be purchased by lowering procurement costs, or by assuming the extra costs as co-financing.
  - First batch: two laptops, a single-lens reflex camera, a video camera, a desktop computer/renderer.
  - Second batch: a professional camera, video mixer & accessories, a video-editing computer, a teleprompter, video editing software, a presenter display/49” TV, lighting system, an audio mixer
- **AMU** is expected to acquire the equipment described in the project proposal. Some changes may be decided after the capacity building workshop carried out in the Philippines in January 2018.

### 3. HUMAN CAPACITY BUILDING ACTIONS

The project includes intensive training workshops in the partner countries of Southeast Asia: Malaysia, Philippines and Indonesia. This training workshop address the following topics: overview and context of MOOCs, implementation of MOOCs on the Open edX platform, instructional design, learning analytics and evaluation, business models associated with MOOCs, among others. The materials used in these workshops will be published online, and the workshops may be recorded for later viewing and reaching of additional stakeholders beyond those attended to the face-to-face workshops. The current workshop planning is shown in Table 1 (additional workshops may be scheduled if needed):

Table 1 Workshops in Southeast Asia and dates

Number	Dates	Location
1	November 6-8, 2017	Penang (Malaysia)
2	January 10-12, 2018	Manila/Pangasinan (Philippines)
3	February 12-14, 2018	Malang (Indonesia)

In addition, Southeast Asian partners commit to carry out actions to continue building capacity locally with stakeholders after the workshops.

- **USM** hosted the local training workshop in Penang (Malaysia). USM has engaged subject matter experts (SME) to develop a MOOC for the single mothers and they joined the training workshop in Malaysia. At the same time, the subject matter experts will conduct capacity building workshop for identified leaders of Single Mother's association/organisation/NGOs, as a platform to raise awareness about MOOC among single mothers. The Center for Development of Academic Excellence and Student Development (CDAE) at USM, together with the leading team at USM will continue to provide training and workshops for other academics/schools who are interested in MOOC using Open edX platform.
- **UNIMAS** had two people attending the training workshop in Penang (Malaysia). After that, they will conduct internal training and, in this way, they will be able to train more teachers in UNIMAS, reusing the contents and recorded videos from the training workshop in Penang. UNIMAS will be working closely with the communities that they engaged with, and women associations. For this purpose, they will first be conducting train the trainers and mentors programme in local communities and settings. Training will cover other areas, such as multimedia content creation, literacy and entrepreneurship training.

- **UB** will host the local training workshop in Malang (Indonesia). UB will also conduct another local workshop in the local language to engage more content creators in the field of coastal ecosystem conservation, especially in the Faculty of Fisheries and Marine Science. Afterwards, they will work closely with POKMASWAS (community field supervisor in aquatic ecosystem) for mentoring programmes in utilizing MOOC.
- **UNSRAT** will send several participants to the workshops in Malaysia, Indonesia and the Philippines, so that they can replicate these workshops locally afterwards. UNSRAT is also planning to have a workshop for the expert team that consists of lecturers in various fields, such as entrepreneurship, fisheries, marine science, and informatics, about how to develop MOOCs related with their area of knowledge. In the end of the workshop they are expected to produce a MOOC on entrepreneurship for the people in the islands of North Sulawesi province. In addition, they will form and train a multimedia team that consists of undergraduate informatics students to support these experts in developing interactive multimedia content in their MOOC.
- **UPS** will host, together with AMU, the local training workshop in Manila and Pangasinan (Philippines). In addition, with the initial funding, UPS will be able to acquire fresh talents and mentor more instructional designers, graphic artists and illustrators, as well as course managers. It is worth mentioning that UPS already has an existing MOOC program but not yet in the scale and level where it should be. So, UPS human capacity building initiatives related with the COMPETEN-SEA project will be tied to the overall MOOCs and e-learning strategy of the University. With the potential buy-in of university stakeholders in Pangasinan, UPS should also be able to widen the network of e-learning practitioners who are able to support MOOCs.
- **AMU** will host, together with UPS, the local training workshop in Manila and Pangasinan (Philippines). AMU has also started collaboration talks with other agencies who can support them for further capacity building. This includes the Learning and Development Division of the Department of Health, Philippines. They are also identifying other trainings and technical inputs they need to further increase their capacity in online distance learning.

## 4. ADMINISTRATIVE PROCEDURES

Having achieved local capacity building through equipment acquisition and staff training, Southeast Asian universities are committed to carrying out administrative reforms to promote internally the realization of MOOCs, not only for the target learners of the COMPETEN-SEA project, but also for a wider range of students. This section collects the plans for administrative reforms that are going to be undertaken by the Southeast Asian partners in the next years to ensure that MOOCs and MOOC-based technologies are part of their strategic agenda, and also the changes in the local contexts that they foresee are needed from the institutional perspective and from the perspective of other stakeholders such as teachers and learners.

