

Virtual Mobility and the EQF: using e-learning to widen access and enhance quality higher education across Europe¹

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Abstract: One of the major goals of the European Higher Education Area (EHEA) is to facilitate the mobility of citizens, assuring the transparency and competitiveness of qualifications across Europe. The formal adoption of the European Qualifications Framework (EQF) represented an important step in that direction, contributing to achieve mobility in higher and continuing education. However, the full engagement of European institutions and students in this process, can only be possible through the wide-spread use of e-learning. Yet, institutions and students struggle with the lack of a clear theoretical framework and a set of tools that enable virtual mobility of students, guaranteeing EQF implementation through e-learning. One of the critical issues being the transferability of credits, since there isn't a common understanding or any European standards on how to calculate credit units in e-learning courses. In this paper, we present a possible solution for transferability of credits in e-learning courses across the EHEA in accordance with the EQF.

Introduction

As a result of the strategic political agenda set in the late 90's, a.k.a. Lisbon Agenda, Europe has been concentrating its focus in developing and implementing policies and tools aimed at promoting trans-European cooperation and mobility in all fields, notably in Education. The creation of the European Higher Education Area (EHEA), which evolved from what became known as the Bologna Process, managed to set a new educational political paradigm in which mobility, transparency and competitiveness are key notions. With this strategy, politicians in Europe wanted to emulate the dynamics of the United States economy and its society. In fact, they regarded this as a critical factor for the an increase competitiveness of the European Union (EU) in the global new knowledge-based economy. This phenomena had particular impact in the reorganization of the European job market. Particularly, because the EU was also facing the challenge of an ageing population. Therefore, in order to succeed, Europe has

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to maximize the talents and capacities of all its citizens and fully engage in lifelong learning as well as in widening participation in higher education. The recent formal adoption of the European Qualifications Framework (EQF) was therefore an additional and important step to achieve mobility and bridging higher and continuing education. However, the full engagement of European institutions and citizens in this process, can only be possible through the wide-spread use of e-learning. The combination of e-learning and mobility led to the development of a new concept: Virtual Mobility (VM), defined by *elearningeuropa.info* as “the use of information and communication technologies (ICT) to obtain the same benefits as one would have with physical mobility but without the need to travel”.²

VIRQUAL (Network for integrating Virtual Mobility and European Qualification Framework in Higher Education (HE) and Continuous Education (CE) Institutions) is a project designed in the form of a network that precisely proposes to help educational and training institutions to achieve VM and to guarantee the implementation of European-valid qualifications through e-learning. It aims at finding specific obstacles in institutions and proposing concrete and innovative solutions. VIRQUAL has also been promoting cooperation and joint work among partner organizations and links with related initiatives, namely addressing other educational networks to help the dissemination of the results. More specifically, the objectives of VIRQUAL are:

- To define, exemplify and promote discussion about using e-learning as a scenario to foster national and international collaboration of HE and CE organizations to achieve virtual mobility implementation.
- To critically assess and exchange results, ideas and innovation about European, national and local policies and initiatives in the area of VM, aiming at identifying obstacles and facilitators for collaboration.
- To cooperate in the elaboration and implementation of concrete VM scenarios, by establishing partnerships among the network institutions, and providing solutions and specific tools for different processes and stakeholders involved in the process.
- To elaborate, implement, make available and disseminate tools to analyse, support, manage at Institutional level, contributing to improve the VM in Europe while trying to implement EQF requirements.

It is expected that through the results of this project network, other European HE and CE institutions will find guidance; case studies and tools to integrate VM in their practices, contributing to the construction of a realistic European Learning Space.

1. Virtual mobility concept

Over the last years, physical student mobility has become more and more important in the EU. As predicted by Rivza and Teichler, an increasing number of students are spending part of their tertiary education in a foreign country or even doing a whole degree abroad:

“Student mobility [physical] is likely to grow in the future, but in the wake of growing internationalization of higher education in various respects, it is bound to lose some of its glamour.” (Rivza & Teichler 2007: 474).

