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Towards successful learning: Controversies and common ground

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Short bio:

Vassiliki Michou is Research engineer (Ph.D.) at the Centre of Pedagogical support and Innovation (CAPSULE) at Sorbonne University (formerly UPMC). She works as project manager (IDEX SUPER projects : FEL'1 (realisation of 9 SPOCs) / IMAP project - creation of an interdisciplinary master level course combining sciences and humanities / Play@SU project - building a platform for serious games on physics) instructional designer and trainer (at Sorbonne Université, for a French national association and for the Erasmus+ projects MarMOOC and ABC to VLE). Currently she manages several projects including the Short Virtual Exchange project (S-VIP) that offers to students at international level a virtual mobility and e-accreditation (realisation of 6 SPOCs), and she is in charge of the engineering of the training program for academic development.

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Short bio:

Since 2000 I have been an Associate Professor in physics at the Institut des NanoSciences de Paris in Sorbonne Université.

Since 2016, I am Director of Open and Distance Learning (FOAD) (800 students) in the Sciences and Ingeniring Faculty. I joined the FEL'1 project in 2015 when I became deputy director of the FOAD. This project aimed at the realization of 9 SPOC.

In 2017 and 2018, I obtained funding for two projects: The SVIP project, AAP IDEX SUPER, (topic of this article). The project PRADHA, AAP Liscinum, Unisciel: is continuing the development of digital resources. I also run a pilot project for online exams, within the framework of a broader Erasmus + OP4RE project, for the FIED.

On the research side in Physics, I am the PI of the ANPHASES project (ANR-M-era.net, 2014-2018), Franco- German research project on anisotropy of eutectic solidification interface. Since 2006, I have been involved in the TRANSPARENT ALLOY project: Multi-user ESA Instrument for the International Space Station.

Proposal

Title: Student's Virtual Erasmus Exchange Program

Abstract:

We present an ambitious international project, the Short Virtual International Program (S-VIP), which has an important innovation dimension as a result of the design of the proposed courses as well as for the real prospects that offers to students at international level the virtual mobility.

The significant evolution of the online and/or blended education offers now new possibilities to all universities at European level. Our project aims to propose a new format for the Students' mobility and for the Erasmus program to our students. By analogy with the Erasmus exchange for on-campus training, S-VIP offers a virtual exchange via online teaching. Students taking online training at a partner university will obtain accreditation for a limited number of ECTS (European Credit Transfer and Accumulation System). We started our program with a consortium of European universities by accepting the virtual exchange of our students who wish to follow courses abroad and by including our partner's students to our online courses. At the same time, and within our project we developed a close collaboration within the European League of Research Universities (LERU) with Leiden and Milan Universities.

Keywords: leru, accreditation, online education, virtual mobility, e-learning

1. An innovating international dimension project

Virtual mobility is promoted by the European commission those last years, and several Erasmus + projects and European strategic partnerships have emerged and focus on different aspects of virtual mobility. For example the EVE (European virtual Exchange) offers exchanges for youth around the world and training for professors and facilitators to, expose youth to intercultural competences, to different ideologies, beliefs and perceptions. While the OpenVM (Open virtual mobility) project is more focused on supporting higher education teachers and students in developing, assessing and recognising the skills needed for design, implement and participating in virtual mobility activities. Virtual mobility can refer to many different practices and cases and to clarify it Ubachs and Henderikx from the EADTU (European association for Distance Teaching Universities) have defined a Mobility Matrix [1] to map the different types of virtual mobility so that we can acknowledge on the vocabulary.

Sorbonne University today boasts an important experience in online teaching with its ODL (Online and Distance Learning) department and the creation of a large number of online courses for its students. Our university, since 2015 has been developing SPOCs (Small Private Online Courses) [2] for its first

year of studies at the Bachelor of Science and Technology and for the Master's degree as well as MOOCs (Massive Open Online Course) on science, medicine and humanities.

The Virtual International program aims to highlight two major subjects, the virtual exchanges, or virtual mobility [3] and the accreditation. Sorbonne University started its experiment by joining the VEP (Virtual Exchange Program), a pilot project associating other European universities and providing experience in allowing the virtual mobility for their students via online teaching and the sharing of credits within partner universities [4]. It is an ambitious program that proposes several organizational and pedagogical challenges.

In parallel with the VEP consortium we are developing a second partnership with several LERU universities for the creation of a LERU virtual exchange program in the near future under the LERU brand. Today several other universities declare their interest and work for joining the LERU consortium and are about to sign the mutual agreements describing the procedures of collaboration.