- **USM** will be embarking on Flexible Education leveraging on MOOCs. One example is lecturers can put up part of their academic courses as MOOCs for the public. Malaysia already has a sort of MOOC credit transfer in place. Therefore, eventually the general public can build up credits before joining any degree programme. Of course, while MOOCs themselves are free, the public will need to pay for getting the certification. USM foresees the strong need for a change in mindset of the local lecturers to adopt MOOC, and also the need for an institutional change to upgrade the infrastructure to be able to support MOOCs.
- **UNIMAS** has advanced in the development of online education solutions adapted to the local context; they have already developed a tool for delivering MOODLE-in-a-box, which can work for conducting training in Rural Communities and even places with inadequate Internet access. UNIMAS is performing a requirement analysis to tailor-make the tool to support synchronisation of content and possible ways of performing analytics. The adaptation of the Open edX platform to the aforementioned solution will be explored within the framework of this project, as well as other solutions such as APTUS. In addition, UNIMAS will use the MOOC modules from the training in Malaysia to build their own localised content for empowering single women and grooming of mentors and facilitators, and will subsequently work with the Centre for Applied Learning and Multimedia in UNIMAS to institutionalise the training within UNIMAS for lecturers. UNIMAS foresees, as long-term goal, the definition of a life-long learning programme that goes beyond training single mothers, and that uses MOOCs as the reference delivery format. UNIMAS will propose a certification program for community members and local mentors using MOOCs.



- **UB** has been using a MOOC-based solution in the last five years using Moodle as the institutional platform. In fact, implementing a distance education programme has become one of the key programs in UB's Strategic Plans 2015 - 2019. To widen the outreach of the MOOC-based education programmes, the existing programmes need to open to the public by joining to the current initiatives lead by Ministry of Research, Technology and Higher Education of the Republic of Indonesia (<https://kuliahdaring.dikti.go.id>) for a specific field in the coastal ecosystem conservation. UB foresees adopting MOOCs in many accredited study programmes, upgrading e-learning infrastructures, creating incentives for lecturers, students, and staffs engaging in MOOC-based programmes, collaborating on academic credit transfers with partner universities, and providing a MOOC-based certification program for the community as the main challenges that need to be addressed in their local context.
- **UNSRAT** is already using a Moodle-based e-Learning platform for some years, but this platform is mainly used to complement formal lectures of UNSRAT students. After the capacity building workshop, UNSRAT will encourage the leaders of the University to provide MOOCs that are targeted to local people outside the campus, as part of UNSRAT's contribution to the society development. UNSRAT will receive the support of UB, but also of other Indonesian universities, such as University of Indonesia (<http://www.ui.ac.id>), which have more experience in e-Learning and MOOCs opened for public. UNSRAT foresees that lecturers will not only develop e-Learning modules for his/her lectures, but also need to be encouraged to develop educational MOOCs to be provided publically for the local society. The institution needs to take actions to encourage this, such as counting MOOCs as part of lecturer's credit points and actively fund the local MOOC initiatives.
- **UPS** aims to persuade the University administration to boost its e-learning and MOOCs initiatives and make them more organic to its core curricular programs. UPS is primarily a residential brick-and-mortar institution of Higher Education. Therefore, there is need for incremental changes in policy, infrastructure, market, training, and regulation, among others, to be able to sustain and scale MOOCs in the Philippines. Training, incentives, and institutional and technical support are the key areas to be addressed at the institutional level, before MOOC initiatives at UPS can truly scale. These key areas are currently being negotiated and considered in the University thanks to the COMPETEN-SEA project. It is worth mentioning that UPS already has interactive learning centers, professional schools, and distance learning programs in the different campuses of the UP System being part of a larger

e-learning ecosystem. The COMPETEN-SEA project is an important initiative in this ecosystem, especially as it explores underserved sectors of society like the rural health workers.

- **AMU** strongly believes in the need for more collaboration between institutions and policy makers to develop MOOC initiatives in the Philippines. For example, there is already a law in the Philippines for Online Distance Learning (ODL) but no specific guidelines for MOOCs. Both AMU and UPS plan to foster more collaboration within these two institutions and serve as a reference for the development of national guidelines for MOOCs. Interestingly, AMU is also collaborating with the National Taiwan University, Taipei, Taiwan, in the offering of an online international course on “International Perspectives on Environmental and Occupational Health” (<http://ieoh.mc.ntu.edu.tw/xms/>); Universities from Taiwan, Thailand, Brunei and Japan also participate in this course. AMU also participates in the Asia Pacific Advance Network (APAN) as a network member, and will disseminate the COMPETEN-SEA project in one of the APAN conferences. AMU foresees the significant role that MOOCs will have in Continuing Professional Education (CPE) and would like to see more MOOCs accredited for CPE in the Philippines.

## 5. CONCLUSIONS

This report collects the six Institutional Development Plans of the six universities in Southeast Asia. These plans are adapted to the local context of each partner, and have three main dimensions: setting up the technological infrastructure through the acquisition of equipment with the dedicated budget of the project for this purpose; the training of teaching and technical staff through intensive workshops led by the four European partners; and the definition and implementation of administrative procedures and reforms to incorporate MOOCs in the strategy of the Southeast Asian partners. These plans, although not definitive and subject to modifications in the different stages of the project, lay the foundations for the tasks that need to be implemented in the development work package of the COMPETEN-SEA project.