In accordance, the traditional approach to VM, as exemplified in the above quotation from *elearningeuropa.info*, tended to see it as a substitute to physical mobility. Basically, VM could be a quasi-mobility that could allow to enjoy some of its benefits without having to support the costs and inconvenience of physical displacement and traveling. A quasi-mobility that could also be a preparatory stage to a full mobility experience, a sort of pedagogic simulation to the real thing. This view can be also seen in the green paper for mobility “Promoting the learning mobility of young people”, published by the European Commission in July 2009:

“(…) the use of the internet and other electronic forms of information and communication, is often a catalyst for embarking on a period of physical mobility. Although not a substitute for physical mobility, it does enable young people to prepare a stay abroad and can create conditions for future physical mobility by facilitating friendships, contacts and social networking etc. It also

² See <http://www.elearningeuropa.info/main/index.php?page=glossary&abc=V>

provides a means to keep in contact with the host country once the mobility period is over. It can also provide an international dimension to those learners who, for different reasons, are not able or willing to go abroad. In that context ICT can be used for ‘electronic twinning’ and for virtual platforms, for teachers, other ‘multipliers’, interested individuals, interactive communities, open source initiatives etc. Virtual mobility may also be an appropriate and practical form of mobility for young pupils, where travelling abroad may not be an option. Electronic twinning can enhance the quality of mobility initiatives (e.g. through better preparation) and make them more sustainable.” (European Commission 2009a: 18)

In fact, the definition of mobility in higher education implies the notion that a certain multicultural experience can be achieved either with a physical displacement of the student, as it’s typical of the ERASMUS programme, or simply virtually. Although VM does not require physical stay abroad nor face-to-face activities and may not have restrictions in length of time spent studying, it does aim at providing the same educational experience as physical mobility. Students can therefore stay at their home university or even at home or at their work place and expect to enjoy some kind of cultural interchange. As referred in the EADTU’s Task Force definition *Position Paper on Virtual Mobility*:

“VM [Virtual mobility] offers access to courses and study schemes in a foreign country and allows for communication activities with teachers and fellow students abroad via the new information and communication technologies. For the student it is merely an educational experience, although through the interaction with others intercultural competences can be acquired. For the student, it is time and cost effective.” (EADTU 2004: 3)

VM is indeed a time and cost effective option to organize mobility at a large scale. However, we should realize this virtual form of mobility is not just a cheaper replacement to a real exchange programme, but a different form of allowing a wide range of students to be able to achieve the same goals physical mobility, such as:

- To gain international experience and competence;
- To approach other (often more specialized) study opportunities.

The design of VM is very flexible indeed and can be adapted to various circumstances. It offers mobility possibilities for students restricted from physical displacement due to employment, family or disability. But it also can be used to prepare for, accompany and complete a physical mobility stay abroad or it can even be used to maintain contact with the home university throughout a physical mobility stay abroad. Moreover, VM can provide unlimited access to courses in all phases of lifelong learning and training, and also can be used at any phase of a student's career.

Virtual placements for instance can add particular value to formal HE, both in traditional and distance learning contexts (Van Dorp et al. 2008). Virtual placements are learning arrangements that provide a context in which professional skills and competences, and work experience can be accumulated (Kristensen 2002, Lansu et al. 2009, Bijmens et al. 2006). In formal education, virtual placements can be implemented as elective, mandatory, or integrative elements within a course or curriculum. Virtual arrangements can be used to stimulate learning mobility throughout all phases of education (European Commission 2009). For organizations, the benefits are apparent: they benefit from an effective inflow of new knowledge by the interns (Silvio 2003, Valjus 2002). Virtual arrangements are specially advantageous for organizations with small budgets, heavy workloads, limited human resources and restricted office spaces (Kutylowski 2002).

In this sense, a real added value of VM can only be accomplished with the recognition of courses taken abroad. To achieve that goal there is a need to establish a common European set of principles that allow the courses transferability between different countries.