Today, Sorbonne University is able to offer a complete ecosystem of online courses. A significant number of SPOCs, complete blended courses, are already available on physics, mathematics, chemistry, electronics and mechanics for the first year of Bachelor's degree. We developed new courses more advanced especially for the students' exchange programme for the 3rd year students on thermodynamics and quantum physics, and two courses at master's level on mathematics about Basic Functional analysis.

In order to renew teaching resources and course design, this pedagogical framework was designed as equivalent to the on campus one and proposes the same number of ECTS (either the course is taken as a face to face – classical module or online) [5]. SPOCs bring together many multimedia resources that implement the chosen teaching strategies for a better understanding of scientific concepts, a reduction in dropout rates and cohesion among students. Each course contains written materials, such as conference notes and manuals, as well as knowledge clips explaining some of the theoretical or methodological aspects of the course [6]. Several activities that promote an efficient learning are proposed through our Moodle platform allowing students to exchange, discuss, collaborate, acquire, evaluate and carry out formative self-evaluations. The students are also accompanied by tutoring with organized virtual classes.

Besides SPOCs, our university proposes courses to our partner's students in a MOOCs format (Concurrent programming for the 3rd year of Bachelor, IOS programming for the 2nd year of Master Degree) that follow the on-campus teaching in terms of length and programmed period [7].

The most of our courses are thought also for the students' exchange program, that means they are either subtitled into English, or captured directly in English. Besides the video resources all the text documents are equally translated as well as the proposed homeworks.

Today we implement measurements that will allow us to have a more detailed image of the behaviour of the students and the impact of this blended disposals. The first returns done on the population of

the Online and Distance Learning department seem promising while we observe an augmentation of the students that validated their courses. This study is still in progress and will be presented later in a different paper.

2. Virtual exchange program through online education: how does it work?

Online education presents a great advantage for the students. They can benefit from the flexibility and independence distance learning can offer them. They can follow the courses according to their rhythm but still keep a synchronous progression with the on campus students for the handiworks and the final exams.

Thanks to the Virtual exchange program students can go further on their choice of online courses. This project can contribute to a concrete effort of increasing the students' mobility program. Students, without moving geographically can follow online courses from different foreign universities. How does it work?

Each university participating at the program prepares and proposes to the partners online elective courses well before the semester starts. The home university is responsible for the advertising of the course offer of the partners. It is opportune to note that advertising partners' courses within the home university can be sometimes difficult because of the validation of the courses to be proposed varies for each university.

The Host University (the creator of the course) will be responsible for the enrolment, the online tutoring of the student during the course (semester), prepares the exams subjects and the assessments and the correction of the exams. The Home University (were the student is) will be responsible for the proctoring. Exams are shared on a secured platform. The obtained credits at the host institution will be transferred to the home institution and translated to its own grading reference also through the platform.

Students have consequently the opportunity to experience an innovative exchange for some elective courses they wish to follow online simultaneously with the on campus students and obtain, if they succeed, the corresponding ECTS for each course.

The quality of the course is assured by the fact that a partner can host a course in a MOOC or SPOC format only if this course is offered for credits at home university as well.

During the academic year 2017-2018, first year Sorbonne University joint the EVE consortium there were 12 teaching units proposed globally from all the partners for the first semester and for the second semester an offer of 28 courses while there were more than 200 students' exchanges in total. Altogether 35 students succeed to their exams and validated to their home university the equivalent ECTS. For our university one student followed 3 courses abroad and validated all the exams. Two foreign students followed our programming course without passing the final exams.

On September 2018, for the first semester Sorbonne University sustaining the S-VIP program allowed 36 students to follow courses abroad that can be validated afterwards on their curriculum, meaning a substantial increase of outgoing student for the second year of this pilot program.

2.1 Few challenges

The subject matter of grading is one of the main issues to deal with and it can be quite challenging because each university assigns different numbers of ECTS to their courses. For example at Sorbonne University our courses are worth 3 or 6 or 9 ects while other universities can propose courses with 2 or 4 and others 5 or 7.5 ects. Once the student succeeds the final exams the ects they obtain have to be taken into account at the home university to reach the 60 ECTS for the academic year when the courses are part of the curriculum.

Besides this problematic, the choice itself of a course to appear on a common international portfolio is equally interesting. Each university which provides a course has to choose which of its courses will be open for its partners. How is this choice to be taken? Should the choice be made by establishing common rules between partners based on an agreed common strategy? Or else by leaving each university free to choose the courses it considers most interesting? For the moment those questions are discussed, but presently, each university is free to share the courses its teams consider interesting.

And what about the choices the home university has to make before allowing its students to follow courses abroad? How these courses should be chosen? Accordingly the coherence to the student's curriculum only? And who should decide this coherence? For each university the entity responsible for this decision varies (exam commissions, the study department, the program directors...). And should it be possible for a student to follow an extra-curriculum course and having the earned ects as "extras" on his curriculum? The policies differs for each university therefore each home university should be very precise while communicating about the conditions and procedures to follow for the students interested for the virtual exchange program. However, the desire to offer more possibilities to our students makes us consider the possibility to allow students following not only elective courses compatible with their curriculum and for their degree, but also as part of honours programs or extra curriculum ones.

Another subject to mention is the different teaching time periods during the year. Is it organised on semesters, or annual sessions? What about the dates each period starts and when the enrolments to the virtual exchange program are supposed to open? For example at Sorbonne University the enrolments start at the beginning of September, for the fall semester, while partners' universities finish their inscriptions procedure later on September. Then the enrolment is during the previous semester for the spring's semester at Sorbonne while after the exam in some other universities. Our observations showed that there were much more exchanges during the spring semester (188 in 2018) than during the fall (23 in 2017-2018). Proposing more courses during the second semester could equally give the opportunity to students to get to know better the virtual exchange program and discover more in details the courses of the partner universities before making their choices. Another explanation maybe that core courses are given during the first semester, and electives more often

proposed during the second semester. That's why we decided to propose on the second semester a course from the first semester in 2018-2018 to test this hypothesis.

2.2 Further advantages for the students

By choosing courses from a growing and diverse collection of online courses proposed from leading European universities, students enrich their portfolio and develop different soft skills. They get to know diverse learning experiences, work online using multiple format contents, meet different types of learning activities proposed from the partner universities.

They also have opportunities for maximizing their learning and skills through important and enhancing intercultural exchanges [8]. Furthermore, the students, Erasmus students as well as the on campus students that follow the course, have great opportunities to interact and practice in a foreign language. Working in such environment facilitates the improvement of the multilinguistic competencies of their own field of studies that constitutes a great advantage for the professional development.

3. Institutions Perspective

The elective courses prepared by each partner will be proposed to the Partners' students following the principle of Erasmus programs. Each partner will be able to choose within the suggested catalogue of courses from every institution of the consortium and promote the selected courses to their students.

The chosen modules are validated in the curriculum of each student. Likewise, Sorbonne University added several elective courses to its proposals. This selection of courses is a delicate procedure as the coherence of each student curriculum must be guaranteed as well the pertinence of the competences to achieve. So each student candidature for joining the virtual exchange program and follow an elective abroad has to be validated from his studies' department.

Likewise, the practical and logistical management of such program reveals some difficulties, such as the management of the administrative and pedagogical procedures of inscription that varies for each university partner, the respect of the data privacy of the students, the modalities of information exchange and general management of the students that follow courses abroad.

Our experience demonstrates the importance of the communication plan about this kind of projects. The people involved in the students' exchange program are several and participate actively to the global procedure in different moments of the project (teachers, examination committees, training directors, study advisors, administrative staff, etc...). Moreover the students need to know about the possibilities the program offers them and the proposed courses. For example the creation of a website dedicated to the project is recommended for providing the necessary information, motivating and creating awareness.

3.1 Further benefits for the universities

This program gives the opportunity to each university that participates to enlarge its experience of online teaching units responding to a real need of the students. It is a new form of collaboration between the partner universities. Furthermore this common project allows the promotion of the world-class academic expertise fields of each university and consequently increasing its visibility.

It also permits the reinforcement of the global offer of online education with MOOCs and SPOCs. For the universities there is equally the possibility to gain mutually and enrich their competences by the top know-how domains and cultural diversity of each partner.

4. Conclusions

Short Virtual Internationalisation Program is the outcome of a long evolution of the online education and the will of different European institutions to collaborate and build a common innovating pedagogical project of virtual mobility. Virtual exchange program inspired a number of world-class universities to get engaged in a consortium and propose selected courses to their partners as the number of proposed electives indicates. S-VIP is a complete project of virtual exchange via online education using especially SPOCs. Courses on digital format solidly integrated at the pedagogical offer of each university allow the acquisition of accreditation for a limited amount of ECTS. This program motivated the teaching teams of the courses mentioned above to work actively for the preparation of high quality educational resources. The prepared teaching material will be proposed for the on-campus and online courses participating at the global project to renew the teaching and learning offer of our university. Students will equally appreciate the advantages of the online teaching and the possibility of credit transfer besides the broader choice of courses proposed by world-class experts.

As part of the European policy that places mobility among its priorities, Sorbonne University works to offer its students significant international mobility possibilities, enabling its students to develop an international network, extremely important in their further professional career.

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