2. E-learning and the European Qualification Framework (EQF)

At the end of its first decade, the EHEA is changing and new ICT forms of communication and learning are increasingly facilitating the way people learn. The majority of HE institutions in Europe have already online campus, allowing the use and access to content curricula by their students. Learning content is thus available, but mainly for in-campus HE students (and not so much to the lifelong learning target groups – off campus students).

This means HE institutions should have a better understanding of the labour market educational and training needs and should prepare not only the appropriate curricula, but also the appropriate technologies and pedagogies to address the specific learning outcomes in accordance with the EQF/NQF principles.

At the core of the EQF development and implementation there is an increasing need for up-to-date procedures that can bring together the education and training qualifications, enabling them to fulfill the needs of the market, that is the needs of the economy and of the enterprises in terms of qualifications.

At the same time lifelong learning reflects the need for individuals and society to adapt constantly in a changing world.

HE institutions will play a crucial role in updating and certifying the knowledge acquired and required by people of all ages and of divergent experience and should be able to integrate formal and informal learning paths, to integrate in-campus and off-campus learners, and in general the learning should be more learner-centred. The implementation of the EHEA has contributed to change the way Universities see their role and the way they connect with their students, with society and with the economy.

The conditions introduced by the so-called Bologna Process, EQF and lifelong learning strategies, are ideal conditions for e-learning to develop and to allow virtual mobility as the adequate solution to overcome many barriers, especially the ones related:

- To distance (students are both in-campus and at the workplace anywhere in Europe and so e-learning technologies and pedagogies are needed);
- To socialization and partnership (different types of organizations involved – HE institutions, training institutions, sectorial bodies, enterprises);
- To network and development of the HE institutions collaboration campus that should act as a economical node (the university should be available for all, in a physical and a virtual way, putting together different online campus for HE institutions students and for lifelong learning purposes);
- To the recognition and certification of non-formal or informal learning and to the assessment of previous knowledge;
- To the development of flexible pathways, adapted to the needs of the student, to complete and improve their knowledge.

The key importance of the EQF implementation using ICT, virtual mobility and e-learning is clearly defined by White (2008):

“By the development of instruments such as ECTS (Educational Credit Transfer System), EQF (European Qualifications Framework), ECVET (European Credits for Vocational Education and Training) we are developing a system in which it will be progressively easier for a learner to acquire knowledge from different institutions in a flexible pathway; to pick and choose what suits best or is most accessible and to combine it, have it certified and recognized – and the use it across the EU. And those aims can be achieved via a mix of physical and virtual mobility.”

E-learning and virtual campus have been developing in Europe for the last decade (see Schreurs, B. 2007) but there is still a way to go in order to jump from the e-learning implementation phase to the e-learning quality phase in HE (see Learnovation 2008). On the top of that the introduction of learning outcomes will bring changes in methods, pedagogies and technologies to be used, more adequate to a learner-centred perspective.

3. The importance of VM for European educational policies

As referred above, the aim of facilitating mobility of students and workers across the continent and also the rest of the World is critical to EU strategy and policy. Ever since the Sorbonne Declaration in 1998, later to be reinforced in the Bologna Declaration (see European Countries 1999), politicians acknowledged the critical importance of fostering mobility of students and academics:

“An open European area for higher learning carries a wealth of positive perspectives, of course respecting our diversities, but requires on the other hand continuous efforts to remove barriers and to develop a framework for teaching and learning, which would enhance mobility and an ever closer cooperation. (...) The fast growing support of the European Union, for the mobility of students and teachers should be employed to the full. (...) We hereby commit ourselves to

encouraging a common frame of reference, aimed at improving external recognition and facilitating student mobility as well as employability.” (European Countries 1998: 1-3)

This was achieved by the establishment of the European Higher Education Area (EHEA), which implemented a set of new tools as the Diploma Supplement and ECTS in order to promote mobility and employability. However, after the Bergen Meeting, in 2005, these concerns were grounded on a more comprehensive lifelong learning approach, which created the need to articulate the EHEA with vocational training. Thus, the introduction of the topic of EQF and the new challenge of making both qualification frameworks compatible:

“We underline the importance of ensuring complementarity between the overarching framework for the EHEA and the proposed broader framework for qualifications for lifelong learning encompassing general education as well as vocational education and training as now being developed within the European Union as well as among participating countries.” (European Ministers of Higher Education 2005: 2)

This conceptual framework is best defined by the expression from the Ministries communiqué on the last Bologna process meeting, in Leuven and Louvain-la-Neuve in 2009:

“Faced with the challenge of an ageing population Europe can only succeed in this endeavour if it maximizes the talents and capacities of all its citizens and fully engages in lifelong learning as well as in widening participation in higher education.

European higher education also faces the major challenge and the ensuing opportunities of globalization and accelerated technological developments with new providers, new learners and new types of learning. Student-centred learning and mobility will help students develop the competences they need in a changing labour market and will empower them to become active and responsible citizens.” (European Ministers of Higher Education 2009: 1)

The EHEA based on ECTS and Learning Outcomes seems to provide therefore a common ground for the convergence with vocational training. In accordance, it should be possible for any student to be able to enrol in any given course offered in a European program, without having to displace physically. In this broader approach, student mobility isn't confined to dedicated distance learning or fully virtual Higher Education (HE) institutions alone. On the opposite, offering virtual courses for mobility students should be a typical mission of all HE institutions in Europe as a strategic goal.

Many institutions today and also the European Commission are starting to consider Virtual Mobility as a much valuable tool to improve students' accessibility to the EHEA, thus enabling them to individualize and specialize their study programmes within a continuum virtual learning space. This goal is correlated with the EU Lifelong Learning Program objective of having three million individual participants in student mobility by 2012. In fact, only by supplementing the current physical mobility schemes with institutionalised virtual mobility ones the opportunities of achieving the European goals set in student mobility can be achieved.

Bearing this in mind, and because virtual mobility will be in fact contributing to the implementation and development of the original vision of the Erasmus programme, we should in fact be talking of Virtual Erasmus when referring to Virtual Mobility in the European Qualification Framework. Obviously, Virtual mobility favours also more varied modes of study and provide different dimensions of mobility, including the creation of virtual learning communities, virtual projects, the involvement of many universities simultaneously in a project or course and the facilitation of international collaborative learning and teaching.

However, the dissemination of VM within the EU is not regarded by the European Commission as restricted to the university sector. On the contrary, within the Comenius programme, eTwinning³ eTwinning is being developed to mainstream the use of ICT to promote collaborative learning, the European dimension, the sharing of resources and practice and the pedagogical use of ICT in schools Europe-wide. In eTwinning, primary and secondary schools establish an Internet twinning link with a partner school elsewhere in Europe. The main output of eTwinning are the joint pedagogical projects developed by the participating schools using the tools and the Internet spaces made available for them through the European eTwinning portal. The most original feature of eTwinning is that, rather than financing individual projects, it offers support, services, ideas, tools and recognition for facilitating school collaboration. More than 50,000 schools are involved in eTwinning throughout Europe.

³ <http://www.etwinning.net/en/pub/index.htm>

The Virtual Campus for Digital Students⁴ is a good practice to follow. This European network of providers of open and distance learning is building a virtual campus for "digital students" aimed at providing open educational sources and tools and to ensure the compatibility of the different e-Learning environments used in the partner universities.

4. Assuring and monitoring teaching and learning process quality

In spite of the cultural, scientific, political and economic importance attributed to students' mobility within HE institutions in Europe, we still have a long way to go before reaching a wide-spread implementation of VM across the continent. Virtual Mobility is still facing some important implementation problems. That is why only a few number of HE institutions and a restricted number of students have been able to experience it so far. In short, we can identify as the main problems to be solved the issues of credit transfer in relation to student workload, assessment, administrative procedures and language. It's interesting to relate this observation with the main conclusions of the Net Active project regarding the obstacles or difficulties to Virtual Mobility. They were, as follows:

- Some Universities can deliver the courses in a virtual environment, but other institutions are less well equipped to do so. Many still have a blended learning approach, which would be an impediment to virtual mobility.
- The language of teaching and learning is normally in the language of the country offering the qualification, and will seriously impede the exchange possibilities without mastering the language.
- It cannot be assumed that every Masters degree awarded by a higher education institution represents an adequate level of competencies and skill, nor can the differences between Master level degree structures be taken for granted.
- The credit and qualification system differs depending upon an individual country's approach.
- Student outcomes, including the acquired level of academic and other competencies and skills differ by programme type, field of studies and the profile of the institution, in both regions.
- The courses in the same subject areas will differ in content, organization, focus, level and type.
- The balance between teaching hours per week/course/module and self-study, the nature of examinations and assessment and the support structures available to students vary between countries. (Net Active 2007)

In fact, in order to foster VM in the EHEA, HE institutions must agree in common institutional frameworks that allow for students and teachers to engage in a virtual mobility process. There is a need of legal tools that support the transferability process, as the lack of common standards for the validation processes still remains an obstacle to the implementation of institutional learning agreements.

To achieve this, the best solution will be the implementation of a European-wide formal scheme of multi-certification. The Erasmus programme tools, regarding some minor adjustments, can be most appropriate to be used in virtual mobility. Therefore, all participating universities or other HE institutions should sign the Erasmus charter and subsequently establish bilateral agreements amongst them based on previous interest shown by students and teachers.

To formally promote VM European HE institutions need to publish online in a fully open environment all relevant information on study programmes, course structures and achievements. This is mandatory according to the principles of the EHEA, as stated previously. However, this being a *cine qua non* condition it's not enough to provide wide implementation of virtual mobility. A second fundamental condition is to establish Learning Agreements between all Higher Education institutions participating in virtual mobility schemes.

To achieve to those agreements, HE institutions must establish a set of principles regarding transparency of information and homogenization of educational processes, in order to allow full understanding, fairness and confidence in virtual mobility process. VM process should be supported in some principles such as:

- The identification of a clear set of knowledge, skills and competencies that should be accepted in HE institutions;

⁴ www.vicadis.net

- The identification of courses and units learning outcomes;
- The quality assurance of validation procedures as a key for creation of mutual trust and credibility;
- The transparency of the validation processes;
- The use of successful assessment methodologies that combine several techniques (i. e. tests, portfolios, interviews, etc.);
- The development of methodologies which are learning-outcomes-based;
- The use of clear reference points such as standards and qualification levels;
- The assurance of quality through monitoring and evaluation

Those principles, that intend to assure fairness, confidence and effectiveness in the whole process of transferability, will imply guidance and training for those who manage and carry out the validation process.

There's not a clear definition of how a student enrolled in a given HE institution and wanting for a period of one or two semesters to become a virtual student in a different university, can be subject to different assessment rules and procedures. Apparently, however, the experience of enrolling in a different HE institution should include the need to cope with different organizational and learning cultures. That should be a part of the whole cultural experience of mobility envisaged by the Erasmus programme.

Apart from that, there's the issue of exams. How can exams be conducted for students living abroad? The solution adopted in the EPICS project seems to be the most appropriate one. In fact, the host HE institution shall hire the services of the home institution to conduct the exam. Those services should be included in the bilateral agreement between the host and the home Higher Education Institutions. In addition, the student should be allowed to choose to have the exams in his/her native language, the host institutions official language or in English.

In the case of a work-based learning programme or course, the host and the home institutions should also agree with the company the student is working in the conditions for assessment. This could also be a part of the Learning Agreement.

The language of teaching and learning is normally the official one of the country of the host institution. Some may see this as a serious impediment for virtual exchange possibilities. However, virtual mobility shouldn't be restricted to English-speaking students only. Therefore, bearing in mind the results from most of EU-funded virtual mobility projects, it's likely students would prefer to enroll on a course in a not-so-familiar language, but demanding to be examined in their native language or a more familiar one. This is why we've established the principle above.

Overall, it's important all HE institutions start to deliver English versions of their courses in order to promote virtual mobility. Yet, as stated above, virtual mobility cannot be restricted by language. Therefore, it's expected many non-native speakers students may enroll in virtual exchange with universities offering courses in other languages than English. In these cases, teachers, tutors and administrative as well as technical staff should be especially trained to cope with multicultural and multi-linguistic communities. Furthermore, to overcome language barriers, courses on languages host institutions should be offered to students from abroad.

5. Credit transferability: transparency and fairness

As it is envisaged in the so-called Bologna process the mobility of students is largely encouraged as it must promote cultural changes and employability. However some prejudices still remain against virtual mobility and it is essential to create more favorable conditions, such as easy acceptance and recognition of courses taken from abroad.

There is also a need to consider that learning is a complex process that might occur in formal, informal or non-formal contexts. Thus to achieve the recognition process it is essential to put together different learning systems in order to design a common validation process that lead to a certificate or diploma recognized all over Europe.

In a formal context the assessment leads to the validation and the certification. To ensure the harmonization of academic degree standards and quality assurance procedures across Europe and to offer a simple and transparent means of crediting student achievement during exchanges to promote a true mobility for students, Bologna process provided a system of appropriate accreditation of student learning, the ECTS:

“ECTS is a learner-centred system for credit accumulation and transfer based on the transparency of learning outcomes and learning processes. It aims to facilitate planning, delivery, evaluation, recognition and validation of qualifications and units of learning as well as student mobility.” (European Commission 2009b: 11)

Credit units (ECTS) should facilitate the recognition or comparability of students’ qualifications between different countries in the EHEA. The credit units should represent student workload, including all elements – lectures, practical work, self-study, assessments, etc.

“Credit (ECTS): Quantified means of expressing the volume of learning based on the workload students need in order to achieve the expected outcomes of a learning process at a specified level.” (European Commission 2009b: 35)

ECTS credit units are allocated to the qualifications or study programmes as well as their educational components/learning activities (e.g. modules, course units, dissertation work, work placements and laboratory work). Credit allocation to educational components, that is one of the European HE transferability supports, is based on their weight in terms of the workload needed for students to achieve the learning outcomes in a formal context. This system is centered on transferability of the learning outcomes identified as:

“Statements of what a learner is expected to know, understand and be able to do after successful completion of a process of learning.” (European Commission 2009b: 36)

The *Framework for Qualifications of the European Higher Education Area* presents the so-called Dublin descriptors, which have been developed as a set and are intended to be read with reference to each other. They are primarily intended for use in the alignment of qualifications and hence national frameworks. The Dublin descriptors were built on the following elements:

- knowledge and understanding;
- applying knowledge and understanding;
- making judgments;
- communications skills;
- learning skills.

These descriptors provide generic statements of typical expectations of achievements and abilities associated with qualifications that represent the end of each cycle of higher education studies. They are not meant to be prescriptive, do not represent minimum requirements and are not exhaustive. The descriptors seek to identify the nature of the whole qualification. (see Bologna Working Group on Qualifications Frameworks 2005: 65)

Adapting the ECTS implies changing the educational paradigm from a curricula driven model to a learning outcomes driven model. This new paradigm will allow for comparability of knowledge, skills and competences developed or acquired by students.

In fact, the ECTS is based on three core elements, i) Information on study programmes, course structures and achievements; ii) A learning agreement between partner institutions and the student, covering the programme of study and credits to be awarded on successful completion. iii) A transcript of records, using the ECT System to indicate student workload during the exchange. Nevertheless ECTS was designed for formal higher education can be applied to other lifelong learning activities. In an informal and a non-formal context the validation processes is understood as:

“The confirmation by a competent body that learning outcomes (knowledge, skills and/or competences) acquired by an individual in a formal, non-formal or informal setting have been assessed against predefined criteria and are compliant with the requirements of an validation standard. Validation typically leads to certification.” (Cedefop 2007: 48)

Consequently, credit transferability depends on what is intended by Learning Outcomes and the way Institutions applies this concept. In fact, research points to an excessive variability regarding the interpretation and attribution of credits within establishments, which has given rise problems to certification of studies taken abroad. This issue led us to the inevitability of reach to a common LO framework to European area institutions. This operational framework should set a concrete list of LO and its equivalency in ECTS credits which has been under development on the Virqual project.

Having common criteria of certification and assessment and ensuring quality of teaching and learning method, is crucial to obtain credibility of virtual mobility process and to assure that students and teachers are being engaged in a route of high-quality education.

Conclusion

European Governments are strongly engaged in cooperating towards the development of the EHEA, a.k.a. Bologna process, the EQF and lifelong learning. But, there is a lack of information about a common or coordinated strategy in what concerns VM and especially about the way learning outcomes are assessed. In this respect, however, there are a number of independent measures under way in different countries and at European level.

Traditionally, the emphasis in education and training used to be on teachers and curriculum. The certification process was also driven by this teacher approach in what refers to assessment and verification of knowledge. Nowadays, since we're using a student-centered approach more emphasis is given to qualifications, while teachers and curriculum remain crucial in making sure that learners develop the expected knowledge, skills and competence (see European Commission 2010).

The crucial role that VM and e-learning will play in the EHEA will be based on digital literacy, virtual campus, the collaboration among European e-learning universities and training centers, the training of e-trainers and the transversal actions for the promotion of e-learning in Europe. ANCED, the Spanish Association of National e-learning and Distance Learning Centers, in a study on e-learning best practices describes quite clearly this situation:

“Virtual mobility is going to have a leading role in the future related to activities development of teachers and students. (...) new learning methods which consist of the use of virtual components in electronic learning opting for intercultural, information and knowledge exchange. Virtual mobility is important because it tries to complement the traditional programs of physical mobility, breaking the barriers related to time and space and representing at the same time opportunities that not only are going to depend on the geographic location of the students and the teaching staff of different regions and countries, but at the same time are going to help the democratization of education. Opening knowledge routes between educational institutions and students of different nationalities without the necessity of physically moving since they will do it virtually, enriching social learning in multicultural surroundings, the acquisition of competitions in other languages and those skills associated to the ICT use.” (Heras Garca, A. 2007)

The challenge for VM is to envisage the best way e-learning can contribute to solve many of the problems arising in the “new universities” mapped in an open innovation setting. VM calls for integrated personal learning environments, adequate communication to the contextual needs of the students (either in-campus or off-campus students), and learning outcomes assessment that will bring certification and qualifications recognition. The use of the adequate assessment tools, measuring formal, non-formal and informal learning should bring more quality on learning provisions. In fact, VM of students and teachers, open and integrated learning systems, technologies and pedagogies should be dynamic and must be seen as a way to develop the open curriculum and diversified learning paths, contributing to the openness of the University to the outside world in a lifelong learning perspective.

However, VM still faces huge challenges since we're considering no longer a single e-learning 1.0 scenario of virtual but closed classrooms (LMS-based). In the new context of disseminating social media and opening the classroom in the web, what we could call an e-learning 2.0 scenario, integrating the EHEA, the EQF and lifelong learning, formal, informal and non-formal learning, are ever more complex. Having common criteria of certification and assessment and ensuring quality of teaching and learning methods, is therefore crucial to obtain credibility of VM processes and to assure that students and teachers are being engaged in a route of high-quality cross-border education. One of HE futures lies with the possibility of every student having access to the best quality educational provision available, experience the most challenging and diverse scientific and academic cultures and environments and being exposed to the responsibility of choosing his/her own learning path. VM is the best way to achieve this goal.

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